411TH BSB HEIDELBERG, GERMANY
HAZARDOUS WASTE MANAGEMENT PLAN

FINAL REPORT

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411th BASE SUPPORT BATTALION

HAZARDOUS WASTE MANAGEMENT PLAN (HWMP)

July 2003

APPROVALS

This Hazardous Waste Management Plan (HWMP) addresses management requirements specific to current and planned waste generation and disposal activities at the 411th Base Support Battalion (BSB).

This HWMP satisfies the requirement to develop and maintain a hazardous waste management plan contained in Section C6.3.1.2.1 of Chapter 6 (Hazardous Waste) of the Final Governing Standards (FGS) for Germany. This HWMP must be reviewed and updated at least once every 5 years.

Prepared By:

amec

_____ 11 July 2003

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Lendy Crone Date
BSB Hazardous Waste Management Program Manager
Environmental Management Office

411th BSB HAZARDOUS WASTE MANAGEMENT PLAN

RECORD OF REVISIONS

This HWMP must be reviewed and updated at least once every 5 years in accordance with Chapter 6, Section C6.3.1.2.1.1 of the FGS for Germany. To fulfill this requirement, the following table is provided for tracking revisions to this plan.

Revision No.	Date	Name and Title	Signature	Pages Affected
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LIST OF ACRONYMS

AAFES	Army and Air Force Exchange Service
ADR	The European Agreement concerning the International Carriage of Dangerous Goods by Road
AEC	Activity Environmental Coordinator
AR	Army Regulation
ASG	Area Support Group
AST	Aboveground Storage Tank
BImSchG	Federal Emissions Control Act *(Bundes-Immissionsschutzgesetz)*
BSB	Base Support Battalion
CHPPM-EUR	Center for Health Promotion and Preventive Medicine – Europe
DIN	German Institute for Standardization *(Deutsches Institut für Normung)*
DoD	Department of Defense
DOT	Department of Transportation
DPW	Directorate of Public Works
DRMO	Defense Reutilization and Marketing Office
DRMSI	Defense Reutilization and Marketing Service International
DSN	Defense Switched Network
EMO	Environmental Management Office
EWC	European Waste Catalogue
FGS	Final Governing Standards
FY	Fiscal Year
HM	Hazardous Material(s)
HN	Host Nation
HW	Hazardous Waste(s)
HWAP	Hazardous Waste Accumulation Point
HWMP	Hazardous Waste Management Plan
HWPS	Hazardous Waste Profile Sheet(s)
HWSA	Hazardous Waste Storage Area
MSDS	Material Safety Data Sheet
MWR	Morale, Welfare, and Recreation
N/A	Not Applicable
NCOIC	Non-Commissioned Officer in Charge
OEBGD	Overseas Environmental Baseline Guidance Document
POC	Point of Contact
POL	Petroleum, Oil, and Lubricant
SMT	*Süd-Müll GmbH + CO.KG für Abfalltransporte und Sonderabfallbeseitigung*
UEC	Unit Environmental Coordinator
UST	Underground Storage Tank
WGK	Water Hazard Class *(Wassergefährdungsklasse)*

HAZARDOUS WASTE MANAGEMENT PLAN

Fact Sheet

The Hazardous Waste Management Plan (HWMP) is designed to outline policies and procedures for proper handling, storage, and disposal of hazardous waste. Common types of HW found on a BSB include used (spent) batteries; used solvents, brake fluid, and battery acid; NBC filters; used fuel, oil, and antifreeze; grease; hydraulic fluid; pesticides; paint; photo chemicals; POL contaminated solids (e.g. oily rags); and empty spray cans.

Issues central to development of the HWMP are identified on the following page.

HAZARDOUS WASTE ACCUMULATION POINTS (HWAPs)

The 411th BSS has 34 HWAPs used for temporary HW accumulation. A full container can only be stored at the HWAP for 5 days. After that, it must be moved to a Hazardous Waste Storage Area (HWSA) or transported for treatment or disposal.

HAZARDOUS WASTE STORAGE AREAS (HWSAs)

The 411th BSB has 7 HWSAs for HW collection and storage prior to shipment for treatment/disposal. HW can remain at the HWSA for up to 1 year. The EMO conducts quarterly inspections. In addition, the waste contractor performs weekly inspections. The 411th BSB must prepare Closure Plans for all existing HWSAs.

RECORDS

HW records are retained as follows:

Inspection Logs:	3 yrs
Turn-in Documents:	3 yrs
HW Log:	Until closure
HW Proof Log:	3 yrs fm last entry
Training Records:	3 yrs fm termination

TRAINING

All personnel involved in HW handling, storage, and disposal receive training before assuming work duties involving HW exposure, and annually thereafter. Verbal operating instructions are given to all employees prior to initiating work assignments involving HW.

1 INTRODUCTION

This Hazardous Waste Management Plan (HWMP) has been developed for the 411th BSB's current and planned hazardous waste generation and disposal activities. The Environmental Management Office (EMO) for the 411th BSB is responsible for development, maintenance, and implementation of this HWMP.

The purpose of a HWMP is to outline policies and procedures for proper handling, storage, and disposal of hazardous waste. This HWMP satisfies the requirement to develop and maintain a Waste Management Plan and a Waste Registry contained in Section C6.3.1.2 of Chapter 6 (Hazardous Waste) of the Final Governing Standards (FGS) for Germany. Chapter 6 of the FGS for Germany references Chapter 5 (Hazardous Materials) and Chapter 7 (Solid Waste). Copies of these chapters of the FGS for Germany, as well as Chapter 8 (Medical Waste), are included in Appendix 8.

The HWMP should be used in combination with the BSB-specific Solid Waste Management Plan for effective overall management of waste generated by the 411th BSB.

Table 1-1. HWMP Regulatory Cross Reference Matrix

German FGS Section	Description	Applicable Section of HWMP	Remarks
C6.3.1.1	Hazardous Waste Determination and Characterization	7.3	
C6.3.1.2	Waste Management Plan and Waste Registry	0	
C6.3.1.3	Identification Numbering	7.2	
C6.3.1.4	Transportation	5	
C6.3.1.5	Disposal Documentation	7.4 / 7.5	
C6.3.1.6	Audit Trail	7.4.1	
C6.3.1.7	Waste Identification Number	7.3	
C6.3.1.8	Hazardous Waste Profile Sheet (HWPS)	7.3	
C6.3.2.1	Design of Hazardous Waste Accumulation Points (HWAPs)	3.2	
C6.3.2.2	Storage Limitations for HWAPs	3.2	
C6.3.2.3	Management of Containers at HWAPs	3.1	
C6.3.2.4	Recordkeeping Requirements for HWAPs	7.1 / 7.4 / 7.5	
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C6.3.3	Hazardous Waste Storage Areas (HWSA) – Technical Requirements	3.3	
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C6.3.3.3	Security in HWSAs	3.3.3	
C6.3.3.4	Communications and Alarm System Serving HWSAs	3.3.3	
C6.3.3.5	Required Equipment in HWSAs	3.3.3	

Table 1-1
HWMP Regulatory Cross Reference Matrix
(*continued*)

German FGS Section	Description	Applicable Section of HWMP	Remarks
C6.3.3.6	General Inspection Requirements	3.5	
C6.3.3.7	Storage Practices in HWSAs	3.3.1 / 3.1	
C6.3.3.8	Closure and Closure Plans for HWSAs	3.3.4	
C6.3.4.1	Container Handling and Storage	3.1	
C6.3.4.2	Rainwater Captured in Secondary Containment – Inspection and Testing Requirements	3.3.1	
C6.3.4.3	Special Requirements for Ignitable or Reactive Waste	3.1	
C6.3.4.4	Special Requirements for Incompatible Wastes	3.1	
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C6.3.6	Contingency Plan	9	
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C6.3.7.2	Response to Leaks or Spills and Disposition of Leaking or Unfit-For-Use Tank Systems	3.4	
C6.3.7.3	Spill Notification Procedures	3.4	
C6.3.7.4	Closure of Tank Systems	3.3.4	

Table 1-1
HWMP Regulatory Cross Reference Matrix

(*continued*)

German FGS Section	Description	Applicable Section of HWMP	Remarks
C6.3.8	Management of Used Oil and Batteries	3.6	
C6.3.9	Hazardous Waste Training	4	
C6.3.10	Technical Requirements for Hazardous Waste Disposal	0	
C6.3.11	Individual State Requirements for Tendering of Waste Requiring Special Supervision	0	
C6.3.12	Additional Requirements for the Transport of Hazardous Waste on Public Roads	5	
C6.3.13	Permitted Transportation and Disposal Companies	5	
C6.3.14	Appointment and Responsibilities of Waste Management Officer	2.1 / 2.4	
C6.3.15	Appointment and Responsibilities of Dangerous Goods Officer and Responsible Individuals	2.2 / 2.3 / 2.4	
C6.3.16	Provision of Statistical Information	N/A	
C6.3.17	Daily Removal of Hazardous Waste to HWAP or HWSA	3.2	

2 KEY PERSONNEL

This section details the BSB's key personnel with regard to hazardous waste management. Table 2-2 in Section 2.4 is used to provide contact information for key personnel.

2.1 WASTE MANAGEMENT OFFICER *(BETRIEBSBEAUFTRAGTER FÜR ABFALL)*

A waste management officer must be assigned if specific activities as indicated in Table 2-1 occur at the BSB. Table 2-1 identifies the general types of hazardous waste management facilities at the 411th BSB.

Table 2-1. Hazardous Waste Facilities at the 411th BSB

Hazardous Waste ActivityFacility	Yes	No
Hazardous waste storage area	X	
Hazardous waste disposal area		X
Landfill		X
Incinerator		X
Hospital and/or clinic	X	
Chemical or physical treatment plant with a throughput of more than 0.5 metric tons (500 kg) per hour		X

Due to the hazardous waste management activities it performs, the 411th BSB has appointed a Waste Management Officer *(Betriebsbeauftragter für Abfall)*. The Waste Management Officer's responsibilities are described in FGS for Germany, Chapter 7, Section C7.3.19.3. Contact information for this individual is provided in Table 2-2 in Section 2.4.

2.2 DANGEROUS GOODS ADVISOR *(GEFAHRGUTBEAUFTRAGTER)*

Hazardous wastes that are considered dangerous goods are transported off-post; therefore, the 411th BSB has appointed a Dangerous Goods Advisor *(Gefahrgutbeauftragter)*. The Dangerous Goods Advisor's responsibilities are described in FGS for Germany, Chapter 5, Section C5.3.22. Contact information for this individual is provided in Table 2-2 in Section 2.4.

2.3 RESPONSIBLE INDIVIDUALS *(BEAUFTRAGTE PERSONEN)*

The BSB performs transport of hazardous wastes that are considered dangerous goods. Therefore, the 411th BSB has identified responsible individuals who 1) oversee transport of hazardous wastes that are considered dangerous goods; and 2) are authorized to give instructions. The BSB's

responsible individuals receive annual training. Contact information for the responsible individuals and individual/organization providing training are provided in Table 2-2 in Section 2.4.

2.4 LISTING OF KEY PERSONNEL

The 411th BSB's key personnel are listed in Table 2-2 (see next page). The contact information contained herein is updated, as appropriate, to reflect modifications to the BSB's operations.

Table 2-2. Key Hazardous Waste Management Personnel – 411th BSB

Position/Task	Unit/Activity	Name	Telephone Number	E-mail Address
EMO Responsible for Hazardous Waste	DPW, EMO	Mr. Lendy Crone	06221-4380-3142	Lendy.Crone@bsbdpw.heidelberg.army.mil
Waste Management Officer	ASG Commander	COL Robert C. Rush Jr.	06221-17-1300	
Dangerous Goods Advisor	USAREUR, ODCSLOG	Ms. Sonia Mason	06221-57-7534	Sonia.Mason@hq.hqusareur.army.mil
Responsible Individuals	Unit (1)	HAZ11 / HAZ12 trained individual (1)		
Performance of Training	DPW, EMO (2) Unit (3)	Mr. Lendy Crone (2) NCOIC (3)	06221-4380-3142	Lendy.Crone@bsbdpw.heidelberg.army.mil
Maintenance of Training Records	DPW, EMO (4) Unit (5)	Mr. Lendy Crone (4) NCOIC (5)	06221-4380-3142	Lendy.Crone@bsbdpw.heidelberg.army.mil
Maintenance of Hazardous Waste Logs	Hazardous waste logs are updated weekly by the hazardous waste (HW) contractor and maintained at all locations where HW is picked up for disposal (i.e., HW Storage Areas [HWSAs] and HW Accumulation Points [HWAPs])			
Update of Hazardous Waste Profile Sheets (HWPS)	Mr. Lendy Crone, Directorate of Public Works (DPW), EMO, develops, updates, and maintains copies of the HWPS. Additional copies of the HWPS are maintained by the Activity Environmental Coordinators of HW-generating activities.			
Waste Management Plan and Waste Registry	DPW, EMO	Mr. Lendy Crone	06221-4380-3142	Lendy.Crone@bsbdpw.heidelberg.army.mil
Maintenance of Disposal Records/Log book	DPW, EMO (6) AAFES	Mr. Lendy Crone (6) Mr. Fred Bay	06221-4380-3142 06221-24900	Lendy.Crone@bsbdpw.heidelberg.army.mil bayf@aafes.com

1) Each unit that performs transport of hazardous substances has assigned at least one individual that is HAZ11/HAZ12 trained with the duties of a responsible individual.
2) USAREUR provides Environmental Awareness Training (OSHA/RCRA) and the BSB provides specific HW management training
3) Training of individuals within the units handling hazardous waste.
4) A copy of the records for the General Environmental Awareness Training is maintained in the Environmental Management Office.
5) Records of training performed by the units are maintained by the individuals receiving the training.
6) All hazardous waste generators not having the same DoD-internal hazardous waste generator number (i.e., AAFES) maintain their own disposal records.

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3 STORAGE AND ACCUMULATION

The 411th BSB operates 34 hazardous waste accumulation points (HWAPs) and 7 hazardous waste storage areas (HWSAs). EMO personnel are primarily responsible for the setup and maintenance of the HWAPs and the HWSAs, although individual Activity Environmental Coordinators [(AECs), also called Unit Environmental Coordinators (UECs)], are assigned responsibility for assisting with hazardous waste handling. Appendix 1 contains maps that indicate where storage areas are located throughout the BSB. Appendix 2 contains a list of the active HWAPs and HWSAs located throughout the BSB, as well as the associated AEC for each. The following pages detail the hazardous waste management and storage operations at the BSB.

3.1 CONTAINERS

Container requirements apply to both the general storage practices and container labeling. The container requirements listed below are followed at the 411th BSB. Known exceptions to these requirements (if any) are identified in the Appendix 7 compliance plan.

- Containers used to collect hazardous wastes at HWAPs and HWSAs are approved in accordance with The European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). (FGS for Germany, Chapter 6, C6.3.2 and C6.3.3)
- Containers are kept in the closed position at all times, unless adding or removing waste. (FGS for Germany, Chapter 6, C6.3.4.1.1.1)
- Containers are stored and handled in a manner that prevents rupturing or leaking. (FGS for Germany, Chapter 6, C6.3.4.1.1.2)
- Containers used for storage of flammable liquids are grounded during the transfer from one container into another. (FGS for Germany, Chapter 6, C6.3.4.1.1.3)
- Hazardous waste containers are labeled with the waste classification number according to the European Waste Catalogue. (FGS for Germany, Chapter 6, C6.3.4.2.1.1)
- Containers are labeled with the appropriate hazard symbol *(Gefahrensymbol)* and hazard definition *(Gefahrenbezeichnung).* (FGS for Germany, Chapter 6, C6.3.4.2.1.1 and Chapter 5, C5.3.7.1.1)
- Container labels include the required R and S Phrases as appropriate. (FGS for Germany, Chapter 6, C6.3.4.2.1.1 and Chapter 5, C5.3.7.1.1)
- Container labels meet the minimum size requirements as specified in Table 3-1. The hazard symbol must measure at least one tenth of the entire label, and have an area of at least 1 square centimeter. (FGS for Germany, Chapter 6, C6.3.4.2.1.1 and Chapter 5, C5.3.7.1.4)

Table 3-1. Recommended Container Label Sizes

Container/Package Volume (in liters)	Recommended Label Size (in millimeters)
< 3	52 x 74
3-50	74 x 105
50-500	105 x 148
> 500	148 x 210

- Containers used to store carcinogenic or mutagenic substances are specifically labeled with information about the substance or process that generated it. (FGS for Germany, Chapter 6, C6.3.4.1.2.1.2)
- Packaging of hazardous wastes is clearly labeled, not to be mistaken for foodstuffs or beverages, with the associated risks clearly recognizable. (FGS for Germany, Chapter 6, C6.3.4.1.2.1.3)
- Containers used to accumulate ignitable or reactive wastes are stored in an HWAP or HWSA that is at least 15 meters inside the installation's boundary. (FGS for Germany, Chapter 6, C6.3.4.3)
- Incompatible wastes (see Appendix 6 for guidelines) are stored in segregated containers and do not share secondary containment structures. Where necessary, incompatible wastes are physically separated using berms, dikes, walls, or other similar means. (FGS for Germany, Chapter 6, C6.3.4.4.1 and C6.3.4.4.3)
- Hazardous wastes are not placed in an unwashed container that previously held incompatible wastes. (FGS for Germany, Chapter 6, C6.3.4.4.2)

The hazardous waste contractor is responsible for providing appropriately labeled containers for the accumulation of hazardous waste. The fulfillment of this contract provision is verified by the AECs during daily inspections. In addition, the EMO responsible for hazardous waste (see Table 2-2) confirms this during spot-checks and inspections of HWSAs.

3.2 HWAP

An HWAP is defined as a location where hazardous wastes are accumulated until they are removed to an HWSA or transported for treatment or disposal. The accumulation in an HWAP is limited to only one container per waste stream. If more than one container per waste stream is used for accumulation, the location is managed as an HWSA (see Section 3.3). There are no specific size limitations for the individual containers, but the containers must meet ADR requirements (i.e., containers must be ADR approved). An HWAP is located at or near the point of generation and under the control of the operator.

Locations of 411th BSB HWAPs are indicated in the maps presented in All HWAPs as listed in Table A-2.1 in Appendix 2 are operated in accordance with the following standards. Known exceptions to these standards (if any) are identified in the Appendix 7 compliance plan.

- A single container is provided for the collection of each waste stream. Chemically incompatible wastes are appropriately segregated. Sufficient room is left in containers storing liquid for the contents expand with increases in temperature. (FGS for Germany, Chapter 6, C6.3.2.1)
- Hazard signs appropriate for each type of waste are posted at each HWAP. Deficiencies are detailed in Appendix 7. (FGS for Germany, Chapter 6, C6.3.2.1, Chapter 5, C5.3.7.3 and C5.A4)
- Full containers are either moved to the HWSA or picked up by the contractor within five working days. (FGS for Germany, Chapter 6, C6.3.2.2)
- Turn-in documents are submitted to the appropriate authorities (e.g., Defense Reutilization and Marketing Office) to arrange the removal from the HWAP. (FGS for Germany, Chapter 6, C6.3.2.2)
- Turn-in documents, Hazardous Waste Logs, and hazardous waste manifests are maintained if the waste is directly shipped off-post from the HWAP. (FGS for Germany, Chapter 6, C6.3.2.4 and C6.3.5)
- Small amounts of hazardous waste that are generated daily are collected at the point of generation (i.e., in the shop bays) and are moved to or emptied into larger containers daily, at a designated HWAP or HWSA.

In addition to the above requirements, containers in HWAPs are handled in accordance with the provisions stated in Section 3.1.

3.3 HWSA

3.3.1 General Requirements

An HWSA is defined as one or more location on a DoD installation where hazardous waste is collected and stored prior to shipment for treatment or disposal. HWSAs are operated to prevent contamination of water bodies or other detrimental effects. More than one ADR-approved container per waste stream may be accumulated at an HWSA.

A detailed survey of all HWSAs has not yet been performed to determine which structures are considered ordinary or conventional facilities. Therefore, none of the HWSAs at the 411th BSB has undergone a construction approval or test of suitability *(Bauartzulassung oder Eignungsfeststellung)* from the German authorities. Table 3-2 should be completed once the survey has been performed and documentation on proper certification has been received from the German authorities. These records should be maintained in the EMO. HWSAs that are classified as ordinary or conventional facilities are not required to be approved by the German authorities and do not need to be listed in Table 3-2.

Table 3-2. HWSAs approved by the German Authorities

ARLOC	Facility No.	Construction Approval (Yes/No)	Suitability Test (Yes/No)	Approving German Authority	Approval Date

Locations of 411th BSB HWSAs are indicated in the maps presented in Appendix 1. The HWSAs listed in Table A-2.2 in Appendix 2 are operated in accordance with the following standards:

- Waste is not stored for more than one year in an HWSA. For that purpose, Hazardous Waste Logs are regularly checked for each HWSA to ensure that no waste is stored longer than 12 months. (FGS for Germany, Chapter 6, C6.3.3.1)
- Aisles in the HWSAs are a minimum of 1 meter in width. (FGS, Chapter 5, C5.3.2.1)
- No known sources of ignition are located or allowed in any HWSA. (FGS for Germany, Chapter 6, C6.3.3.7.1)
- "No Smoking" *(Rauchen verboten)* signs are posted in both English and German at HWSAs that are used for storage of flammable substances. The signs are clearly visible and legible. (FGS for Germany, Chapter 6, C6.3.3.7.1)
- Hazardous Waste Logs are maintained at the HWSA. (FGS for Germany, Chapter 6, C6.3.5.2)
- HWSAs that are used for storage of water endangering substances are not located in areas that are Water Protection Zones *(Wasserschutzgebiete)* I or II. (FGS for Germany, Chapter 5, C5.3.14.1.2.1.1)
- HWSAs that are classified as a Water Hazard Category *(Gefährdungsstufe)* D facility are not located in areas designated as Water Protection Zone III. (FGS for Germany, Chapter 5, C5.3.14.1.2.1.2)
- Secondary containment is provided for HWSAs that are classified as Water Hazard Category A, B, or C facilities and located in areas that are Water Protection Zone III. The secondary containment is designed to retain the volume of the largest container or 10 percent of the total storage volume, whichever is greater. (FGS for Germany, Chapter 5, C5.3.14.1.2.1.2)
- Rainwater captured in secondary containment areas is inspected visually prior to release. If this inspection indicates a potential for contamination or if the nature of the hazardous waste stored is such that this inspection is not acceptable, the potentially contaminated water is submitted for laboratory testing prior to release. (FGS for Germany, Chapter 6, C6.3.4.2)

- HWSAs are not located in areas prone to flooding, unless it is unavoidable to locate the HWSA in such an area. (FGS for Germany, Chapter 6, C5.3.14.1.2.1.3)

In addition to the above requirements, containers in HWSAs are handled in accordance with the provisions stated in Section 3.1.

3.3.2 Waste Transfer

Hazardous Waste Profile Sheets (HWPS) are maintained for each waste type stored at each HWSA (FGS for Germany, Chapter 6, C6.3.1.8). Prior to accepting waste from another accumulation point, the HWSA manager performs the following actions, as appropriate:

- Inspects each shipment of waste to ensure the waste matches the description provided. (FGS for Germany, Chapter 6, C6.3.3.2.2.1)
- Rejects waste shipments for storage unless a HWPS is provided, or available and properly referenced. (FGS for Germany, Chapter 6, C6.3.3.2.2.2)
- Requests a new HWPS from the generating activity if there is reason to believe that the process generating the waste has changed. (FGS for Germany, Chapter 6, C6.3.3.2.2.3)
- Analyzes shipments of unknown waste type to provide a correct waste description on the accompanying documents. (FGS for Germany, Chapter 6, C6.3.3.2.2.4)
- Rejects shipments that do not match the internal accompanying waste descriptions unless the generating activity provides an accurate description. (FGS for Germany, Chapter 6, C6.3.3.2.2.5)

3.3.3 Security Systems

Security measures in place at each HWSA to prevent unauthorized entry are identified in Table 3-3. HWSAs must be operated in accordance with the standards identified below. Known exceptions to these requirements (if any) are identified in the Appendix 7 compliance plan.

- Signs must be posted in English and German with the words, “Danger Unauthorized Personnel Keep Out” *(“Gefahr. Zutritt für Unbefugte verboten.”)* at each HWSA. The signs should be visible from at least 7.5 meters and from every direction of approach to the HWSA (FGS for Germany, Chapter 6, C6.3.3.3.2).
- HWSAs must be equipped with an internal alarm system that is able to provide immediate emergency instructions either by voice or by signal to HWSA personnel. These systems should be immediately accessible to personnel actively involved in handling (e.g., pouring or mixing) of waste at the HWSA (FGS for Germany, Chapter 6, C6.3.3.4.1).
- HWSAs must be equipped with a means of summoning emergency personnel. This can be accomplished by the installation of either an intrinsically safe telephone or a hand-held two-way radio (FGS for Germany, Chapter 6, C6.3.3.4.2). The 411th BSB EMO strictly prohibits solitary work at HWSAs – all workers must use the "buddy system" when entering an HWSA.

Table 3-3. Security Systems at 411th BSB HWSAs

ARLOC	Facility No.	Description of Security System
GE30J	7542	The HWSA is located within a controlled-access installation that is monitored 24-hours per day by guards at the main entrance.
GE34J	3801	The HWSA is located within a controlled-access installation that is monitored 24-hours per day by guards at the main entrance.
GE34J	3968	The CONEX is locked at all times and can only be opened by the HWSA manager and the DPW Fire Department.
GE34J	3994	The facility is locked at all times and can only be unlocked by the HWSA manager and the DPW Fire Department.
GE35B	242	The CONEX is locked at all times and can only be opened by the DPW Fire Department.
GE658	3854	The HWSA is located within a controlled-access installation that is monitored 24-hours per day by guards at the main entrance.
GE846	4013	The CONEX is locked at all times and can only be unlocked by the HWSA manager and the DPW Fire Department. Access to the installation is monitored 24-hours per day by guards at the main entrance.

3.3.4 Closure

Closure plans must be prepared for all existing HWSAs. Additional closure plans for new HWSAs will be prepared during the HWSA planning stages including estimates of the storage capacity of hazardous waste, steps to be taken to remove or decontaminate all waste residue, and an estimate of the expected closure date.

HWSAs are closed in accordance with the closure plan for the specific site. HWSAs are inspected by an expert *(Sachverständiger)* prior to their closure. All hazardous waste and hazardous waste residues from the containment system are removed. This includes removing any remaining containers, liners, and bases. The closure is performed in a manner that minimizes and/or eliminates the need for future maintenance or the potential for future releases of hazardous waste.

At closure of a tank system, storage tanks are emptied and cleaned by a certified company *(Fachbetrieb)* prior to it being inspected by a certified expert *(zugelassener Sachverständiger)*. Hazardous waste residues, contaminated containment system components (liners, etc.), and contaminated soils are disposed of to the extent practicable.

3.4 TANK SYSTEMS

The following tank-specific actions are being or have been performed, according to regulatory requirements appropriate to Baden-Württemberg and Rheinland-Pfalz and the tank contents. Sections 1 and 2 in Appendix 3 detail the special requirements for Baden-Württemberg and Rheinland-Pfalz.

- Tank specifications, such as size, contents, and construction type, are clearly indicated on each above-ground storage tank (AST). (FGS for Germany, Chapter 5, C5.3.15.3.2.1.3)
- ASTs and tank farms storing flammable liquids outdoors are notified *(Anzeigepflicht)* to the competent German authorities as identified in the FGS for Germany, Chapter 5, C5.3.15.2.1, if warranted.
- All indoor storage areas containing storage tanks that require notification or a permit (see above) are equipped with ventilation and lighting. (FGS for Germany, Chapter 5, C5.3.15.3.2.2)
- For ASTs, the fill level is visible at all times from the exterior of tanks and tank containers (i.e., a container that may be used for storage and transportation and has a minimum volume of 450 liters). (FGS for Germany, Chapter 5, C5.3.15.3.2.1.2)
- Tank inspections are performed once each operating day, and include a review of operating systems, structural items, and nearby areas for releases. (FGS for Germany, Chapter 6, C6.3.7.1) Internal and external notifications of spills will be made in accordance with the 411th Spill Prevention and Contingency Plan. (FGS for Germany, Chapter 6, C6.3.7.3)
- Pressure monitoring is performed for all tanks with an internal positive pressure exceeding 0.1 bar. (FGS for Germany, Chapter 5, C5.3.15.3.2.1.4)
- Secondary containment is provided for aboveground Petroleum, Oil, and Lubricants (POL) storage tanks, as appropriate. (FGS for Germany, Chapter 5, C5.3.14.1.1.3 and Chapter 9, C9.3.9)
- "No Smoking" signs are posted in both English and German for tank system used for storage of flammable substances. The signs are clearly visible and legible. (FGS for Germany, Chapter 6, C6.3.3.7.1)

In addition to the above requirements, all requirements relating to water protection zones and areas prone to flooding as outlined in Section 3.3.1 also apply to tank systems storing hazardous waste.

3.5 INSPECTIONS

Tank systems that store water-endangering substances were inspected by an expert *(Sachverständiger)* prior to their initial use. Each tank system is also inspected every 5 years after the initial inspection during the facility's normal use (per FGS for Germany, Chapter 5, C5.3.14.2.1). In addition, all tanks are inspected at least once a month by DPW, Operations and Maintenance (O&M) personnel.

HWSAs must be inspected by an expert prior to their initial use and every 5 years thereafter (per FGS for Germany, Chapter 5, C5.3.14.2.1). Known exceptions to these inspection requirements (if any) are identified in the Appendix 7 compliance plan. Additionally, expert inspections must be conducted under the conditions listed below.

- When significant modifications are made (FGS for Germany, Chapter 5, C5.3.14.2.1.1);
- If the competent German authority issues an inspection request due to a suspected threat to water bodies (FGS for Germany, Chapter 5, C5.3.14.2.1.2);
- After decommissioning a facility (FGS for Germany, Chapter 5, C5.3.14.2.1.2);
- After the re-commissioning or re-opening of a facility that has been closed for more than 1 year (FGS for Germany, Chapter 5, C5.3.14.2.1.2).

Any problems identified by the inspections are addressed as appropriate. Problems that are imminently dangerous to human health and the environment (such as leaking containers) are remedied immediately. Refer to the BSB's Spill Prevention and Contingency Plan to identify areas that are prone to spills, such as loading and unloading areas.

Inspections of HWAPs and HWSAs at the 411th BSB are performed on a weekly basis by the hazardous waste contractor *Süd-Müll GmbH + CO.KG für Abfalltransporte und Sonderabfallbeseitigung* (SMT) and on a quarterly basis by the EMO. Underground storage tanks (USTs) are inspected daily by the AECs for leaks and filling levels. In addition, tanks and tank systems are inspected annually by DPW, Utilities Division. Records of the facility inspections performed by the EMO and by SMT are maintained for at least 3 years at the EMO, per FGS for Germany, Chapter 6, C6.3.3.6.5. Records of the facility inspections performed by the units are maintained by the AECs. Records of tank inspections performed by the DPW, Utilities Division, are maintained at the Utilities Division.

3.6 USED OIL *(ALTÖL)* AND BATTERY MANAGEMENT

Used oil and battery management at the 411th BSB is conducted in accordance with the following requirements:

- Used oil is only burned for energy recovery in a facility that is permitted by the competent German authority. (FGS for Germany, Chapter 6, C6.3.8.1)
- Hazardous waste or used oil is not used for dust suppression or road treatment. (FGS for Germany, Chapter 6, C6.3.8.2)
- Used oil that will be reprocessed is not mixed with other wastes or used oil. (FGS for Germany, Chapter 6, C6.3.8.4)
- Used oil is sampled and analyzed for PCBs and halogen content prior to reprocessing (FGS for Germany, Chapter 6, C6.3.8.3). This effort is included in the recycling contract for used oil and is thus performed by the contractor.
- Synthetic oils that contain PCBs or halogen-containing substitutes are collected, stored, and disposed separately from other used oils. (FGS for Germany, Chapter 6, C6.3.8.2)
- Used lead-acid batteries are managed as hazardous wastes, regardless of whether they will be recycled or permanently disposed. (FGS for Germany, Chapter 6, C6.3.8.4)

4 TRAINING

All personnel who are involved in handling, storage, and disposal of hazardous waste receive appropriate training before assuming work duties involving exposure to hazardous waste. Operating instructions are given orally to all employees working with hazardous waste prior to initiating work. All personnel performing hazardous waste duties complete annual refresher training.

Training is performed by qualified personnel. Contact information is provided in Table 2-2 in Section 2.4. The training program includes sufficient information to enable personnel to perform their assigned tasks while complying with hazardous waste requirements. Personnel are instructed in the following key areas:

- Emergency procedures: response to fire/explosion/spills; use of communications/alarm systems; body and equipment clean-up.
- Safe use of hazardous waste equipment: drum/container handling/storage; proper sampling procedures.
- Employee Protection: Personal Protective Equipment (PPE), safety and health hazards, hazard communication, worker exposure.
- Recordkeeping, security, inspections, contingency plans, storage requirements, transportation requirements.

Training courses, attendees, and dates of completion must be documented for all units, and the hazardous waste personnel training records must be retained for at least 3 years after the termination of these personnel. Information on where the training records are maintained and who is in charge is contained in Table 2-2 in Section 2.4.

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5 TRANSPORTATION

5.1 OFF-POST TRANSPORTATION PROCEDURES

Off-post hazardous waste transport is only performed by the DPW Fire Department. Personnel transporting hazardous waste off-post are part of the Emergency Response Team and have received ADR training. The BSB is in the process of establishing a new HWAP for the DPW Fire Department at the airfield, to eliminate the need for off-post hazardous waste transportation. Hazardous waste transporting vehicles are accompanied by a DoD turn-in document, DD Form 1348-1A.

All other off-post transportation is performed by permitted transportation companies. Defense Reutilization and Marketing Service International has verified that contractors used at the 411th BSB are permitted for hazardous waste transportation.

5.2 ON-POST TRANSPORTATION PROCEDURES

The transportation of hazardous waste on-post is performed according to the following procedures:

- Hazardous waste is only transported by trained personnel who have the proper transportation vehicles and equipment. Each unit has an individual that is HAZ11 trained, which meets Department of Transportation (DOT) and ADR training requirements.
- Vehicles are in good repair, have sufficient stable storage space, have enough available weight capacity, and provisions to secure loads.
- The appropriate material handling equipment is used to load, transport, and unload containers. This equipment includes drum handling equipment and pallets. Drums are not rolled on or off vehicles.
- Loads are properly placed on vehicles. Hazardous waste containers are placed in stable positions. The containers are not placed such that they overhang, perch, or lean.
- Loads are secured with straps, clamps, braces, or other measures to prevent movement and loss. Forklifts are not used to transport drums and containers that are not secured.

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6 DISPOSAL

The 411th BSB contracts hazardous waste disposal services through the Defense Reutilization and Marketing Office (DRMO) located at Coleman Barracks, Mannheim. The hazardous waste contractor currently used for collection and disposal of the main portion of hazardous waste generated is *Süd-Müll GmbH + CO.KG für Abfalltransporte und Sonderabfallbeseitigung* (SMT), located in Hessheim in the State of Rheinland-Pfalz. SMT also disposes of laboratory wastes from the Mark Twain Village High School and Patrick Henry Village Middle School by incineration through a separate contract not managed by Defense Reutilization and Marketing Service International (DRMSI).

The 411th BSB recycles and reuses hazardous waste to the maximum extent practical. Waste oil is recycled through the contractor F.K.M. Buster A&R GmbH in Mannheim. Plastics, metals, oil-contaminated rags, and oil-filters are incinerated and thermally recycled. Lead-acid batteries are recycled through a separate contract with Hans Schmidt GmbH&Co. located in Fürth.

Waste minimization efforts include bulk dispensing of oil at the Speedy Lube at Patton Barracks, Building 3854, and the use of biodegradable hydraulic oil versus conventional hydraulic fluids at the golf course.

SMT tenders *(andienen)* waste requiring special supervision to the *Sonderabfall-Management-Gesellschaft Rheinland-Pfalz mbH* (SAM). SAM is the central state agency *(Zentrale Stelle für Sonderabfälle)* for the State of Rheinland-Pfalz, in which SMT is located. This procedure is also in accordance with the specific waste disposal regulations of Baden-Württemberg, because generators of wastes requiring special supervision are exempt from tendering to the central state agency of Baden-Württemberg if the waste is collected by certified third parties or private waste contractors.

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7 DOCUMENTATION

According to German law and the FGS for Germany, hazardous waste management and disposal includes an audit trail from the point of hazardous waste generation to ultimate disposal. (FGS for Germany, Chapter 6, C6.3.1.6.1) The following sections detail the documentation performed by the 411th BSB.

7.1 HAZARDOUS WASTE LOG

A written log is maintained at all locations where hazardous waste is picked up for off-site shipment (i.e., HWSAs and HWAPs) to record all hazardous waste handled. (FGS for Germany, Chapter 6, C6.3.5.2)

Contact information for the individuals in charge of maintaining hazardous waste logs at HWSAs and HWAPs is provided in Table 2-2 in Section 2.4. Hazardous waste logs are available to emergency personnel in the event of a fire or spill, because they are located at the hazardous waste storage facilities. In addition, the DPW Fire Department has been provided with an inventory for each HWSA and HWAP.

The hazardous waste logs contain the following information (FGS for Germany, Chapter 6, C6.3.5.2):

- Name/address of the generating activity;
- Description and hazard class of the hazardous waste;
- Number and types of containers;
- Quantity of hazardous waste;
- Date stored;
- Storage location; and,
- Disposition data (i.e., dates received, sealed, and transported, and transporter used).

A sample log is provided in Appendix 5.

7.2 HAZARDOUS WASTE GENERATORS IDENTIFICATION

Each 411th BSB hazardous waste generator has a DoD identification number. These identification numbers are listed in Table A-2.1 and Table A-2.2 in Appendix 2. In addition, an official waste generator number *(Abfallerzeugernummer)* has been assigned to the DoD installation by the competent German authority. This official waste generator number for each 411th BSB installation is listed in Table A-2.1 and Table A-2.2 in Appendix 2. All 411th BSB hazardous waste generators use these two numbers for all documentation related to hazardous waste.

7.3 HAZARDOUS WASTE IDENTIFICATION

The 411th BSB maintains a Hazardous Waste Profile Sheet (HWPS) for each hazardous waste stream generated. An individual has been designated to ensure that each HWPS is updated, as necessary, to reflect any new waste streams or process modifications that change the character of the hazardous waste being handled. Contact information for this individual is provided in Table 2-2 in Section 2.4.

Prior to disposal, all waste generated is chemically analyzed by the disposal contractor. For all hazardous wastes, the generator assigns a six-digit waste key, as stipulated by the European Waste Catalogue.

7.4 DISPOSAL DOCUMENTATION

The disposal documentation varies depending on the waste category *(Abfallgruppe)* and disposal method. The required documentation includes a proof procedure *(Nachweisverfahren)* or the related simplified procedures, documentation regarding the permissibility of the disposal method, and records of actual waste transactions in proof logs *(Nachweisbücher)* (FGS for Germany, Chapter 6, C6.3.1.5).

7.4.1 Audit Trail

Each hazardous waste generator maintains an audit trail for hazardous waste disposal from the point of generation to ultimate disposal by accompanying documentation *(Begleitscheine)* or acceptance slips *(Übernahmescheine)*. The accompanying documentation is maintained in proof logs *(Nachweisbücher,* see Section 7.4.4 below). Table 2-2 in Section 2.4 provides information on where and by whom the disposal documentation is maintained.

Part of the audit trail are the waste management plan *(Abfallwirtschaftskonzept)* and waste registry *(Abfallbilanz),* as addressed in Section 0 of this plan.

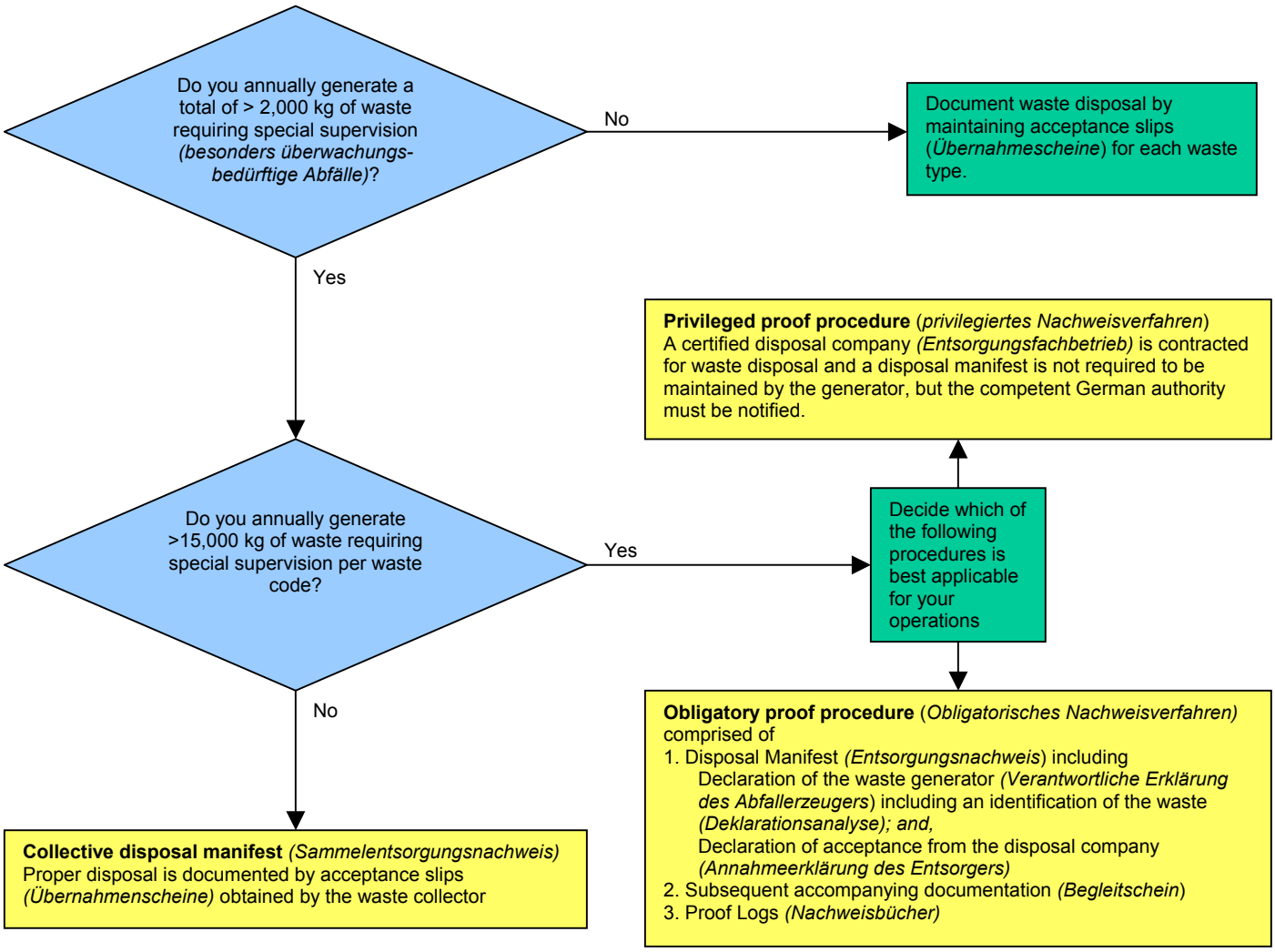
In addition, the following are maintained as an internal audit trail by all generating activities within the BSB:

- DoD Form DD1348-1A (internal turn-in document); and,
- Signed copy of the disposal documentation.

7.4.2 Proof Procedure *(Nachweisverfahren)*

The proof procedure depends on the type of waste and on the type of disposal. Determine the proof procedure for each waste using Flow Chart 7-1. The proof procedure most commonly used by the 411th BSB is the obligatory proof procedure *(obligatorisches Nachweisverfahren)* through disposal manifests *(Entsorgungs- und Verwertungsnachweis)* and acceptance slips *(Übernahmescheine)* and subsequent accompanying documentation *(Begleitscheine)*. Refer to FGS for Germany Chapter 6, Section C6.3.1.5, for the documentation for each proof procedure.

Flow Chart 7-1 Disposal Documentation Procedures for Wastes Requiring Special Supervision



7.4.3 Accompanying Documentation

The 411th BSB's accompanying documentation *(Begleitscheine)* and/or acceptance slips *(Übernahmescheine)* contain the following information:

- Name and address of the hazardous waste generator;
- Hazardous waste generator number *(Abfallerzeugernummer)* assigned by the competent German authority to the DoD installation;
- Transporter's name and address;
- Destination name and address;
- Waste key (defined from the European Waste Catalogue) and corresponding name (see Table C6.T3 and Table C7.T1 of Chapter 7, Solid Waste) of the hazardous waste;
- Date of shipment; and
- Date of receipt.

7.4.4 Proof log *(Nachweisbuch)*

Each hazardous waste generator maintains a log for all outgoing hazardous waste with the following contents:

- Accompanying documentation *(Begleitscheine)*;
- Acceptance slips *(Übernahmescheine)*;
- Disposal manifests *(Entsorgungsnachweise)* and/or simplified proof *(vereinfachter Nachweis)*; and
- Corresponding waste characterization *(Deklarationsanalyse)*.

7.5 BSB RECORDKEEPING

The 411th BSB recordkeeping is summarized in Table 7-1.

Table 7-1. BSB Recordkeeping

Record	Time Maintained	Location where record is maintained
Hazardous Waste Log	Until closure of the facility	The location where hazardous waste is picked up for off-site shipment (e.g., HWSAs)
Inspection Logs (see Section 3.5)	3 years	Inspection logs for HWSAs are maintained at the EMO Inspection logs for HWAPs are maintained at the individual AEC offices
Internal turn-in documents (e.g., DoD Form DD1348-1A, manifests) (see Section 5.1)	3 years	EMO and DRMO Kaiserslautern (at Coleman Barracks, Mannheim)
Proof log *(Nachweisbuch)* for outgoing hazardous waste	Proof logs are retained for 3 years after last entry; Waste manifests are maintained for 10 years	EMO
Training records	3 years after termination of employment	Originals are maintained at the units and a copy is maintained at the EMO

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8 WASTE MANAGEMENT PLAN AND WASTE REGISTRY

The Waste Management Plan and the Waste Registry consist of seven forms that document information related to waste generation and disposal. If required, these forms are prepared prior to 1 April of the next calendar year by the BSB so that they can be presented to the German authorities upon request.

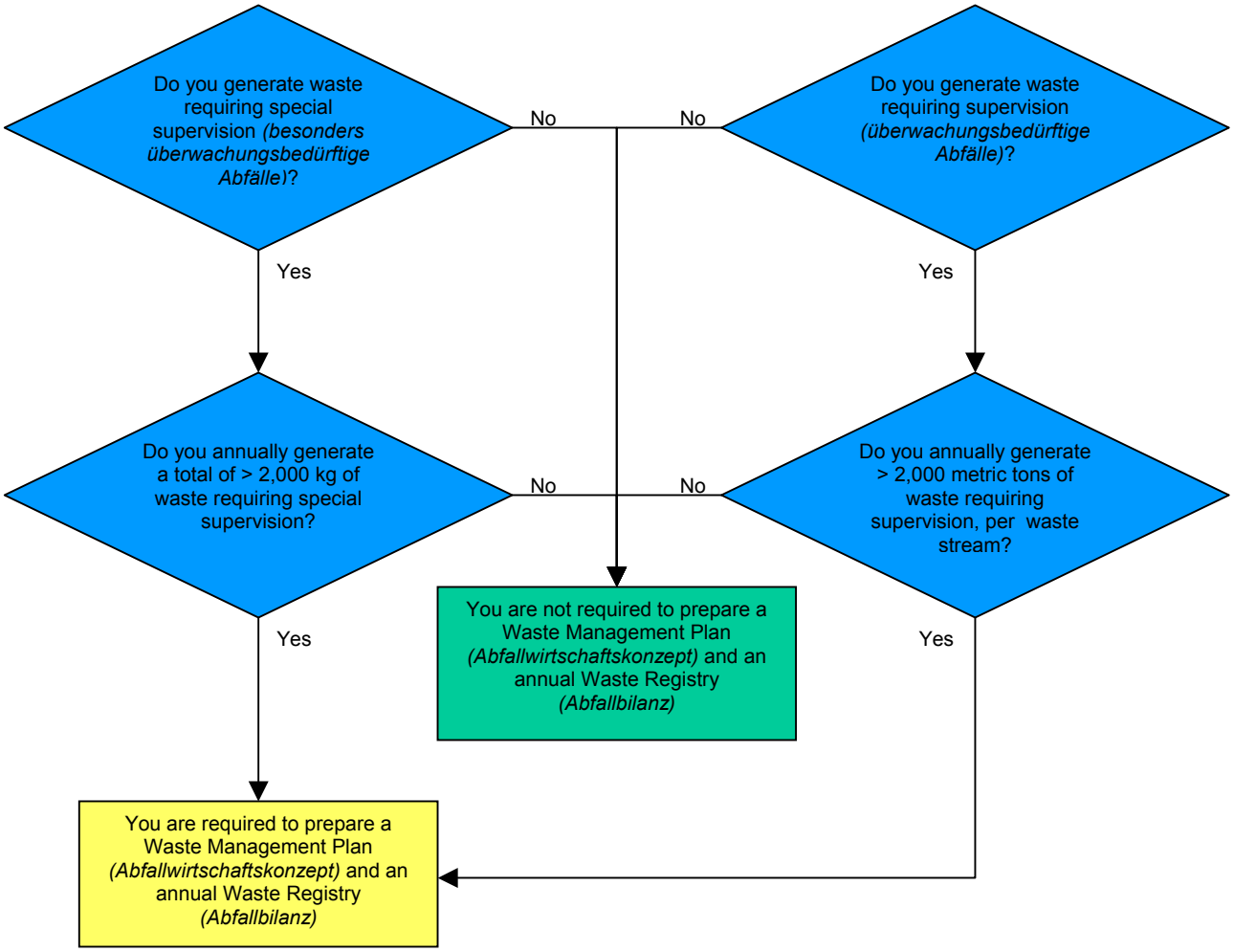
The BSB evaluates waste generation on an annual basis using Flow Chart 8-1 (see next page) to determine if a Waste Management Plan and Waste Registry are required. The annual determinations are documented in Table 8-1. If prepared, the Waste Management Plan is valid for five years. In that case, the BSB evaluates only the Waste Registry requirement for the following four years.

Table 8-1. Documentation of the Need for a Waste Management Plan and/or a Waste Registry

Year	Waste Management Plan Required		Waste Registry Required	
	Yes	No	Yes	No
2002	X		X	
2003				
2004				
2005				
2006				

Information on where and by whom the Waste Management Plan and the Waste Registry are maintained is presented in Table 2-2 in Section 2.4.

Flow Chart 8-1 Determination of the Necessity of a Waste Management Plan and a Waste Registry



9 CONTINGENCY PLANS

The BSB has developed a Spill Prevention and Contingency Plan that describes how to respond to spills and releases of hazardous waste (FGS for Germany, Chapter 6, C6.3.6). The plan is reviewed and updated at least every five years or when there are significant changes to operations. The plan elements are predominantly in accordance with the provisions in Chapter 18 of the FGS for Germany (Spill Prevention and Response Planning), as well as Chapters 5 (Hazardous Materials), 6 (Hazardous Wastes), 9 (POL), 11 (Pesticides), and 14 (PCBs). The so-called “Red Plan," which includes immediate spill response procedures, is available in English and German.

The on-site fire department and emergency response teams identified in the plan have been provided with a copy of the contingency plan. Updates will be forwarded to these organizations as appropriate. HWSA and the on-site hospitals must be provided with copies of the contingency plan.

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10 REFERENCES

Act to support recycling and ensure environmentally sound disposal of waste. *Gesetz zur Förderung der Kreislaufwirtschaft und Sicherung der umweltverträglichen Beseitigung von Abfällen (Kreislaufwirtschafts- und Abfallgesetz)*. 27 September 1994, last amended in August 2002

Disposal manifest ordinance. *Verordnung über Verwertungs- und Beseitigungsnachweise (Nachweisverordnung)*. 17 June 2002, last amended in August 2002

Ordinance on the European Waste Catalogue. *Verordnung über das Europäische Abfallverzeichnis (Abfallverzeichnisverordnung)*. 10 December 2001, last amended in July 2002

Ordinance on the identification of waste to be recycled that requires supervision. *Verordnung zur Bestimmung von überwachungsbedürftigen Abfällen zur Verwertung (Bestimmungsverordnung überwachungsbedürftiger Abfälle zur Verwertung)*. 10 September 1996, last amended in December 2001

Ordinance on waste management plans and waste registries. *Verordnung über Abfallwirtschaftskonzepte und Abfallbilanzen (Abfallwirtschaftskonzept- und –bilanzverordnung)*. 13 September 1996, last amended in June 2002

Ordinance on waste management officers. *Verordnung über Betriebsbeauftragte für Abfall*. 26 October 1977

Waste management plans and waste registries for businesses. *Betriebliche Abfallwirtschaftskonzepte und Abfallbilanzen, Deutscher Industrie- und Handelstag, Bonn*. September 1999

U.S. Department of Defense (DOD). *Final Governing Standards, Germany*, Installation Management Agency, Europe Region Office. 17 December 2002

411th BSB Spill Prevention and Contingency Plan, October 2000

411th BSB Hazardous Materials Management Plan, March 2000

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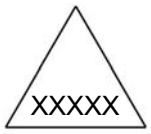
APPENDIX 1

HWSA AND HWAP LOCATIONS AT THE 411TH BSB

Symbols for Hazardous Waste Management Plan Mapping Layer



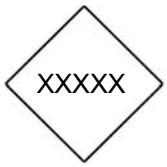
Hazardous Waste Accumulation Point (HWAP)

Each HWAP on the map is assigned a number using the following system:

XXXXX = HWAP ID Number.
The Facility number, followed by an alphabetic designation if there is more that one HWAP per building.

Example: 00310 (only one HWAP in Building 310)

00310A (more than one HWAPs in Building 310)



Hazardous Waste Storage Area (HWSA)

Each HWSA on the map is assigned a number using the following system:

XXXXX = HWAP ID Number.
The Facility number, followed by an alphabetic designation if there is more that one HWAP per building.

Example: 04021 (only one HWSA in Building 4021)

004021A (more than one HWSAs in Building 4021)

LIST OF FIGURES

Figure 1 Location of HWAPs - Edingen Radio Receiver Facility

Figure 2a Location of HWAPs - Germersheim (North)

Figure 2b Location of HWAPs and HWSAs - Germersheim (East)

Figure 2c Location of HWAPs - Germersheim (West)

Figure 3 Location of HWAPs - Heidelberg Golf Course

Figure 4 Location of HWAPs - Nachrichten Kaserne

Figure 5 Location of HWAPs and HWSAs - CSC

Figure 6 Location of HWAPs - Heidelberg Army Airfield

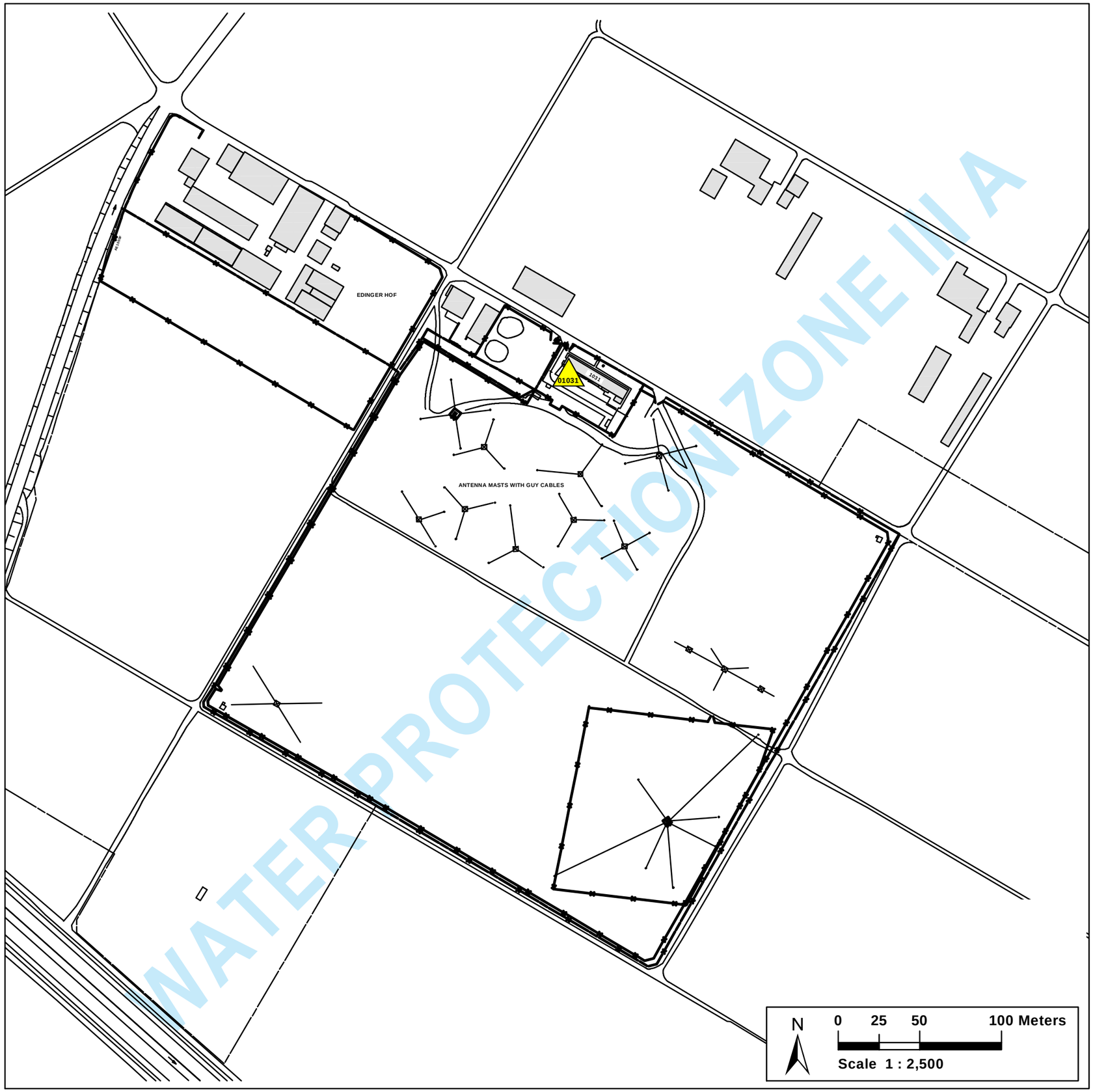
Figure 7 Location of HWAPs - Mark Twain Village

Figure 8 Location of HWAPs - Patrick Henry Village

Figure 9 Location of HWAPs and HWSAs - Patton Barracks

Figure 10 Location of HWAPs - Stem Kaserne

Figure 11 Location of HWAPs and HWSAs - Tompkins Barracks

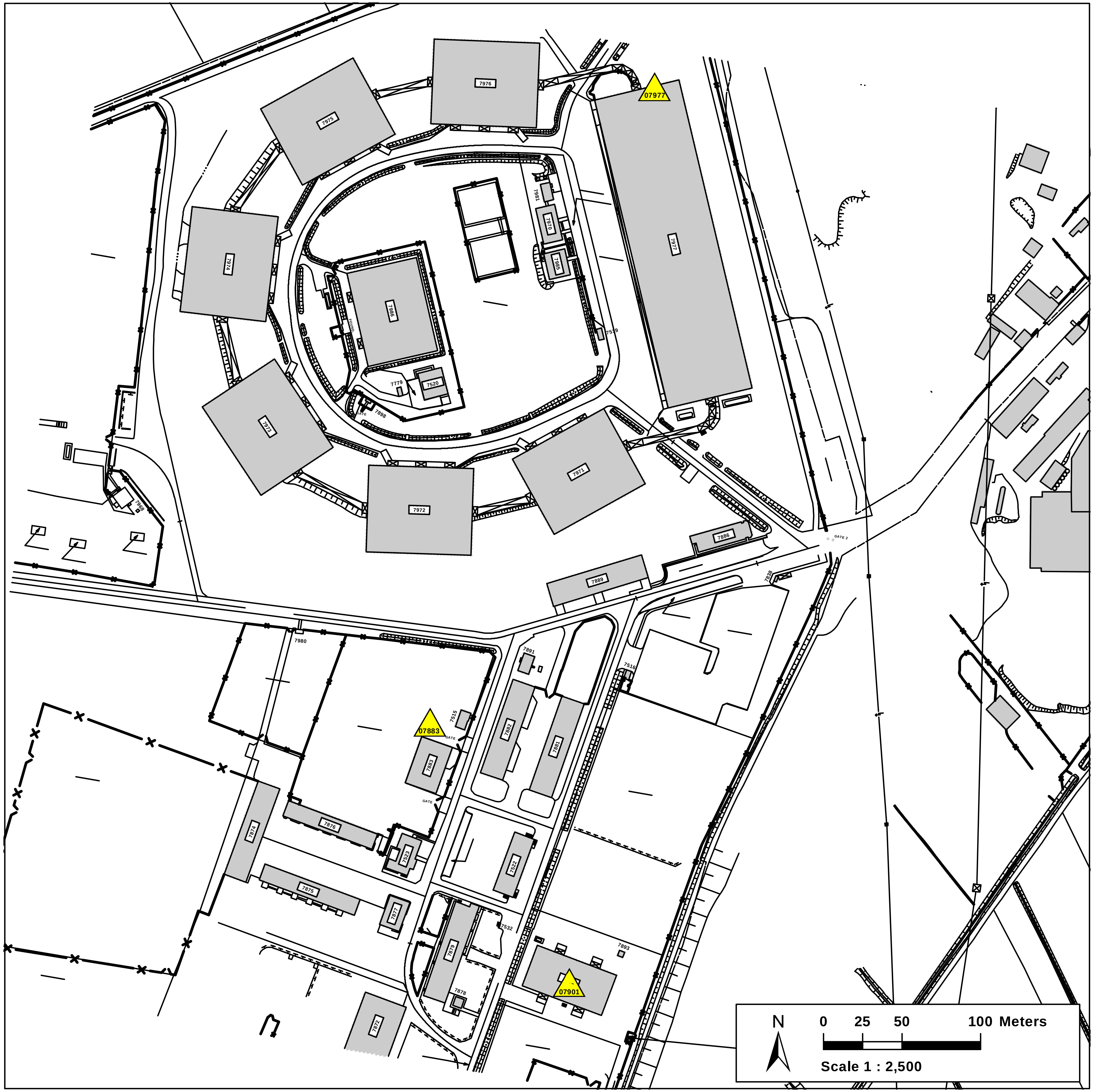


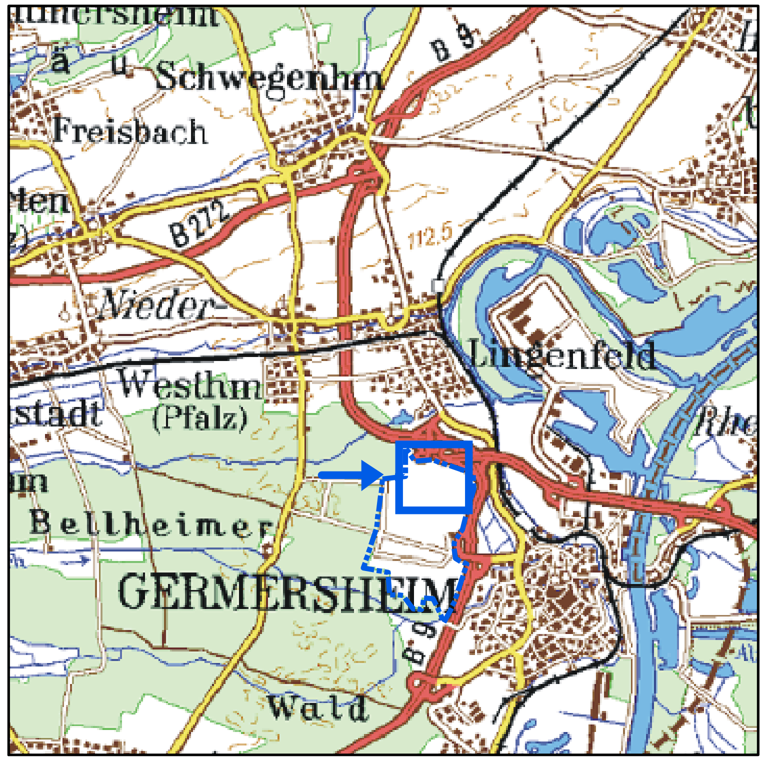
KEY MAP: Edingen Radio Receiver Facility

Legend

Hazardous Waste Accumulation Point (HWAP)

Location: **Edingen Radio Receiver Facility GE19P**	
Project: **411th BSB Heidelberg Hazardous Waste Management Plan**	
Prepared for: U.S. Army Corps of Engineers, Europe District, Konrad-Adenauer-Ring 39, D-65187 Wiesbaden	Prepared by: AMEC, Earth & Environmental GmbH, Eschborner Landstraße 42 - 50, D-60489 Frankfurt/Main
Description: **Location of HWAPs**	
Contract No.: DACA90-00-D0038	Date: March 20, 2003
Delivery Order: 0020	File: GE19P
Responsible/Checked: BK	Graphics Technician: BH
Appendix 1	**Figure 1**





KEY MAP: Germersheim (North)

Legend

Hazardous Waste Accumulation Point (HWAP)

Location:	
Germersheim (North) **GE30J**	
Project:	
411th BSB Heidelberg **Hazardous Waste Management Plan**	
Prepared for: U.S. Army Corps of Engineers Europe District Konrad-Adenauer-Ring 39 D-65187 Wiesbaden	Prepared by: AMEC Earth & Environmental GmbH Eschborner Landstraße 42 - 50 D-60489 Frankfurt/Main
Description: **Location of HWAPs**	
Contract No.: DACA90-00-D0038	Date: March 20, 2003
Delivery Order: 0020	File: GE30J_north
Responsible/Checked: BK	Graphics Technician: BH
Appendix 1	**Figure 2a**

KEY MAP: Germersheim (East)

Legend

- Hazardous Waste Accumulation Point (HWAP)
- Hazardous Waste Storage Area (HWAP)

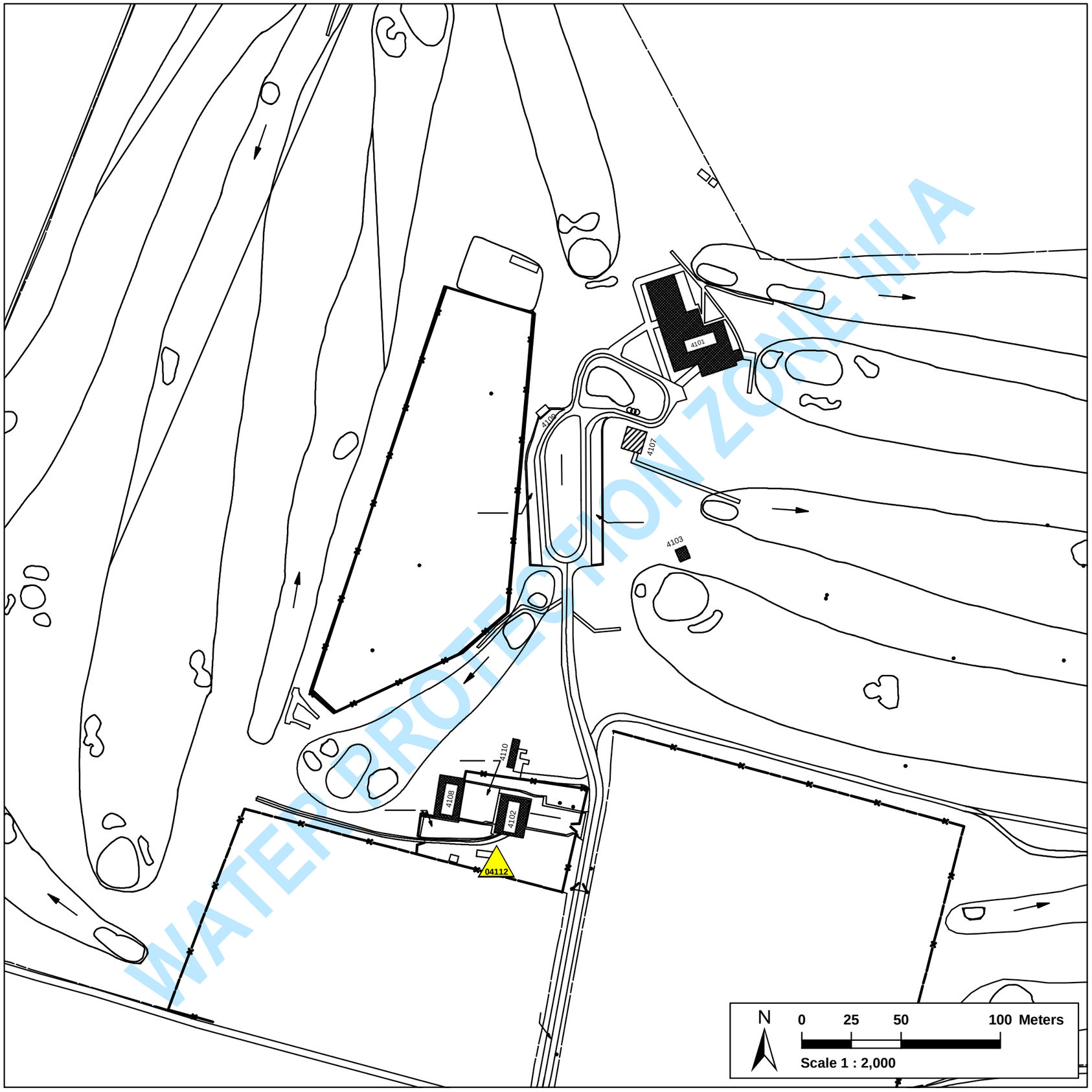
Location: Germersheim (East) GE30J	
Project: 411th BSB Heidelberg Hazardous Waste Management Plan	
Prepared for: U.S. Army Corps of Engineers, Europe District, Konrad-Adenauer-Ring 39, D-65187 Wiesbaden	**Prepared by:** AMEC, Earth & Environmental GmbH, Eschborner Landstraße 42 - 50, D-60489 Frankfurt/Main
Description: Location of HWAPs and HWSAs	
Contract No.: DACA90-00-D0038	Date: March 20, 2003
Delivery Order: 0020	File: GE30J_east
Responsible/Checked: BK	Graphics Technician: BH
Appendix 1	**Figure 2b**

KEY MAP: Germersheim (West)

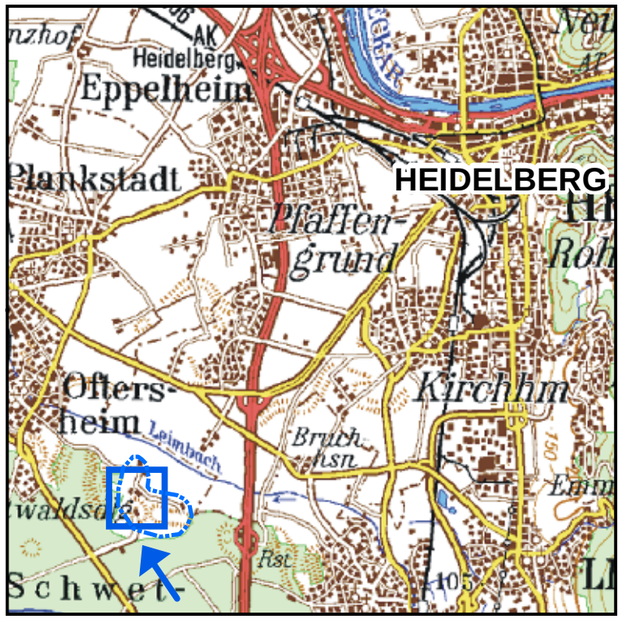
Legend

Hazardous Waste Accumulation Point (HWAP)

Location: Germersheim (West) GE30J	
Project: 411th BSB Heidelberg Hazardous Waste Management Plan	
Prepared for: U.S. Army Corps of Engineers, Europe District, Konrad-Adenauer-Ring 39, D-65187 Wiesbaden	**Prepared by:** AMEC, Earth & Environmental GmbH, Eschborner Landstraße 42 - 50, D-60489 Frankfurt/Main
Description: Location of HWAPs	
Contract No.: DACA90-00-D0038	Date: March 20, 2003
Delivery Order: 0020	File: G30J_west
Responsible/Checked: BK	Graphics Technician: BH
Appendix 1	Figure 2c



WATER PROTECTION ZONE III A

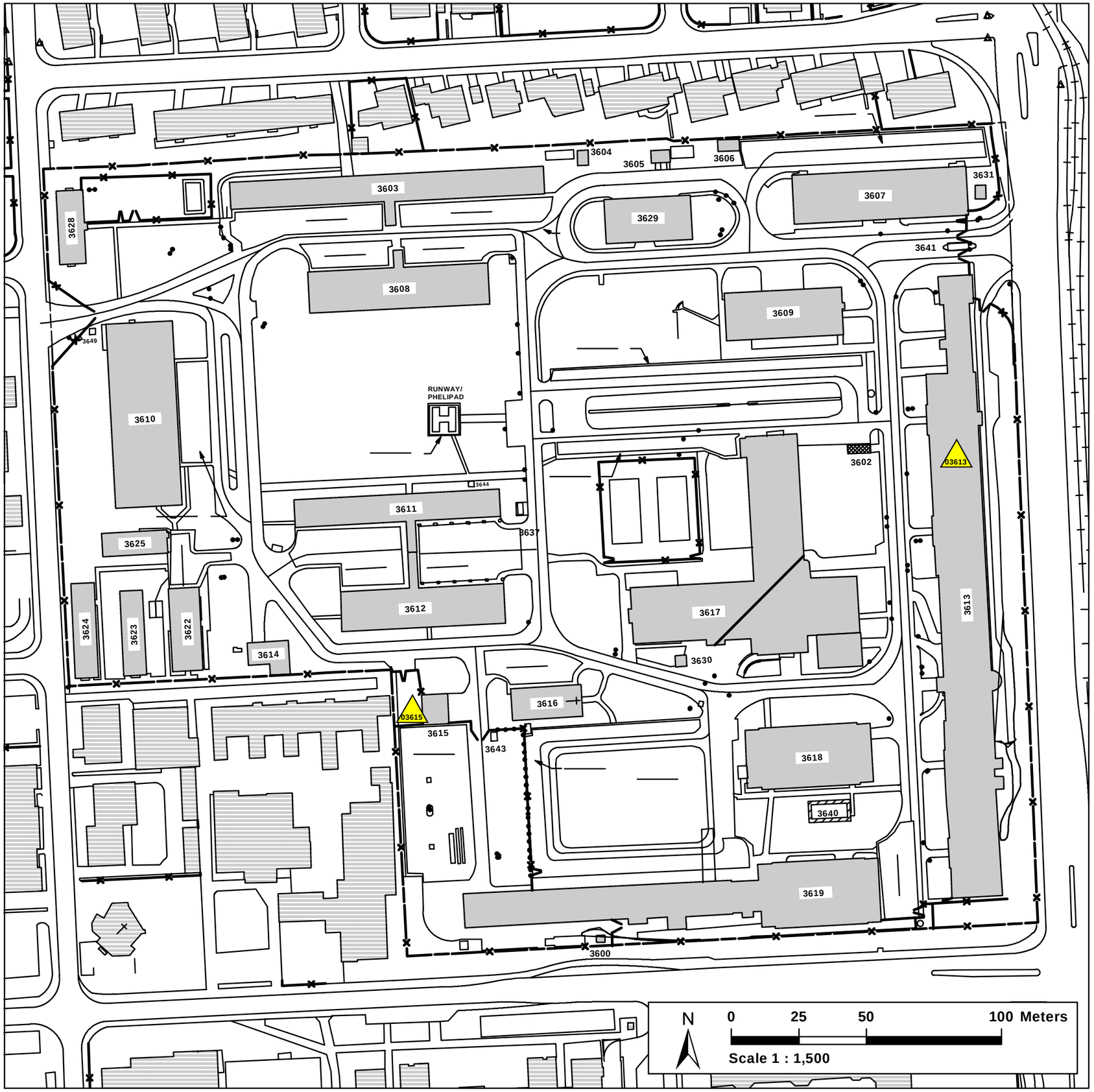


KEY MAP: Heidelberg Golf Course

Legend

Hazardous Waste Accumulation Point (HWAP)

Location: **Heidelberg Golf Course GE34F**	
Project: **411th BSB Heidelberg Hazardous Waste Management Plan**	
Prepared for: U.S. Army Corps of Engineers, Europe District, Konrad-Adenauer-Ring 39, D-65187 Wiesbaden	Prepared by: AMEC, Earth & Environmental GmbH, Eschborner Landstraße 42 - 50, D-60489 Frankfurt/Main
Description: **Location of HWAPs**	
Contract No.: DACA90-00-D0038	Date: May 27, 2003
Delivery Order: 0020	File: GE34F
Responsible/Checked: BK	Graphics Technician: BH
Appendix 1	**Figure 3**

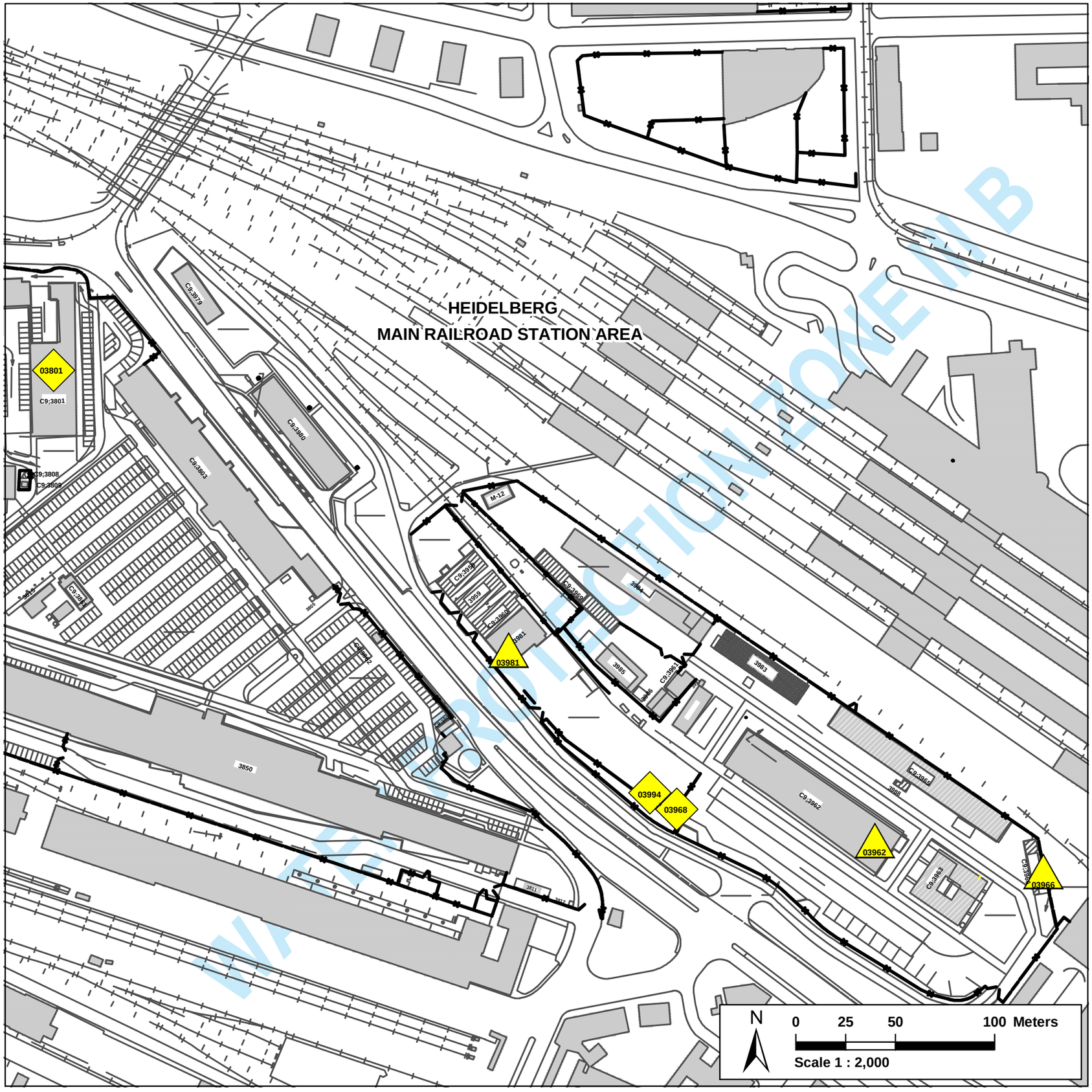


KEY MAP: Nachrichten Kaserne

Legend

Hazardous Waste Accumulation Point (HWAP)

Location: Nachrichten Kaserne GE34G	
Project: 411th BSB Heidelberg Hazardous Waste Management Plan	
Prepared for: U.S. Army Corps of Engineers, Europe District, Konrad-Adenauer-Ring 39, D-65187 Wiesbaden	Prepared by: AMEC, Earth & Environmental GmbH, Eschborner Landstraße 42 - 50, D-60489 Frankfurt/Main
Description: Location of HWAPs	
Contract No.: DACA90-00-D0038	Date: March 20, 2003
Delivery Order: 0020	File: GE34G
Responsible/Checked: BK	Graphics Technician: BH
Appendix 1	Figure 4



WATER PROTECTION ZONE III B

KEY MAP: Community Support Center

Legend

Hazardous Waste Accumulation Point (HWAP)

Hazardous Waste Storage Area (HWSA)

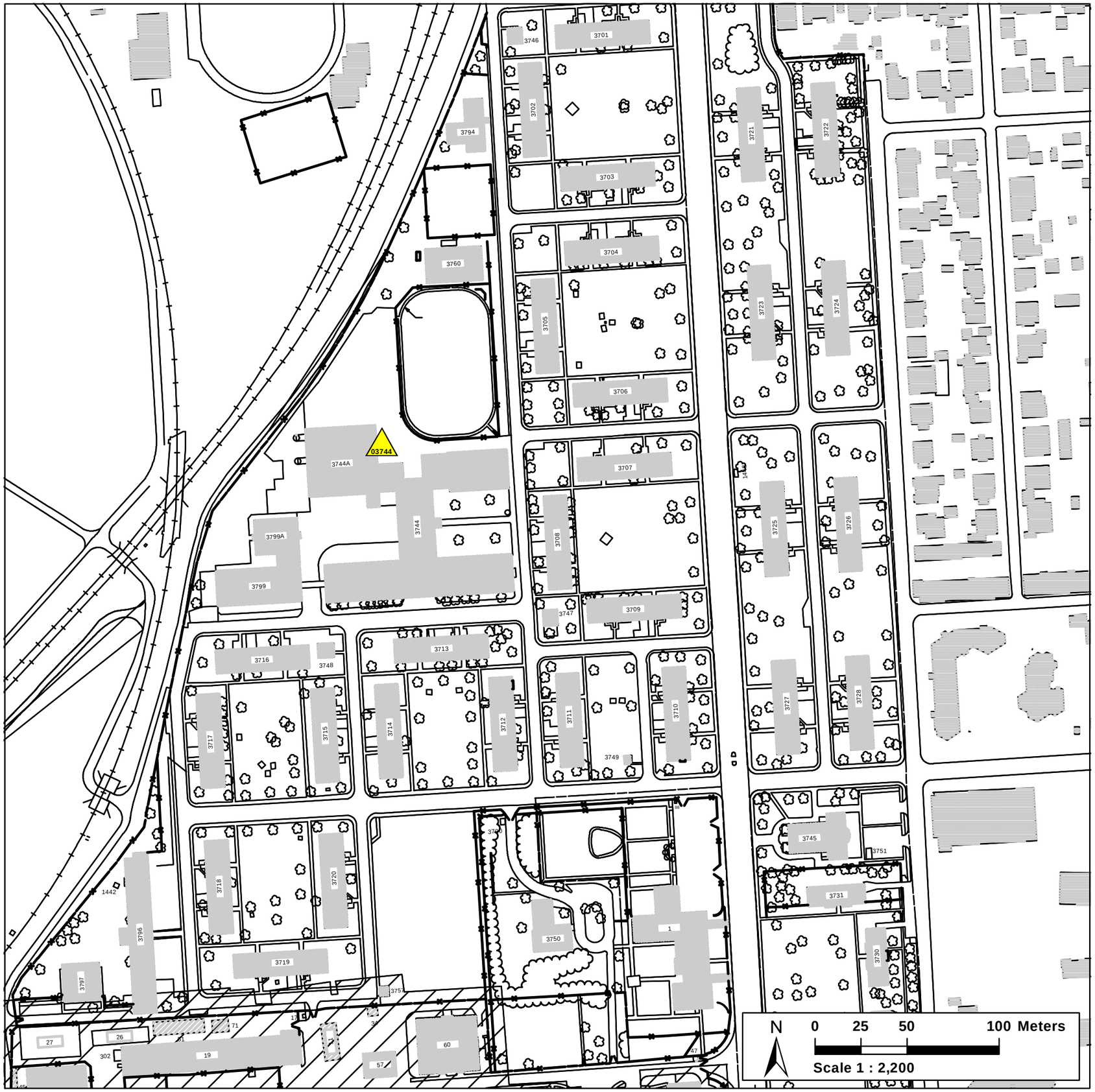
Location:	Community Support Center GE34J
Project:	411th BSB Heidelberg Hazardous Waste Management Plan
Prepared for:	U.S. Army Corps of Engineers Europe District Konrad-Adenauer-Ring 39 D-65187 Wiesbaden
Prepared by:	AMEC Earth & Environmental GmbH Eschborner Landstraße 42 - 50 D-60489 Frankfurt/Main
Description:	Location of HWAPs and HWSAs
Contract No.: DACA90-00-D0038	Date: May 27, 2003
Delivery Order: 0020	File: GE34J
Responsible/Checked: BK	Graphics Technician: BH
Appendix 1	Figure 5

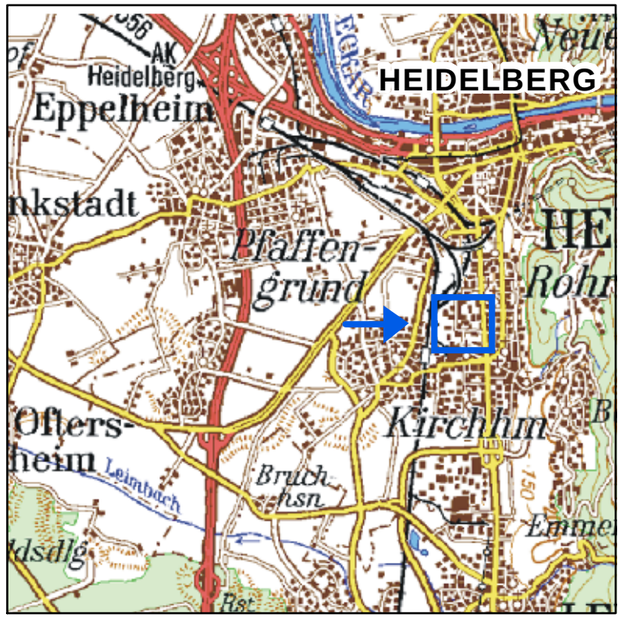
KEY MAP: Heidelberg Army Airfield

Legend

Hazardous Waste Storage Area (HWSA)

Location: **Heidelberg Army Airfield GE35B**	
Project: **411th BSB Heidelberg Hazardous Waste Management Plan**	
Prepared for: U.S. Army Corps of Engineers, Europe District, Konrad-Adenauer-Ring 39, D-65187 Wiesbaden	Prepared by: AMEC, Earth & Environmental GmbH, Eschborner Landstraße 42 - 50, D-60489 Frankfurt/Main
Description: **Location of HWAPs**	
Contract No.: DACA90-00-D0038	Date: May 27, 2003
Delivery Order: 0020	File: GE35B
Responsible/Checked: BK	Graphics Technician: BH
Appendix 1	**Figure 6**



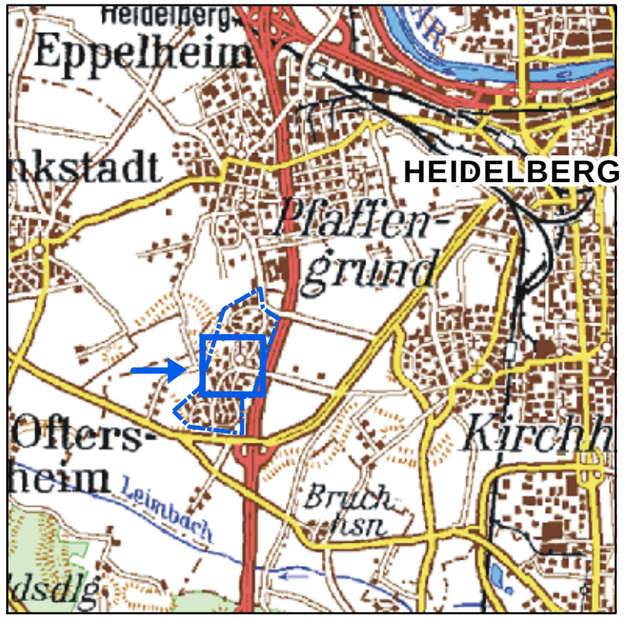


KEY MAP: Mark Twain Village

Legend

Hazardous Waste Accumulation Point (HWAP)

Location: Mark Twain Village GE52L	
Project: 411th BSB Heidelberg Hazardous Waste Management Plan	
Prepared for: U.S. Army Corps of Engineers, Europe District, Konrad-Adenauer-Ring 39, D-65187 Wiesbaden	**Prepared by:** AMEC, Earth & Environmental GmbH, Eschborner Landstraße 42 - 50, D-60489 Frankfurt/Main
Description: Location of HWAPs	
Contract No.: DACA90-00-D0038	Date: March 20, 2003
Delivery Order: 0020	File: GE52L
Responsible/Checked: BK	Graphics Technician: BH
Appendix 1	Figure 7

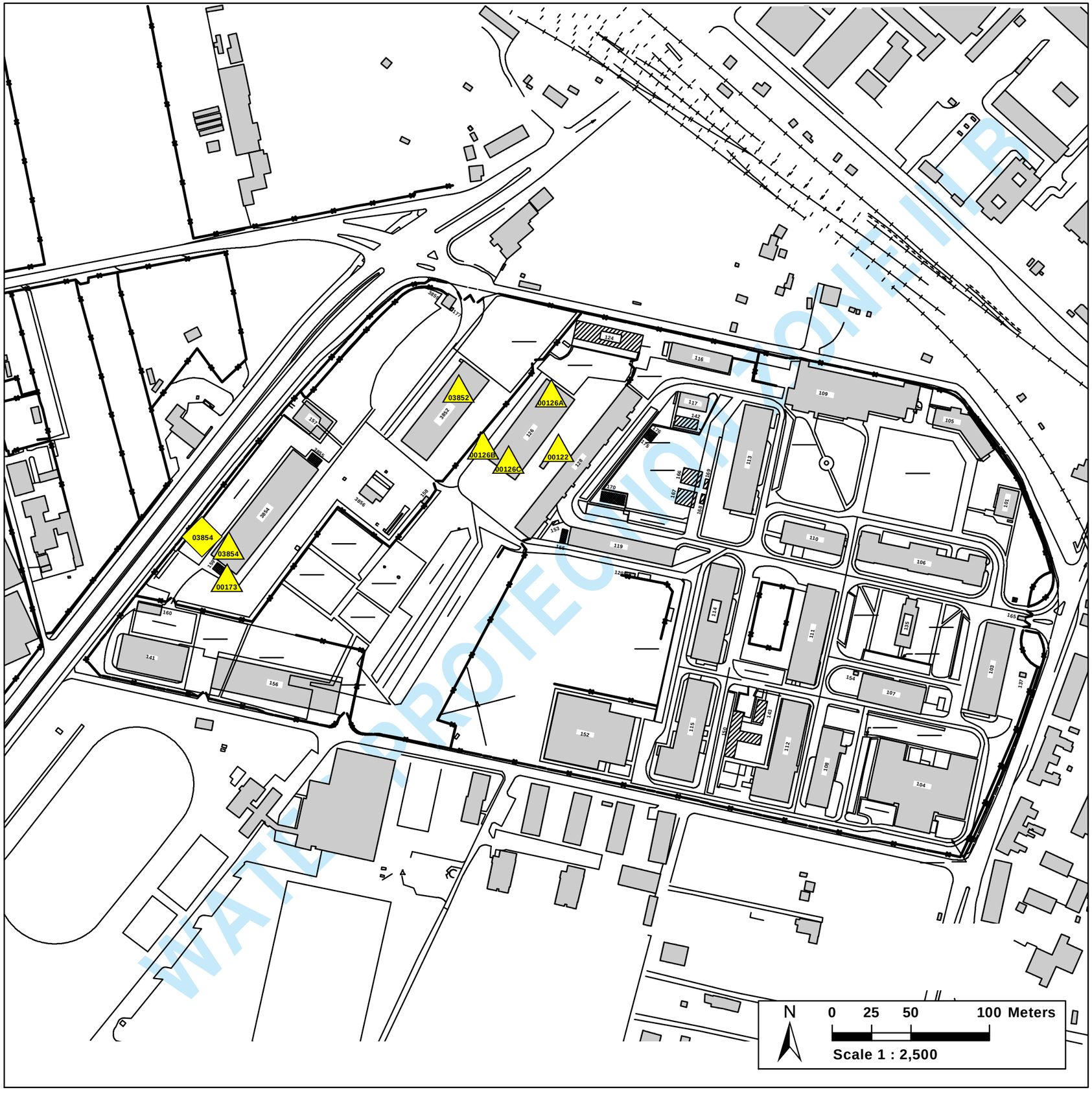


KEY MAP: Patrick Henry Village

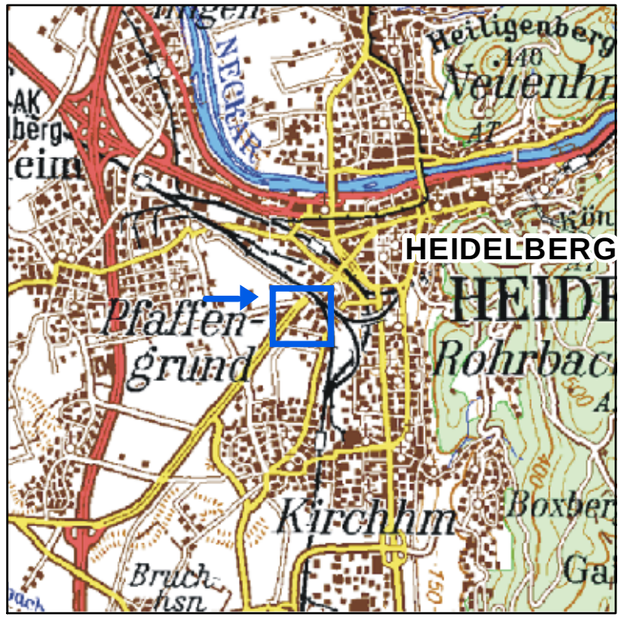
Legend

Hazardous Waste Accumulation Point (HWAP)

Location: Patrick Henry Village GE654	
Project: 411th BSB Heidelberg Hazardous Waste Management Plan	
Prepared for: U.S. Army Corps of Engineers, Europe District, Konrad-Adenauer-Ring 39, D-65187 Wiesbaden	Prepared by: AMEC, Earth & Environmental GmbH, Eschborner Landstraße 42 - 50, D-60489 Frankfurt/Main
Description: Location of HWAPs	
Contract No.: DACA90-00-D0038	Date: March 20, 2003
Delivery Order: 0020	File: GE654
Responsible/Checked: BK	Graphics Technician: BH
Appendix 1	Figure 8



WATER PROTECTION ZONE III B

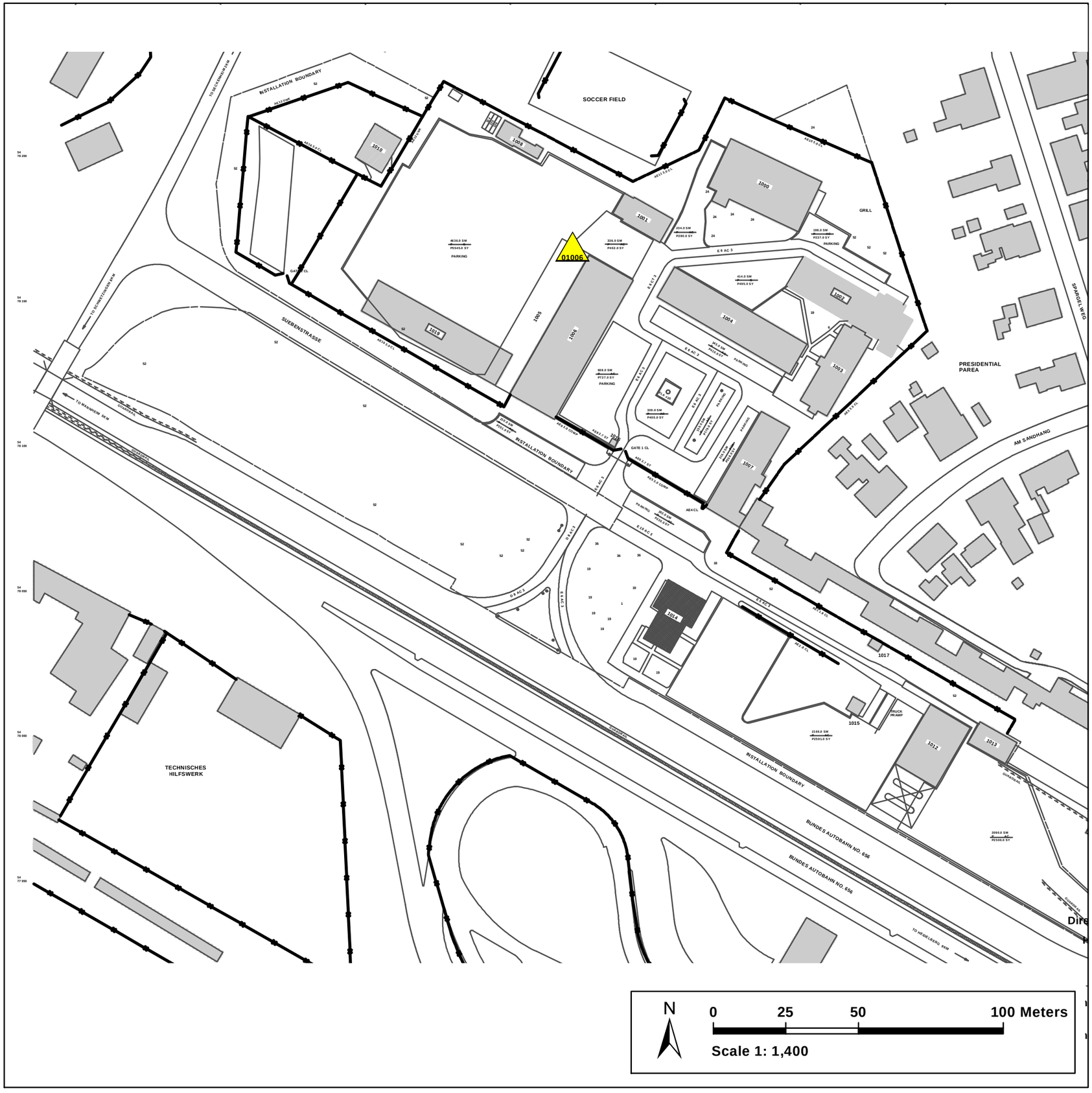


KEY MAP: Patton Barracks

Legend

- Hazardous Waste Accumulation Point (HWAP)
- Hazardous Waste Storage Area (HWSA)

Location: **Patton Barracks GE658**	
Project: **411th BSB Heidelberg Hazardous Waste Management Plan**	
Prepared for: U.S. Army Corps of Engineers, Europe District, Konrad-Adenauer-Ring 39, D-65187 Wiesbaden	Prepared by: AMEC, Earth & Environmental GmbH, Eschborner Landstraße 42 - 50, D-60489 Frankfurt/Main
Description: **Location of HWAPs and HWSAs**	
Contract No.: DACA90-00-D0038	Date: March 20, 2003
Delivery Order: 0020	File: GE658
Responsible/Checked: BK	Graphics Technician: BH
Appendix 1	**Figure 9**



KEY MAP: Stem Kaserne

Legend

Hazardous Waste Accumulation Point (HWAP)

Location: Stem Kaserne GE76P	
Project: 411th BSB Heidelberg Hazardous Waste Management Plan	
Prepared for: U.S. Army Corps of Engineers, Europe District, Konrad-Adenauer-Ring 39, D-65187 Wiesbaden	**Prepared by:** AMEC, Earth & Environmental GmbH, Eschborner Landstraße 42 - 50, D-60489 Frankfurt/Main
Description: Location of HWAPs	
Contract No.: DACA90-00-D0038	Date: March 20, 2003
Delivery Order: 0020	File: GE76P
Responsible/Checked: BK	Graphics Technician: BH
Appendix 1	**Figure 10**

WITHIN PROTECTION ZONE III A

KEY MAP: Tompkins Barracks

Legend

- Hazardous Waste Accumulation Point (HWAP)
- Hazardous Waste Storage Area (HWSA)

Location: **Tompkins Barracks GE846**	
Project: **411th BSB Heidelberg Hazardous Waste Management Plan**	
Prepared for: U.S. Army Corps of Engineers, Europe District, Konrad-Adenauer-Ring 39, D-65187 Wiesbaden	Prepared by: AMEC, Earth & Environmental GmbH, Eschborner Landstraße 42 - 50, D-60489 Frankfurt/Main
Description: **Location of HWAPs and HWSAs**	
Contract No.: DACA90-00-D0038	Date: March 20, 2003
Delivery Order: 0020	File: GE846
Responsible/Checked: BK	Graphics Technician: BH
Appendix 1	**Figure 11**

APPENDIX 2

LIST OF HWSAs AND HWAPs AT THE 411th BSB

Table A-2.1. List of 411th BSB Hazardous Waste Accumulation Points (HWAPs)

ARLOC	Facility Number	Activity Environmental Coordinator/ Individual in Charge	DoD-Internal HW Generator Number	Official Waste Generator Number	Water Hazard Category
GE19P	1031	Mr. Crone	WK4RXH	H18010580	TBD
GE30J	7542	Mr. Philips	WK4RXH	H18010580	TBD
GE30J	7885/ in front of 7857	Mr. Sternberger Mr. Gussow	WK4RXH	H18010580	TBD
GE30J	7883 (tents)	Mr. Philips	WK4RXH	H18010580	TBD
GE30J	7901	SSG Parks	WK4RXH	H18010580	TBD
GE30J	7902	Mr. Philips	WK4RXH	H18010580	TBD
GE30J	7909	Mr. Philips	WK4RXH	H18010580	TBD
GE30J	7977	SSG Parks	WK4RXH	H18010580	TBD
GE34F	4112	Mr. Yowler	WK4RXH	H18010580	TBD
GE34G	3613	Ms. Swanson	WK4RXH	H18010580	TBD
GE34G	3615	Ms. Swanson	WK4RXH	H18010580	TBD
GE34J	3962	Mr. Heberling	WK4RXH	H18010580	TBD
GE34J	3966	Mr. Schreiner	WK4RXH	H18010580	TBD
GE34J	3981	Mr. Hertlein	WK4RXH	H18010580	TBD
GE52L	3744	Ms. Billings	WK4RXH	H18010580	TBD
GE654	Behind 4510	SGT Kelley	WK4RXH	H18010580	TBD
GE654	4539	SGT Aponte	WK4RXH	H18010580	TBD
GE654	4795	Ms. Rosales	HXGHCG	N/A	TBD
GE658	Next to 122	SGT Walker	WK4RXH	H18010580	TBD

Table A-2.1. List of 411th BSB Hazardous Waste Accumulation Points (HWAPs) (*continued*)

ARLOC	Facility Number	Activity Environmental Coordinator/ Individual in Charge	DoD-Internal HW Generator Number	Official Waste Generator Number	Water Hazard Category
GE658	126, along the fence	SGT Walker SPC Garcia	WK4RXH	H18010580	TBD
GE658	126 North	SPC Garcia	WK4RXH	H18010580	TBD
GE658	126 South	SGT Walker	WK4RXH	H18010580	TBD
GE658	173	Mr. Crone	WK4RXH	H18010580	TBD
GE658	3852	Ms. Billings	WK4RXH	H18010580	TBD
GE658	3854	Mr. Romero	WK4RXH	H18010580	TBD
GE76P	1006	Mr. Bald	HXGHCG	N/A	TBD
GE846	4012	PFC Anderson	WK4RXH	H18010580	TBD
GE846	4218	SSG Hickman	WK4RXH	H18010580	TBD
GE846	4220	SGT Bradford	WK4RXH	H18010580	TBD
GE846	4226	Mr. Terrell	WK4RXH	H18010580	TBD
GE846	4228	SGT Kromer	WK4RXH	H18010580	TBD
GE846	4254	PFC Anderson	WK4RXH	H18010580	TBD
GE846	4254B	SGT Peralta	WK4RXH	H18010580	TBD
GE846	4267	Mr. Albiez SFC Lafler	WK4RXH	H18010580	TBD

Table A-2.2. List of 411th BSB Hazardous Waste Storage Areas (HWSAs)

ARLOC	Facility Number	Activity Environmental Coordinator/ Individual in Charge	DoD-Internal HW Generator Number	Official Waste Generator Number	Water Hazard Category
GE30J	7542	Mr. Philips	WK4RXH	H18010580	TBD
GE34J	3801	Mr. Bay	HXGHCG	N/A	TBD
GE34J	3968	Mr. Crone	WK4RXH	H18010580	TBD
GE34J	3994	Mr. Crone	WK4RXH	H18010580	TBD
GE35B	242	Mr. Preussler	WK4RXH	H18010580	TBD
GE658	3854	Mr. Romero	WK4RXH	H18010580	TBD
GE846	4013	Mr. Crone	WK4RXH	H18010580	TBD

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APPENDIX 3

STATE-SPECIFIC REQUIREMENTS

1. State-Specific Storage Tank Requirements

BADEN-WÜRTTEMBERG

If storage facilities exceed the capacity limits indicated in Table A-3.1, they are not permitted in Water Protection Zone III areas.

Table A-3.1. Capacity Limits of Storage Facilities in Water Protection Zone III in Baden-Württemberg

Water Hazard Class *(Wassergefährdungsklasse – WGK)*	Maximum Capacity
1 (low hazard rating)	No limit provided
2 (medium hazard rating)	100 m³
3 (high hazard rating)	10 m³

UST operation is prohibited in the outer water protection zone (Zone III) if the maximum storage quantities indicated in Table A-3.2 are exceeded.

Table A-3.2. Maximum Storage Capacities for USTs in Water Protection Zone III in Baden-Württemberg

Water Hazard Class *(Wassergefährdungsklasse – WGK)*	Volume [m³]
1	1,000
2	10
3	1

RHEINLAND-PFALZ

Operators must submit a notification to the competent German authority if they plan to operate, significantly modify, or decommission facilities storing water endangering substances. This requirement does not apply to the operation of above-ground storage tanks for gasoline, heating oil, and diesel fuel with a volume less than or equal to 1,000 liters, as long as they are located outside water and mineral spring protection zones.

Heating oil storage tanks in Rheinland-Pfalz with a volume less than 5,000 liters are exempt from the required inspection.

2. State-Specific Determination of Ordinary and Conventional Facilities

Table A-3.3. Determination of Ordinary and Conventional Facilities for Baden-Württemberg und Rheinland-Pfalz

Criterion	Storage Containers are Double-Walled or Single-Walled with Secondary Containment (1)	Comply with Applicable Technical Specifications and Construction Requirements	Equipped with Automatic Leak Detection
Water Hazard Category A Facilities (2)	NA	NA	NA
Water Hazard Category B, C, or D Facilities (2)	X (4)	X	X
Drum Storage Area (3)	X (5)	NA	NA

Notes:

X: If all these requirements are fulfilled, the facility is an ordinary and conventional facility.

(1) Secondary containment must retain the entire volume of the storage container. If there are several containers, then the secondary containment must retain the volume of the largest container, or at least 10 percent of the total storage volume.

(2) See corresponding water hazard category tables for each State (following pages)

(3) Only applicable to Rheinland-Pfalz.

(4) Secondary containment must be liquid-proof.

(5) Secondary containment must meet specific regulatory requirements in Rheinland-Pfalz.

3. State-Specific Requirements of Water Hazard Category Facilities

The following region-specific tables define the Water Hazard Category of Facilities (i.e., categories A to D) based on the Water Hazard Class of the hazardous material stored, and the volume of hazardous material in cubic meters (m^3) or mass in metric tons.

BADEN-WÜRTTEMBERG

Table A-3.4. Definition of Water Hazard Category Facilities in Baden-Württemberg

Volume in m^3 or mass in metric tons	Water Hazard Class			
	0	1	2	3
up to 0.1	Category A	Category A	Category A	Category A
between 0.1 and 1.0	Category A	Category A	Category A	Category C
between 1.0 and 10	Category A	Category A	Category B	Category D
between 10 and 100	Category A	Category A	Category C	Category D
between 100 and 1,000	Category A	Category B	Category D	Category D
above 1,000	Category A	Category C	Category D	Category D

RHEINLAND-PFALZ

Table A-3.5. Definition of Water Hazard Category Facilities in Rheinland-Pfalz

Volume in m^3 or mass in metric tons	Water Hazard Class		
	1	2	3
up to 0.1	Category A	Category A	Category A
between 0.1 and 1.0	Category A	Category A	Category B
between 1.0 and 10	Category A	Category B	Category C
between 10 and 100	Category A	Category C	Category D
between 100 and 1,000	Category B	Category D	Category D
above 1,000	Category C	Category D	Category D

4. State-Specific Tendering

Table A-3.6. State-specific Tendering Requirements

German State	Central State Agency Responsible for Tendering Waste Needing Special Supervision	Tendering Requirements
Baden-Württemberg	*Sonderabfallagentur Baden-Württemberg GmbH* (SAA)	The generator *(Andienungspflichtige)* of waste requiring special supervision that is to be permanently disposed of *(beseitigen),* must tender *(andienen)* this waste to the central state agency *(Zentrale Stelle für Sonderabfälle),* if this waste is generated, treated, stored, or disposed of in Baden-Württemberg.
		If waste that is to be permanently disposed of is exported outside the European Community, the associated notification *(Notifizierung)* is equivalent to a tendering *(Andienung)*. The central state agency *(Zentrale Stelle für Sonderabfälle)* may require additional information about methodologies of disposal and operation of facilities as well as samples from the waste being disposed.
		The generator of waste requiring special supervision must supply the waste to the facility that is approved by the SAA. This applies if the generator has tendered the wastes to the SAA. If waste must be subjected to physical, chemical, or biological treatment prior to disposal, the generator may propose an appropriate facility to the SAA.
		The generator of waste requiring special supervision that is to be disposed is exempt from the obligation to tender the waste to the SAA in the following cases:

German State	Central State Agency Responsible for Tendering Waste Needing Special Supervision	Tendering Requirements
		supervision that is to be disposed of does not exceed 2,000 kg (2 metric tons) or the total quantity of each individual waste type does not exceed 1,000 kg (1 metric ton); however, it must be ensured that the waste contractor responsible for collection or final disposal fulfils the declaration requirements to the SAA. • If the waste requiring special supervision is collected and disposed of via collective disposal declaration *(Sammelentsorgungsnachweis)* by a waste contractor; the notification to the SAA must be made by the waste generator and the appropriate declaration must be provided to the central state agency *(andienungspflichtig)* by the waste contractor. • If waste requiring special supervision is disposed of in a certified facility operated by the waste generator that was in operation prior to 1 January 1996. • If waste requiring special supervision is collected by certified third parties or private waste contractors.
Rheinland-Pfalz	*Sonderabfall-Management-Gesellschaft Rheinland-Pfalz mbH (SAM)*	The generator of waste requiring special supervision *(Andienungspflichtige)* must provide a written declaration to the central state agency *(Zentrale Stelle für Sonderabfälle)* that is responsible for ensuring the proper disposal of the waste.
		If the generator proposes a contractor for the disposal of waste requiring special supervision, the generator must provide a statement of acceptance *(Annahmeerklärung)* of this contractor to the SAM in addition to the declaration.
		The official Rheinland-Pfalz template must be used for the declaration. The template can be obtained from SAM.

German State	Central State Agency Responsible for Tendering Waste Needing Special Supervision	Tendering Requirements
		If waste requiring special supervision is collected and disposed of via collective disposal declaration *(Sammelentsorgungsnachweis*), the waste carrier is responsible for providing the appropriate declaration to SAM *(andienungspflichtig).*

APPENDIX 4

CLOSURE PLANS

(Closure plans for the individual HWSAs will be developed in a different project and inserted here upon completion.)

Hazardous Waste Storage Area Closure Plan Template

1. Introduction

This closure plan has been developed for the Hazardous Waste Storage Area in [Installation Name] (ARLOC [Insert 5 digit Area Location Code]), Building [No.], in order to minimize or eliminate post-closure escape of HW, hazardous constituents, leachate, contaminated runoff, or HW decomposition products to the ground, surface water, or atmosphere. Closure refers to the shut down of active HW accumulation, storage, or disposal of a facility (i.e., where such operations are or have been conducted).

2. Estimated Hazardous Waste Storage Capacity

The estimated HW storage capacity for this HWSA is outlined in Table A-4.1.

Table A-4.1. Estimated HW Storage Capacity

HW Type	EWC	Container Size	Number of Containers	Hazardous Properties

3. Hazardous Waste Removal/Decontamination

[NOTE TO PLAN WRITER: If one of the following criteria applies, the facility must be inspected by an expert (Sachverständiger) prior to closure. Determine if any of these criteria apply and modify or delete the following sentences as appropriate.]

The HWSA is an above-ground facility of the water hazard category [C or D].

The HWSA is an above-ground facility of the water hazard category [B, C, or D] and is located in a water protection zone.

The HWSA is an underground facility.

The HWSA is an above-ground facility of water hazard category A and it is required in the specification (i.e., the determination of suitability or construction approval) that the facility needs to be inspected by an expert.

Therefore, the facility will be inspected by an expert *(Sachverständiger)* prior to closure. The inspection will be performed in accordance with all applicable German water regulations.

[NOTE TO PLAN WRITER: If none of the above criteria applies and it has been determined that the facility must not be inspected by an expert (Sachverständiger) prior to closure, delete all above paragraphs of this section.]

All containers will be sealed and labeled prior to shipment. Each classification (e.g., flammable, oxidizer, poison, corrosive) will be transported only after compatibility analysis. Materials that are not compatible will be shipped separately from all other materials.

Soil samples will be taken at locations where there is evidence of spills or leaks. Background samples, in areas upgradient from the accumulation site, will also be collected. Downgradient samples will be obtained to evaluate any migration from the accumulation site. Soil samples will be collected at 6-meters intervals around the storage building at a distance of 0.6 meters from the storage area and analyzed for HW characteristics. Soil samples will also be obtained at the drain outlets at the storage areas. Samples will be taken to a maximum depth of 6 inches. Based on the results obtained from the analysis of the samples, additional sampling locations will be determined and then analyzed to determine the extent of contamination in the soil. Surface samples will be analyzed for halogenated organics, non-halogenated organics, toxicity characteristics, and PCBs. Soil found to be contaminated will be removed and contained for offsite disposal.

If spills or leaks occur at the time of closure, samples will be taken and analyzed to determine the extent of contamination in soil and, if necessary, in groundwater. Any contaminated soil will be excavated, removed, and disposed of at a permitted offsite disposal facility. Any contamination in groundwater will be remediated. The entire site will be regraded as needed to prevent erosion subsequent to closure.

Any contaminated soil will be removed and transported to a permitted HW facility using the appropriate equipment.

Facility decontamination will be performed by trained personnel. The services of these personnel will be obtained at the time of closure notification in accordance with contractual procedures established by EMO or DRMS. Requirements for decontamination will be prescribed by contract and will require the contractor to provide all necessary equipment and protective clothing to safely complete decontamination.

Hand equipment used for decontamination will either be cleaned or discarded as regulated waste. Small items can be cleaned in containers with the wash water ultimately being added to drums for disposal. Larger equipment items can be cleaned in an area where the wash water can be accumulated in a sump or trough. Wash water will be removed from the sump or trough and placed in drums for disposal.

Contaminated soil, if small in quantity, will be removed with hand trowels or shovels and placed in appropriate containers, labeled, and sent to an appropriate disposal facility. If large quantities of soil require removal, appropriately-sized mechanical equipment will be used to remove the soil and place it in a suitable covered removal container or on an impervious surface, and then covered, pending ultimate removal. Exact procedures will be determined after sample analysis defines the extent of contamination.

Following drum removal, all foundations and drains will be washed down, and wash water will be contained until a sample is analyzed by a certified laboratory. If warranted, wash waters will be drummed and transported for proper disposal.

Decontamination of the facility will be done under the supervision of EMO and trained technicians. During decontamination procedures, all personnel will wear the prescribed personal protective equipment. Prior to leaving the site, all personnel will remove and discard those items that cannot be cleaned for reuse, and the materials, including cleaning fluids, will be sealed in a container and transported offsite for disposal.

4. Expected Closure Date

[NOTE TO PLAN WRITER: Determine what the closure is based on. Modify or add the following statements as appropriate.]

It is expected that this HWSA will be closed in [date: month, year].

This HWSA will be closed when the unit is relocated and no other unit is using the building. This is expected to be in [date: month, year].

This closure plan will be implemented concurrent with the decision to close the HWSA. All information regarding the closure procedures and analytical data will be maintained by the EMO.

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APPENDIX 5

EXAMPLE INSPECTION CHECKLISTS AND FORMS

Inspection Checklists

HAZARDOUS SUBSTANCES CHECKLIST

Building / Area: Date:

Inspector: Unit:

	YES	NO	N/A
1. Mark the number of containers for each substance below:			

Diesel Fuel	MOGAS	Jet Fuel	Motor Oil	Lube/Hydraulic Oil	PCB-containing Fluids	Solvents	Alcohols	Corrosive Liquids	Lead Acid Batteries	Toxic/Corrosive Gases	Flammable Gases	Aerosol Cans	Adhesives	Deicing Fluid	Antifreeze	Used Oil	Hazardous Waste	Other (Identify Below)

	YES	NO	N/A
2. Have containers been located to avoid accidental damage from equipment or vehicles?	☐	☐	☐
3. Are all containers adequately/appropriately labeled?	☐	☐	☐
4. Is the labeling on each container in English and German?	☐	☐	☐
5. Are incompatible substances segregated into separate storage cabinets/areas?	☐	☐	☐
6. Are any containers severely damaged (i.e., bulges, dents, rust, cracks)?	☐	☐	☐
7. Have all personnel involved in using hazardous substances been trained?	☐	☐	☐
8. Are MSDSs available for each substance located in the room/area?	☐	☐	☐
9. Are any containers leaking?	☐	☐	☐
10. Are containers located outdoors surrounded by containment systems?	☐	☐	☐
If yes, are these containment systems dry?	☐	☐	☐
Is the water release system closed (valve) or in place (drain plug)?	☐	☐	☐
11. Is an inventory of hazardous substances maintained?	☐	☐	☐
12. Is each area used for storage of flammable liquids operated in accordance with state-of-the-art technology?	☐	☐	☐
13. Is the facility avoiding storing flammable liquids in passageways/ thoroughfares, staircases, and generally accessible hallways?	☐	☐	☐
14. Is the facility avoiding storing flammable liquids in roofs of residential buildings, hospitals, office buildings and similar buildings as well as in their roof-spaces?	☐	☐	☐
15. Is the facility avoiding storing flammable liquids in public restaurants and residences?	☐	☐	☐
16. Is the facility where flammable liquids are handled and/or stored in an adequate operating condition and continuously monitored?	☐	☐	☐
17. Are Hazard Class A I, A II, and B flammable liquids stored in a manner that:	☐	☐	☐
Prohibits electrostatic charges that could lead to a dangerous discharge?	☐	☐	☐
Protects against fire hazards due to lightning (indoors and outdoors)?	☐	☐	☐
Prevents hazardous vapor-air mixtures from forming/remaining during filling operations?	☐	☐	☐
Prohibits dangerous flashovers?	☐	☐	☐

HAZARDOUS SUBSTANCE CHECKLIST -- CONTINUED

	YES	NO	N/A
18. Are substances that may increase the risk or the spread of fires prohibited from areas where an explosive atmosphere may be generated?	☐	☐	☐
19. If a known explosive atmosphere exists, is all equipment operated in it explosion proof?	☐	☐	☐
20. If the facility is storing, distributing, and/or handling water endangering substances (WGK 1 to WGK 3), is it being operated to prevent the contamination of water bodies or other detrimental effects?	☐	☐	☐
21. Is a 24-hour notification system available to contact emergency service providers?	☐	☐	☐
22. Is each storage area (i.e., room, cabinet) secured from unauthorized entry?	☐	☐	☐
If yes to 22., provide explanation of security (i.e., fences, locks, monitor, etc.):			

E. Other Comments:

F. Corrective Actions (for each non-compliant item, please describe type and completion date of corrective actions)

Yes: Compliance No: Non-Compliance N/A: Not Applicable

HWSA/HWAP CHECKLIST

Building / Area: Date:

Inspector: Unit:

HWAP/HWSA	YES	NO	N/A
1. Is each waste stream stored in a separate container (i.e., not co-mingled)?	☐	☐	☐
2. Are all waste containers adequately/appropriately labeled?	☐	☐	☐
3. Are Incompatible wastes segregated?	☐	☐	☐
4. Mark the number of containers for each waste stream below:			

Used Oil	Antifreeze	Used Oil Filters	POL-contaminated solids	POL-contaminated absorbents	Paint-related Waste	Corrosive Containers	Aerosol Cans	Batteries				Other (Identify Below)
								Lead Acid	Nickel-Cadmium	Gel Cell	Other	

5. Are any containers full?	☐	☐	☐
If yes to 5., list the waste type and the length of time the container has been stored full:			
6. Have all personnel involved in HW at the HWAP/HWSA been trained?	☐	☐	☐
For any location for which there is more than one container for collection of a particular waste stream, complete the following information (HWSA).			
7. Is there a HWPS on file for each waste stream stored in the area?	☐	☐	☐
8. Is this area secured from unauthorized entry	☐	☐	☐
If yes to 8., provide explanation of security (i.e., fences, locks, monitor, etc.):			
Are signs posted that say “Danger. Unauthorized Personnel, Keep Out”?	☐	☐	☐
If yes, are the signs in English and German?	☐	☐	☐
Are the signs visible from 25 feet?	☐	☐	☐
Can you see the signs from any side of the HWSA?	☐	☐	☐
9. Is the HWSA equipped with any alarm or emergency communication device?	☐	☐	☐
10. Are there occasions when only one person is working in the area?	☐	☐	☐
If yes to 10., does that person have immediate access to a cell phone or two-way radio (or any other appropriate device that will allow for summoning assistance)?	☐	☐	☐
11. Are all containers closed (unless adding waste)?	☐	☐	☐
12. Is adequate secondary containment provided for liquid wastes?	☐	☐	☐
13. Is a written log of the hazardous waste maintained?	☐	☐	☐

E. Other Comments:

F. Corrective Actions (for each non-compliant item, please describe type and completion date of corrective actions)

Yes: Compliance No: Non-Compliance N/A: Not Applicable

DAILY HAZARDOUS SUBSTANCE/WASTE TANK CHECKLIST

Building / Area: Date:

Inspector: Unit:

HAZARDOUS SUBSTANCE/WASTE TANK	YES	NO	N/A
1. Are operating instructions clearly visible for each hazardous substance/waste storage tank system?	☐	☐	☐
2. Are all tank specifications (i.e., capacity, construction type, contents) clearly indicated on each tank system?	☐	☐	☐
3. Is the labeling on each tank in English and German?	☐	☐	☐
4. Is each indoor storage area containing one or more tanks (that require permitting or notification) adequately lighted and ventilated?	☐	☐	☐
5. Is the fill level visible for each tank and tank container from its' exterior?	☐	☐	☐
6. Is data from monitoring and leak detection equipment gathered daily?	☐	☐	☐
7. If the tank has an internal positive pressure exceeding 0.1 bar, is monitoring being performed?	☐	☐	☐
8. Is any portion of the tank system damaged (i.e., bulges, dents, rust, cracks)?	☐	☐	☐
9. Is any portion of the tank system leaking?	☐	☐	☐
10. Are POL storage tanks surrounded by containment systems?	☐	☐	☐
If yes, are these containment systems dry?	☐	☐	☐
Is the water release system closed (valve) or in place (drain plug)?	☐	☐	☐
11. Are the areas immediately surrounding the externally accessible portion of the tank system, including the secondary containment system, in good condition, including nearby vegetation (i.e., not dead, or wet during dry weather)?	☐	☐	☐
12. Is each tank system used for storage of flammable liquids operated in accordance with state-of-the-art technology?	☐	☐	☐
13. Are Hazard Class A I, A II, or B flammable liquids not stored in adjoining chambers of a multiple chamber tank to light heating oil?	☐	☐	☐
14. Is each storage tank secured from unauthorized entry/transfer?	☐	☐	☐
If yes to 13, provide explanation of security (i.e., locks, monitor, pump deactivation, etc.):			
15. Is a 24-hour notification system available to contact emergency service providers?	☐	☐	☐

E. Other Comments:

F. Corrective Actions (for each non-compliant item, please describe type and completion date of corrective actions)

Yes: Compliance No: Non-Compliance N/A: Not Applicable

HWMP TRAINING FORM - The following HWMP Training Form should be completed each time a training session related to the HWMP is performed. Participants should print their name, their unit or title, telephone extension, and then sign their name in the appropriate spaces provided below. The trainer should complete the upper portion of the form, including topic covered in addition to the general review of the plan and spill events.

Trainer:	**Date:**

If box check, this HWMP training session included a review and discussion of the following items:

☐ Each section contained within this HWMP,
☐ Equipment and components and/or,
☐ Recently developed or adopted precautionary measures or procedures.

Other topics and/or discussion items which were reviewed included the following:

Participant's Name	Unit/Title & Phone Extension	Participant's Signature

Trainer's Signature:

SAMPLE HAZARDOUS WASTE LOG

Name and Address of Generating Activity	Waste Description	Hazard Class	Container Type/Size	Number of Containers	Quantity of HW stored	Date Received	Date Stored	Storage Location	Sealed?	Transported?	Transporter Name and Address

Waste Management Plan and Waste Registry Forms

INDEX OF FORMS

The forms that must be completed depend upon whether a waste registry or a waste management plan is being prepared. The following table shows the correct forms for each purpose.
Welche Vordrucke des Leitfadens benutzt werden, richtet sich danach, ob eine Abfallbilanz oder ein Abfallwirtschaftskonzept erstellt werden soll. Folgende Tabelle zeigt, welche Vordrucke für welchen Zweck bestimmt sind.

Form No.	**Title**	**Waste Registry**	**Waste Management Plan**	**For internal use**
Vordruck Nr.	***Titel***	***Bilanz***	***Konzept***	***Interne Verwendung***
1	Coversheet and information about the operator *Deckblatt und Angaben zum Betrieb*	x	x	
2	Overview of waste generating activities / waste accumulation points *Überblick über abfallrelevante Betriebsbereiche / Anfallstellen*	x	x	
3	Waste for disposal / recycling *Abfälle zur Beseitigung / Verwertung*	x		
4	Waste profile sheet (one for each waste type) *Abfallsteckbrief (für jeweils eine Abfallart)*	x	x	
5	Information for disposal, recycling, and collecting facilities (transporters) *Angaben zu Beseitgern, Verwertern und Einsammlern (Beförderern)*	x	x	
6	Estimate of waste generated (specific per waste type) *Abfallspezifische Mengenprognose*		x	
7	Disposal manifest / Guarantee of disposal *Entsorgungsnachweise / Entsorgungssicherheit*			x
8	Waste generator-operated disposal facilities *Eigenentsorgung*		x	
9	Waste costs *Abfall-Kostenbilanz*			x

☐ **Operations Waste Management Plan**
Betriebliches Abfallwirtschaftskonzept

(1st Calendar Year)
(1. Kalenderjahr)

(5th Calendar Year)
(5.Kalenderjahr)

☐ **Operations Waste Registry**
Betriebliche Abfallbilanz

(Calendar Year)
(Kalenderjahr)

Per the Federal Recycling-/Waste Law and with the Waste Management Plan and Waste Registry Ordinance
gemäß Kreislaufwirtschafts-/Abfallgesetz und Abfallkonzept- und bilanzverordnung

Name and Address of the Operation or Facility:
Name und Anschrift des Betriebes, der Betriebesstätte bzw. Anlage:

Name and Address of the Owner/Operator (1):
Name und Anschrift des Unternehmenssitzes (1) :

(1) To be filled out only in cases where the operations or facility have no mailing address
(1) nur ausfüllen, wenn Betriebesstätte bzw. Anlage keine Postanschrift besitzt

Operations Point of Contact:
Betrieblicher Ansprechpartner:

Name:
Telephone:
Fax:
e-mail:

Operator's Facility/Branch(es):
Gegenstand des Unternehmens / Branche(n):

Waste Generator Number:
Abfall-Erzeuger-Nummer:

Operator Maintained BImSchG[(2)]-Facility(ies): ***Eigene BImSchG-Anlage(n):***	**No. and Column per 4th BImSchV [(3)]** ***Nr. und Spalte gem. 4. BImSchV:***

Operator Maintained Waste Disposal Facility(ies): ***Eigene Entsorgungsanlage(n):***	**Waste Disposal Facility Number(s):** ***Entsorgungsanlagen-Nummer(n):***

Date of Completion
Datum der Fertigstellung:

(2) *Bundes-Immissionsschutzgesetz* - Federal Emisions Control Act of Germany
(3) *4. Bundes-Immissionsschutzverordnung* - 4th Emissions Control Ordinance of Germany

Waste Generating Activities / Waste Accumulation Points
Abfallrelevante Betriebsbereiche / Anfallstellen

Waste code per EWC *Abfall-schlüssel gem. EAK*	Internal waste description *betriebsinterne Abfallbezeichnun(en)*	Waste generating activities / accumulation points (1) *Abfallrelevante Betriebsbereiche / Anfallstellen*											
		1	2	3	4	5	6	7	8	9	10	11	12

Waste Generating Activities - Defined
Abfallrelevante Betriebsbereiche

1		7	
2		8	
3		9	
4		10	
5		11	
6		12	

(1) Check where applicable, using the table below to identify each location
(1) zutreffendes bitte ankreuzen

Waste to be Disposed / Recycled
Abfälle zur Beseitigung/Verwertung

			Amount *Mengen*						
Waste code per EWC *Abfall-schlüssel gem. EAK*	Waste Description per EWC *Abfallbezeichnung gem. EAK*	Internal waste description *betriebsinterne Abfallbezeichnung*	Total *gesamt* [MG/a]	**Disposed** ***Beseitigung***			**Recycled** ***Verwertung***		
				Treatment (1) *Behandlung* [MG/a]	Thermic *thermisch* [MG/a]	Landfill *Deponierung* [MG/a]	Treatment (1) *Behandlung* [MG/a]	Materially *stofflich* [MG/a]	Energetically *energetisch* [MG/a]
		Grand total [MG/a] *Summe gesamt*	0	0	0	0	0	0	0
		Amount disposed [MG/a] *davon Beseitigung*	0						
		Amount recycled [MG/a] *davon Verwertung*	0						

Notes:
(1) Treatment = e.g., chemical-physical treatment, preparation, sorting, etc.
(Whether a material is recycled or disposed is stated on the cover sheet of the disposal manifest)

(1) Behandlung = z.B. Chemisch-Physikalische Behandlung, Konfektionierung, Sortierung,...
(Ob eine Verwertung oder Beseitigung vorliegt, ist dem Deckblatt des jeweiligen Entsorgungsnachweises zu entnehmen)

Waste Profile Sheet / *Abfallsteckbrief*

Waste Code per EWC *Abfallschlüssel gem. EAK*	Waste Description per EWC *Abfallbezeichnung gem. EAK*	Requiring special supervision [1] *besonders überwachungs-bedürftig*	Requiring supervision [1] *überwachungs-bedürftig*

Partial Amounts (as per internal description, waste generation points, waste disposal streams, …)
Teilmengen (nach betriebsinternen Bezeichnungen, Anfallstellen, Entsorgungswegen,...)

Internal waste description *betriebsinterne Abfallbezeichnung*	Waste generation point / generating activity *Anfallstelle / Herkunft / Betriebsbereich(e)*	Amount recycled *Menge Verwertet* [MG/a]	Amount disposed of *Menge Beseitigt* [MG/a]	Collector (Transporter) *Einsammler (Beförderer)*	Final destination as stated in the disposal manifest (Disposal / Recycling Facility) *Verbleib laut Enstorgungsnachweis (Beseitiger, Verwerter)*	Privileged proof procedure *priviligiertes Nachweis-verfahren* [1]	Procedure / Final disposition *Verfahren / Endverbleib* [2]
	Total amount [MG/a] *Menge gesamt*	0	0				

Reason for need for disposal [3]:
Begründung der Notwendigkeit einer Beseitigung

If waste is generated in a BImSchG-facility, include the number and column per 4th BImSchV:
Fällt Abfall in einer BImSchG-Anlage an, die Nummer und Spalte gem. 4. BImSchV angeben:

Number: *Nummer:*	Column: *Spalte:*

Insert Codes/Descriptions per EEC No. 259/93 if recycling outside Germany [4]:
Bei Verwertung außerhalb Deutschlands Codes/Bezeichnungen gem. EG-AbfVerbrV angeben:

Code:	Description: *Bezeichnung:*

Location, if waste is not disposed of at an authorized disposal facility:
Wurde Abfall außerhalb einer Entsorgungsanlage entsorgt, bitte Ort angeben:

Notes:

1) Check where applicable
1) zutreffendes bitte ankreuzen

2) Clarify procedure with disposal company per Appendix II A and II B of the Federal Recycling/Waste Law
2) Verfahren gem. Anhang II A und II B nach KrW-/AbfG mit Entsorger abklären

3) Reason is required for disposal of amounts of waste requiring special supervision greater than 100 kg/a and amounts of waste requiring supervision greater than 50 MG/a, providing a reason is recommended for disposal of amounts below these limits
3) Begründung is gefordert bei Mengen besonders überwachungsbedürftiger Abfälle > 100 kg/a und Mengen überwachungsbedürftiger Abfälle > 50 MG/a, Begründung unterhalb der Mengengrenzen wird dennoch empfohlen

4) Per the green, yellow and red list of Appendices II, III, and IV of the European Council Regulation No. 259/93 EWG on the supervision and control of shipments of waste within, into, and out of the European Community
4) gemäß grüner, gelber und roter Liste der Anhänge II, III und IV der EG-Abfallverbringungsverordnung Nr. 259/93 EWG

Information for Disposers, Recyclers, and Collectors (Transporters)
Angaben zu Beseitigern, Verwertern und Einsammlern (Beförderern)

Disposer/Recycler/Collector (1)	
Beseitiger/Verwerter/Einsammler (1)	
Street/*Straße*:	Type of Facility/*Art der Anlage*:
State, Zip Code, City/*Land, PLZ, Ort*:	
Point of Contact/*Ansprechpartner*:	Description of Procedure/*Verfahrensbeschreibung (2)*
Telephone/*Telefon*:	Facility released/*Anlage freigestellt* (3) Yes/No / *ja/nein* (1)
Fax:	Disposer Number/*Entsorger-Nummer*:

Disposer/Recycler/Collector (1)	
Beseitiger/Verwerter/Einsammler (1)	
Street/*Straße*:	Type of Facility/*Art der Anlage*:
State, Zip Code, City/*Land, PLZ, Ort*:	
Point of Contact/*Ansprechpartner*:	Description of Procedure/*Verfahrensbeschreibung (2)*
Telephone/*Telefon*:	Facility released/*Anlage freigestellt* (3) Yes/No / *ja/nein* (1)
Fax:	Disposer Number/*Entsorger-Nummer*:

Disposer/Recycler/Collector (1)	
Beseitiger/Verwerter/Einsammler (1)	
Street/*Straße*:	Type of Facility/*Art der Anlage*:
State, Zip Code, City/*Land, PLZ, Ort*:	
Point of Contact/*Ansprechpartner*:	Description of Procedure/*Verfahrensbeschreibung (2)*
Telephone/*Telefon*:	Facility released/*Anlage freigestellt* (3) Yes/No / *ja/nein* (1)
Fax:	Disposer Number/*Entsorger-Nummer*:

Notes

(1) Cross through what is not applicable
(1) Nichtzuftreffendes bitte streichen

(2) Description of procedure IAW Appendix II A and II B of the Federal Recycling/Waste Law
(2) Verfahrensbeschreibung n. Anh. II A und II B nach KrW-/AbfG, ggf.abstimmen mit Beseitiger/Verwerter

(3) Per Paragraph 13 Disposal Manifest Ordinance
(3) gem. §13 NachweisV

Estimate of Annual Waste by Waste Type / *Abfallspezifische Mengenprognose*

Waste Code per EWC *Abfallschlüssel gem. EAK*	Waste Characterization per EWC *Abfallbezeichnung gem. EAK*	Internal Waste Characterization *betriebsinterne Abfallbezeichnung*	Requires special supervision *bes. überw.-bedürftig* (1)	Requires supervision *überw.-bedürftig* (1)

If multiple Waste Disposal Streams are required, list the estimated quantities for each Disposal Facility in the following table:
Sollten Sie für den Abfall mehrere Entsorgungswege haben, sind die voraussichtlichen Teilmengen für jede Entsorgungsanlage hier einzutragen:

Facility/Type (Procedure) *Anlage / Anlagetyp (Verfahren)*	1st Calendar Year *1. Kalenderjahr* :	2nd Calendar Year *2. Kalenderjahr* :	3rd Calendar Year *3. Kalenderjahr* :	4th Calendar Year *4. Kalenderjahr* :	5th Calendar Year *5. Kalenderjahr* :	Waste Accumulation Point (optional) *Betriebliche Anfallstelle (freiwillige Angabe)*
	Amount *Menge* [MG/a]	Amount *Menge* [MG/a]	Amount *Menge* [MG/a]	Amount *Menge* [MG/a]	Amount *Menge* [MG/a]	
Total Amount *Gesamtmenge* [MG/a]	0	0	0	0	0	

Measures taken and planned for Waste Reduction, Recycling, and Disposal (2):
Getroffende und geplante Maßnahmen zur Vermeidung, Verwertung und Beseitigung (2) :

Notes:
(1) Check where applicable
(1) zutreffendes bitte ankreuzen

(2) Reason for disposal of amounts of waste requiring special supervision greater than 100 kg/a and amounts of waste requiring supervision greater than 50 MG/a, reason for disposal of waste below these limits is recommended
(2) Begründung ist gefordert bei Gesamtmengen besonders überwachungsbedürftiger Abfälle > 100kg/a und Mengen überwachungsbedürftiger Abfälle > 50 MG/a, Erstellung der Begründung unterhalb der Mengengrenzen wird dennoch empfohlen

Note *Hinweis* :

If additional information on HW streams is considered necessary by local authorities, the presentation format should be discussed with them.
Sofern von der zuständigen Behörde ergänzende Angaben zum Entsorgungsweg gem. § 4 AbfKonBilV für sinnvoll erachtet werden, sollte die Form der Darstellung mit ihr abgestimmt werden.

Disposal Manifest/Disposal Safety / *Entsorgungsnachweis/Entsorgungssicherheit*

Waste Code per EWC *Abfallschlüssel gem. EAK*	Internal Waste Characterization *betriebsinterne Abfallbezeichnung*	Disposal or Recycling (1)		Manifest Type (1) *Ents.-nachweise* (1)				Privileged Proof Procedure (1) *Privilegiertes Verfahren* (1)	Disposal Manifest Number *EN Nummer*	Disposal Manifest Expiration Date *EN gültig bis*	Status according to Disposal Manifest (Disposal/Recycling Facility) *Verbleib lt. EN (Beseitiger/Verwerter)*	Ultimate Disposal (2) *Endverbleib* (2)
		R/V	*D/B*	*EN*	*VN*	*SN*	*VS*					

Notes:
R = Recycling *V = Verwertung*
D = Disposal *B = Beseitigung*
EN = Disposal Manifest *EN = Entsorgungsnachweis*
VN = Simplified Disposal Manifest *VN = vereinfachter Entsorgungsnachweis*
SN = Collective Disposal Manifest *SN = Sammel-Entsorgungsnachweis*
VS = Simplified Collective Disposal Manifest *VS = vereinfachter Sammel-Entsorgungsnachweis*

(1) Check where applicable
(1) zutreffendes bitte ankreuzen

(2) Ultimate disposal to be discussed with the disposal company, if different from disposal as described in the disposal manifest
(2) Endverbleib absprechen mit Entsorger, wenn abweichend vom Verbleib lt. Entsorgungsnachweis

Waste Generator Operated Disposal Facilities / *Eigenentsorgung*

(To be filled out only by waste generators that utilize their own waste disposal facilities)
(nur ausfüllen bei Abfallzeugern, die über eigene Entsorgungsanlagen verfügen)

Notes:
Waste generators that use their own disposal facilities must use the forms required per Attachment 1 of the AbfKoBilV [(1)] for wastes disposed of in their own disposal facility. This form can be used for records to be prepared in addition.

Hinweis:
Abfallzeuger, die über eigene Entsorgungsanlagen verfügen, sind grundsätzlich verpflichtet, für die Abfälle, die in ihrer Anlage entsorgt werden, die vorgeschriebenen Formblätter gemäß Anlage 1 der AbfKoBiV zu benutzen. Dieser Vordruck kann für die darüber hinaus zu erstellenden Angaben genutzt werden.

Description of the planned locations and disposal facilities, as well as the chronological order and availability of the generator's own disposal facilites during the given time period:
Darstellung der notwendigen Standort- und Anlagenplanung sowie die zeitliche Abfolge und Verfügbarkeit der eigenen Entsorgungsanlage in dem erfaßtem Zeitraum:

(1) Abfallwirtschaftskonzept- und Abfallbilanzverordnung - Waste Management Plan and Waste Registry Ordinance of Germany

Waste Costs / *Abfall-Kostenbilanz*

Waste Code per EWC *Abfall-schlüssel gem. EAK*	Internal waste description *betriebsinterne Abfallbezeichnung*	**Amount**		**Costs** [(1)]						Status *Verbleib*
		Mengen		***Kosten*** [(1)]						
		Disposal *Beseitigung* [MG/a]	Recycling *Verwertung* [MG/a]	Disposal *Entsorgung* [___/a]	Rent *Miete* [___/a]	Transportation *Transport* [___/a]	Other [(2)] *Sonstiges* [___/a]	Total *gesamt* [___/a]	Costs/MG *Kosten/MG* [___/MG]	
	Totals *Summen*	0	0	0	0	0	0	0		

Notes:

(1) Currency whether in US$ or in €

(1) Währung wahlweise eintragen (US$/EUR)

(2) e.g., Costs for analysis, fees, etc.

(2) z.B. Analysekosten, Gebühren, etc

APPENDIX 6

INCOMPATIBLE HAZARDOUS SUBSTANCES

Table A-6.1. Incompatible Chemical Classes

Do not mix substances in hazard classes indicated by an X					
	Flammable	Corrosive	Toxic	Noxious	Reactive
Flammable		X	X		X
Corrosive	X	X [1]	X		X
Toxic	X	X			X
Noxious					X
Reactive	X	X	X	X	

[1] Do not store acids and bases together.

Some deadly combinations

Acids + Oil or Grease =	FIRE
Acids + Caustics =	HEAT/SPATTERING
Caustics + Epoxies =	EXTREME HEATS
Chlorine Gas + Acetylene =	EXPLOSION
Flammable liquids + Hydrogen Peroxide =	FIRE/EXPLOSION
Aluminum Powder + Ammonium Nitrate =	EXPLOSION
Sodium Cyanide + Sulfuric Acid =	LETHAL HYDROGEN CYANIDE
Ammonia + Bleach =	NOXIOUS FUMES

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APPENDIX 7

HAZARDOUS WASTE MANAGEMENT COMPLIANCE PLAN

Table A-7.1. Hazardous Waste Management Compliance Plan

ARLOC	Facility Number	Deficiency	Compliance Action	Completion Date	Cost Estimate	Project Number	Corresponding Section in HWMP
BSB-wide	N/A	Hazardous waste training documentation is not maintained at all units.			US$10,000		4
BSB-wide	N/A	HWAPs lack appropriate labeling with hazard signs.					3.2
BSB-wide	N/A	An extensive survey of all facilities storing water-endangering substances has not yet been performed. Therefore, it cannot be determined yet which facilities need certification from German authorities. In addition, HWSAs have not been inspected by an expert prior to initial use.	An EPR has been initiated to correct this deficiency		US$440,000	ENV060213S	3.3.1 3.5
BSB-wide	N/A	No updated HWPS are available for each hazardous waste.	DPW, EMO is in the process of updating all HWPS				7.3

Table A-7.1. Hazardous Waste Management Compliance Plan

(*continued*)

ARLOC	Facility Number	Deficiency	Compliance Action	Completion Date	Cost Estimate	Project Number	Corresponding Section in HWMP
BSB-wide	N/A	All HWSAs lack appropriate alarm systems and are not equipped with means to summon for help in case of an emergency.	An EPR has been initiated to correct this deficiency		US$ 440,000	ENV060213S	3.3.3
BSB-wide	N/A	Not all containers are appropriately labeled with the appropriate European Waste Catalogue number and the appropriate hazard sign.					3.1
BSB-wide	N/A	Multiple containers are used at HWAPs to collect one waste stream (e.g., Patton Barracks, Buildings 122, 126, and 3854; Nachrichten Kaserne, Building 3622, Patrick Henry Village, Building 4539).					3.2
BSB-wide	N/A	The on-site hospital has not been provided with a copy of the BSB's contingency plan. The contingency plan is not maintained at HWSAs.					9

APPENDIX 8

FGS CHAPTERS 5, 6, 7, AND 8

FGS CHAPTER 5

CHAPTER 5
HAZARDOUS MATERIALS

C5.1 SCOPE

This Chapter contains criteria for the storage, handling, and disposition of hazardous materials. It does not cover solid or hazardous waste, underground storage tanks, petroleum storage, or related spill contingency and emergency response requirements. These matters are covered under other Chapters. These final governing standards (FGS) do not cover munitions.

C5.2 DEFINITIONS

Above-Ground Storage Tank *(Oberirdische Tankanlage oder Anlagenteile davon)*. A tank that is not underground. A tank in an underground space that can easily be inspected or is easily accessible, to include piping in an underground protecting tube, a tunnel, or a crawlspace that can easily be inspected or is easily accessible, is considered an above-ground storage tank. A tank that sits directly on the ground is also considered an above-ground storage tank.

ADR. Officially known as "The European Agreement concerning the International Carriage of Dangerous Goods by Road", it provides the basis for transportation of hazardous materials criteria.

Carcinogen. Substances and preparations which may cause cancer or elevate the risk of cancer through inhalation, ingestion, or skin penetration.

Consignor. Sender of a consignment of hazardous goods.

Consignee. Receiver of a consignment of hazardous goods.

Container *(Behälter)*. A general term used to describe different types of receptacles to include tanks, drums, cans, and canisters.

Dangerous Goods *(Gefahrgut)*. An ADR classification for the shipment of hazardous substances.

Determination of Suitability *(Eignungsfeststellung)*. The determination of suitability is an acceptance check by the respective State environmental agency *(Landesumweltamt)* on facilities or equipment that is carried out prior to the start-up of an operation. The determination of suitability may be conducted for a facility as a whole and/or for individual facility components. As an example, a filling station may include several underground storage tanks (USTs) and fuel dispensing equipment. In this instance, the USTs and the dispensing equipment can be issued a determination of suitability individually, or the facility can be issued a determination as a whole.

Drum Storage *(Faß- und Gebindelager)*. An area used for the storage of drums or other containers.

European Inventory of Existing Commercial Substances (EINECS). A European list of commercially available materials (both hazardous and non-hazardous). This list includes all materials that are assumed to be available on the European market since 18 September 1981.

The current EINECS list may be obtained from the Federal Agency for Occupational Health and Safety *(Bundesanstalt für Arbeitsschutz und Arbeitssicherheit)*, Dortmund, Germany or the European Chemical Bureau (http://ecb.jrc.it).

Expert *(Sachverständiger)*. An individual who is knowledgeable of the daily operations, applicable health and safety regulations, and the technical standards of a facility, which he/she supervises or is asked to inspect. An expert is an individual external to DoD. Depending on specific requirements, an expert may require specific training or may need to be registered as such by a competent German authority.

Filling Facility *(Abfüllanlagen)*. Devices used for filling containers with POL substances; these also include areas in which POL substances are filled from one container into another. There is no volume limit value that defines a filling facility.

Filling Safeguards *(Abfüllsicherungen)*. Devices that discontinue a filling procedure by activating a shut-off device in the container (this may also apply to a tanker truck) from which the hazardous substance is filled into the container.

Hazard Class *(Gefahrklasse)*. A classification of hazard based on the flammability of substances as outlined below.

Hazard Classes*(Gefahrklasse)*

Hazard Class	Flash Point
A I	< 21° C
A II	21-55° C
A III	55-100° C
B	< 21° C and water-soluble at 15° C

Hazard Sign *(Warnzeichen)*. A sign posted at workplaces where hazardous materials are stored or handled that warns against a specific risk or danger (i.e., risks or dangers associated with flammables, toxics, irritants, oxidizers, compressed gases, batteries, or explosive atmosphere). Reference C5.3.7.3 and Appendix C5.A4.

Hazardous Materials. Raw materials, commodities, or other manufactured products that exhibit at least one of the hazardous characteristics described in Table C5.T3. Hazardous materials do not include hazardous wastes.

Hazardous Material Information System (HMIS). The computer-based information system developed to accumulate, maintain, and disseminate important information on hazardous material used by DoD. The HMIS has been assigned Report Control Symbol DD-A&T(AR)1486 in accordance with DoD 8910-M.

Hazardous Material Shipment. Any movement of hazardous material in a vehicle either from an installation to a final destination off the installation, or from a point of origin off the installation to a final destination on the installation.

Hazardous Substances. Substances that are classified as hazardous according to a range of properties (i.e., flammable, oxidizing, or representing a hazard to the environment) described in Table C5.T3. Hazardous substances include both hazardous materials and hazardous wastes.

Installation. A base, camp, post, station, yard, center, or other activity under the jurisdiction of the Secretary of a Military Department that is located outside the United States and outside any territory, Commonwealth, or possession of the United States.

Leak Detection Device *(Leckanzeigegerät)*. Devices that automatically detect a leak in walls and/or floors of containers or piping. Leak detection devices are comprised of the leak detector equipment, the medium used for detecting the leak, as applicable, and the monitoring space *(Überwachungsraum).*

Leak Detection Sensor *(Leckagesonde)*. Devices that automatically detect the leak of liquid water endangering substances or the infiltration of water into a controlled area or fluid retention room. Leak detection sensors consist of point sensors (leak sensors), line sensors (cables, hoses) and surface sensors (mats), and the associated detection equipment.

Leak Protection Liner *(Leckschutzauskleidung)*. Flexible or rigid intermediate layers that conform to the shape of a container and are designed to create an operational monitoring space *(Überwachungsraum)* within a single-walled container for the purpose of carrying out leak control.

Mandatory Sign *(Gebotszeichen)*. A sign placed at a workplace where hazardous materials are stored or handled that indicates that a certain behavior must be followed, for example the use of specific personal protection equipment (i.e., safety masks, goggles, or gloves) or special precautionary measures. Reference C5.3.7.3 and Appendix C5.A5.

Material Safety Data Sheet (MSDS) *(Sicherheitsdatenblatt)*. A form used by manufacturers or distributors of chemical products to communicate to the user the chemical, physical, and hazardous properties of the product, as well as advice for safe handling, and regulatory information (see C5.3.5).

Materials *(Stoffe)*. Chemical elements and their compounds in the natural state or derived from a production process, including any additives necessary to preserve stability and any impurity derived from the process used, but excluding any solvent, that may be separated from the substance without affecting its stability or composition.

Mutagen. Substances and preparations which may cause hereditary defects or may elevate the risk of hereditary defects through inhalation, ingestion, or skin penetration.

Operating Instructions *(Betriebsanweisungen)*. Workplace-specific instructions that provide information on handling hazardous substances as well as information on risks for human health

and the environment associated with hazardous substances handled at each specific workplace. An example of an operating instruction is provided in Appendix C5.A6.

Ordinary and Conventional Facilities *(einfache und herkömmliche Anlagen)*. Facilities storing, distributing, and/or handling water endangering substances that are designed and constructed so that the risk of water pollution is low. See C5.3.14.4 and Appendix C5.A7 for detailed criteria.

Overfill Prevention Devices *(Überfüllsicherungen)*. Devices that automatically discontinue the filling procedure or set off an alarm before hazardous substances have reached the maximum admissible level in the container being filled.

Piping *(Rohrleitungen).* Rigid or flexible piping used to convey substances. Piping also comprises fittings, flanges, and gaskets. There are several categories of piping: piping within the premises of an installation (i.e., on-site piping) and piping extending outside the premises of an installation (i.e., off-site piping). On-site piping is always part of a facility (e.g., a filling station, a fuel unloading facility, or a stationary airfield tank facility *(Flugbetankungsanlage*)). Piping that extends beyond the site area and connects facilities that are closely related, both physically and operatively, is called connecting piping *(Verbindungsleitung).*

Preparations *(Zubereitungen)*. Mixtures, blends, or solutions composed of two or more substances.

Qualified Individual *(Sachkundiger)*. An individual who is knowledgeable of the daily operations, applicable health and safety regulations, and the technical standards of a facility, which he/she supervises or is asked to inspect. A qualified individual may be internal to DoD. Depending on specific requirements, an expert may require specific training; however, a qualified individual need not be registered as such by a competent German authority.

Risk Phrase (R-Satz). The Risk Phrase (R-phrase) *(Angabe besonderer Risiken)* is part of a hazardous material label. The R-phrase indicates the special risks associated with the particular material. A description of individual R-phrases is in Table C5.T6.

Safety Advice Phrase (S-Satz). The Safety Advice Phrase (S-phrase) *(Sicherheitsratschlag)* is part of a hazardous material label. The S-phrase indicates the special safety precautions one must take when handling a specific material. A description of individual S phrases is in Table C5.T6.

Safety Sign *(Sicherheitszeichen)*. A sign that addresses information regarding health and safety concerns. A safety sign consists of a combination of a geometric shapes and colors with a hazard symbol. A safety sign may be a hazard sign *(Warnzeichen)* or a mandatory sign *(Gebotszeichen).* Reference C5.3.7.3 and Appendices C5.A4 and C5.A5.

Secondary Containment *(Auffangvorrichtung)*. Leak-proof constructions, rooms in buildings (fluid retention rooms), and/or pre-fabricated building components (collecting *vats/Auffangwannen)* that are designed to collect leaking substances from containers or piping, and leak-proof drainage areas designed to channel off leaking substances from containers or pipelines into collection devices (e.g., holding tanks, sumps).

Special Protection Area. A special protection area is defined as the space surrounding compressed gas cylinders storing flammable or very toxic gases, where the release of gas or gas/air mixtures cannot be excluded following leakage at connections or fittings, or during the change of connections. The special protection area is based on the type of gas (see Appendix C5.A10).

State of the art of technology *(Stand der Technik)*. The current state of the art of technology is the developmental stage of advanced processes, installations, or modes of operation that makes the practical suitability of a measure for the protection of the environment or human health appear assured. When determining the state of the art of technology, particular consideration is to be given to comparable processes, installations, or mode of operations that have been tested successfully in practice.

Storage, Distribution, and Handling Facility *(Anlage zum Lagern, Abfüllen, Umschlagen, Herstellen, Behandeln und Verwenden)*. Independent, stationary, or quasi-stationary units that handle water endangering substances and are used for more than a short period of time. There is not an established minimum period of time a facility is to be used at one location to be considered stationary. The temporary storage of water endangering substances in areas not normally designated for this purpose (i.e., temporary storage for transportation) is not considered a storage, distribution, and handling facility (the temporary storage for transportation must not exceed 24 hours, unless non-labor days are between the temporary storage and off-site shipment). The definition of a storage, distribution, and handling facility does not address a minimum volume. A facility that is used primarily for the distribution of water endangering substances includes filling and trans-shipment activities. A facility that is used for the handling of water endangering substances includes the production, processing, and use of these substances. A facility storing and filling flammable liquids must fulfill additional requirements *(Anlage zur Lagerung brennbarer Flüssigkeiten)* that are dependent upon the volume and Hazard Class of the substances handled.

Trans-shipment Facilities *(Umschlagsanlagen)*. Areas and equipment used for the loading and unloading of water endangering substances from one transport vehicle to another (e.g., from a rail tank car to a tank truck), either as bulk loads or as packaged products.

Underground Storage Tank (UST) *(Unterirdische Tankanlage)*. A facility that is wholly- or partially-embedded in the ground, without restriction with respect to volume. This does not include gutters and sewers that cannot easily be inspected. A storage tank sitting on the ground is not considered an underground storage tank.

Water Endangering Substances. Water endangering substances are all substances classified under Water Hazard Class 1 to 3 (see Definition Water Hazard Class).

Water Hazard Category *(Gefährdungsstufe)*. Classification of facilities based on the volume and Water Hazard Class (WGK) of the substances used at the facilities. Reference Table C5.T2.

Water Hazard Class *(Wassergefährdungsklasse)*. Classification of substances based on their potential for endangering water resources as outlined below:

Water Hazard Classes *(Wassergefährdungsklasse, WGK)*
(See also Table C5.T1)

WGK 1	Substance with a low hazard rating for water
WGK 2	Substance with a medium hazard rating for water
WGK 3	Substance with a high hazard rating for water

C5.3 GENERAL REQUIREMENTS

C5.3.1 Storage and Handling of Hazardous Materials

Storage and handling of hazardous materials shall adhere to these FGS and DoD Component policies, including Joint Service Publication on Storage and Handling of Hazardous Materials. DLAI 4145.11, TM 38-410, NAVSUP PUB 573, AFJMAN 23-209, and MCO 4450.12A. The International Maritime Dangerous Goods (IMDG) Code and appropriate DoD and component instructions provide requirements for international maritime transport of hazardous materials originating from DoD installations. International air shipments of hazardous materials originating from DoD installations are subject to International Civil Air Organization Rules or DoD Component guidance including AFJM 24-204, TM 38-250, NAVSUP 505, MCO P4030.19E, and DLAM 4145.3.

C5.3.2 Hazardous Material Dispensing Areas

Hazardous material dispensing areas will be properly maintained (see criteria C5.3.14 and C5.3.16). Only compatible hazardous materials may be stored together. Drums/containers must not be leaking. Drip pans/absorbent materials will be placed under containers as necessary to collect drips or spills. Container contents will be clearly marked according to the labeling requirements outlined in C5.3.7. Dispensing areas will be located away from catch basins and storm drains.

C5.3.2.1 In addition to general aisle space requirements outlined in the Joint Service Manual for Storage and Materials Handling (TM 38-400/NAVSUP PUB 572/AFJMAN 23-21/MCO 4450.14/DLAM 4145.12), aisle width shall be at least 3.0 meters (10 feet) when operating material handling equipment within storage areas, or the width of the widest material handling equipment used within a storage area plus 1.0 meter (3 feet), whichever is greater.

C5.3.2.2 Aisles within work or storage areas with an area greater than 1,000 m² (1,196 yd^2) must be marked unless the aisle space is otherwise easily recognizable.

C5.3.3 Hazardous Material Shipment

Consignors will ensure the following for each hazardous material shipment.

C5.3.3.1 The following documents must accompany the shipment:

- the driver's ADR training certificate *(ADR-Bescheinigung des Fahrers);*

- the container packing certificate *(Containerpackzertifikat)* as prescribed by the ADR, as appropriate;
- the ADR certificate of approval for each transport unit or element thereof;
- the ADR permit authorizing the transport operation *(Bescheinigung des Absenders über die Zulässigkeit des Transports);*
- determination of the driving route *(Fahrwegbestimmung);*
- confirmation that it is unreasonable to transport dangerous goods on the highway *(Unzumutbarkeitsbescheinigung),* as appropriate; and
- written instructions for the driver (see Appendix C5.A9) or accident notes *(Schriftliche Weisungen or Unfallmerkblätter)* according to the ADR.

C5.3.3.2 All drivers must receive training in accordance with the ADR and be provided with written instructions *(schriftliche Weisung or Unfallmerkblätter,* see C5.3.3.1 and Appendix C5.A9).

C5.3.3.2.1 Written instructions are to be provi ded by the consignor *(Absender),* forwarded to the carrier *(Beförderer),* who, in turn, must make the written instructions available to the driver. Written instructions must include the following information:

- the name and identification of the substance, article or group of goods;
- dangers inherent in the goods to be shipped;
- general emergency actions (e.g., the warning of other drivers on the road, contacting the police);
- handling of minor leaks or spills (without personal risk);
- emergency procedures for special products; and
- necessary equipment for emergency response activities.

C5.3.3.3 Transportation documents, and vehicles shall be inspected by the driver and a responsible individual (see C5.3.22.3) designated by the consignor before and after the material is loaded and by the driver and a responsible individual designated by the consignee prior to the unloading of dangerous goods. Additionally, vehicle driver documents (e.g., appropriate training documentation, license, see C5.3.3.1) must be examined by the consignor's designated responsible individual at the loading sites and by the consignee's designated responsible individual at the unloading sites. It is prohibited to load the vehicle, if the examination of the transportation documents or the visual inspection of the vehicle and equipment show that the vehicle or the driver does not comply with the requirements of C5.3.3.1. It is also prohibited to unload the vehicle if the examination of the transportation documents or the visual inspection of the vehicle and equipment indicate that existing deficiencies do not allow for the safe unloading of the vehicle.

C5.3.3.4 Packages are labeled in accordance with C5.3.7.

C5.3.4 Master Listing and Inventory

Each installation will maintain a master listing of all storage, distribution and handling locations *(Anlagen zum Lagern, Abfüllen und Umschlagen)* for hazardous materials and an inventory of all hazardous materials contained therein. This master listing and the inventory are also required as part of the installation's comprehensive Spill Prevention and Response Plan (see Chapter 18, Spill Prevention and Response Planning). The inventory must be updated annually or after any significant changes with regard to type and quantity of hazardous materials stored and/or used.

C5.3.5 MSDS

The installation must maintain a MSDS for all hazardous materials procured, used, or stored. Each MSDS shall be in English or the predominant language of the workforce, and should contain, at a minimum, the information contained in Appendix C5.A3.

C5.3.6 Filing of MSDSs

C5.3.6.1 At locations where German employees are required to work with hazardous substances, each work center will maintain a file of operating instructions *(Betriebsanweisung)* for each hazardous material procured, stored, or used at the work center. The operating instructions shall be provided in German (an example is provided in Appendix C5.A9.).

C5.3.6.2 At locations where U.S. military or U.S. civilians are required to work with hazardous substances, each work center will maintain a file of MSDSs for each hazardous material procured, stored, or used at the work center. MSDSs, which are not contained in the Hazardous Material Information System (HMIS) and those prepared for locally purchased items, should be incorporated into HMIS. A file of MSDS information not contained in HMIS should be maintained on site.

C5.3.7 Hazardous Chemical Warning Label

All hazardous materials on DoD installations of U.S. origin will have a Hazardous Chemical Warning Label in accordance with DoD 6050.5-H. These requirements apply throughout the life cycle of these materials. The requirements of C5.3.7.1 and C5.3.7.2 apply to hazardous materials on DoD installations that are not of U.S. origin.

C5.3.7.1 Labeling Requirements for Individual Containers of Hazardous Materials

C5.3.7.1.1 All containers of hazardous materials and preparations, including compressed gas cylinders, must be labeled in German and English with the following:

- the internationally recognized name of the substance;
- EEC number according to EINECS, as applicable;
- the name, complete address and telephone number of the manufacturer, importer or distributor/seller in charge; and

- the hazard symbol *(Gefahrensymbole)* and hazard definition *(Gefahrenbezeichnungen)* as contained in Appendix C5.A4.

C5.3.7.1.2 R and S Phrases are required for specific hazardous materials to be indicated on the label, except for materials listed in C5.3.7.1.3. Table C5.T6 identifies specific R and S Phrase labeling requirements for hazardous materials (hazardous material characteristic information used to ascertain R and S Phrases can be obtained from MSDSs or similar documents).

C5.3.7.1.3 Containers of irritants *(reizend),* highly flammable materials *(leicht brennbar),* and oxidizers *(brandfördernd)* with a maximum volume of 125 ml do not require R and S phrases on the label. The same applies to harmful materials *(gesundheitsschädliche,* see Table C5.T3, Hazard Property No. 8) with a maximum volume of 125 ml, provided the access to these products is controlled and they are not made available for general use or retail.

C5.3.7.1.4 The size of the hazardous material label should meet the following size requirements:

Container/Package Volume (liters)	Recommended Label Size (mm)
< 3	52 x 74
3–50	74 x 105
50–500	105 x 148
> 500	148 x 210

The hazard symbol must measure at least one tenth of the entire label and have an area of at least 1 cm². The information required may be printed directly on the package or container. See Table C5.T3.

C5.3.7.1.5 The packaging of cadmium-containing preparations (alloys) used for welding and soldering must be labeled with the following:

"Attention! Contains cadmium. Dangerous vapors could occur during application. Follow manufacturer instructions. Comply with safety requirements." *(Achtung! Enthält Cadmium. Bei der Anwendung entstehen gefährliche Dämpfe. Anweisung des Herstellers beachten. Sicherheitsanweisungen einhalten.)*

C5.3.7.1.6 Packaging of preparations available from retailers containing more than 1 percent by volume of active chlorine must be labeled with the following:

"Attention! Do not mix with other products, dangerous gases (Chlorine) may be released." *(Vorsicht! Nicht zusammen mit anderen Produkten verwenden, da gefährliche Gase (Chlor) freigesetzt werden können.)*

C5.3.7.1.7 Additional labeling requirements for other preparations, such as lead-based paint, preparations in aerosol spray cans, pesticides, decontaminated PCB-containing devices, PCB/PCT-containing equipment, and asbestos-containing products are addressed in Chapters 2 (Air Emissions), 11 (Pesticides), 14 (Polychlorinated Biphenyls), 15 (Asbestos and Artificial Mineral Fibers), and 17 (Lead-Based Paint).

C5.3.7.2 Labeling Requirements for Transportation Units, Tank Vehicles, Containers, Tanks, or Packaging

C5.3.7.2.1 Vehicles used for transporting hazardous materials must be labeled in accordance with the ADR.

C5.3.7.3 Labeling Requirements for Areas that Store and/or Handle Hazardous Materials

C5.3.7.3.1 Mandatory signs *(Gebotszeichen)* and hazard signs *(Warnzeichen)* must be placed at workplaces where hazardous materials are handled and/or stored. See Appendices C5.A4 and C5.A5.

C5.3.7.3.2 Areas that store and/or handle compressed gas cylinders containing very toxic or flammable gases must be equipped with special protection areas *(Schutzbereiche).* Special protection areas must be labeled according to the hazard associated with the respective type of gas (i.e., danger of explosion or danger of poisoning). Any associated piping must also be clearly labeled to indicate the type of gas it contains and connection points *(Anschlußstellen)* and extraction points *(Entnahmestellen)* must also be clearly labeled.

C5.3.7.3.3 Smoking is prohibited in areas where flammable materials are stored and/or handled. These areas must be labeled with “No smoking” signs.

C5.3.7.4 Additional Requirements for **Baden-Württemberg**, **Bayern**, **Hessen**, and **Rheinland-Pfalz**.

The following requirements regarding the labeling of facilities that store, distribute, and/or handle water endangering substances must be complied with, as applicable, in **Baden-Württemberg** (BW), **Bayern** (Bay), **Hessen** (Hes), and **Rheinland-Pfalz** (Rh-PF).

Additional Requirement	**BW**	**Bav**	***Hes***	***Rh-PF***
Facilities must maintain clearly visible operating instructions (*Betriebsanweisung*).	X	X[1]	*X*[2]	*X*[3]

Additional Requirement	BW	Bav	*Hes*	*Rh-PF*
Operators of facilities must affix clearly legible, permanent labels indicating the hazardous substances that are used and the pressure of the containers, if applicable.	X	X[1]	*X*	--
Operators of facilities must permanently affix the officially published Operating Procedures *(Merkblatt)* "Instructions for the Use and Safe Handling of Water Endangering Substances" *(Betriebs- und Verhaltenvorschriften beim Umgang mit wassergefährdenden Stoffen)* in conspicuous places in the vicinity of facilities (see Appendix C5.A8) and must inform facility personnel of the contents.	*X*	*X*	*X*	*X*
Fittings must be labeled so that they cannot be used incorrectly. Above-ground piping and underground piping in manholes must be marked with appropriate colors, so they can be easily recognized.	--	--	*X*	--

Notes:

1. Facilities classified as Water Hazard Category *A (Gefährdungsstufe A)* are exempt from this requirement (see Table C5.T2).
2. Facilities that store, distribute, or handle heating oil are exempt from this requirement.
3. Facilities classified as Water Hazard Category A *(Gefährdungsstufe A)* are exempt from this requirement (see Table C5.T2). Facilities that supply residential buildings or similarly used buildings with heating oil are also exempt, but must affix the operating procedures *(Merkblatt).*
4. No official operating procedures *(Merkblatt)* have been published for BW.

C5.3.8 Hazardous Material Minimization

DoD installations shall evaluate minimization options for all hazardous materials in use. The results must be documented in writing. The evaluation process must include the following elements:

- substitution of hazardous materials with less hazardous alternatives; and
- process modifications to reduce the volume of hazardous materials used and employee exposure.

C5.3.9 Hazardous Material Processed Through the Defense Reutilization and Marketing Service (DRMS)

All excess hazardous material will be processed through the Defense Reutilization and Marketing Service (DRMS) in accordance with the procedures in DoD 4160.21-M. DRMS will only donate, transfer, or sell hazardous material to environmentally responsible parties. This subsection is not intended to prohibit the transfer of usable HM between DoD activities participating in a regional or local pharmacy or exchange program.

C5.3.10 Instruction and Training of Personnel

C5.3.10.1 All personnel who use, handle, or store hazardous materials must be trained in accordance with DoDI 6050.1 and other component instructions. The training should address the content of work- and substance-related operating instructions *(Betriebsanweisung)* that are displayed where hazardous materials are stored and/or handled (see C5.3.6.1).

C5.3.10.2 Annual verbal instruction *(Unterweisung)* based on the operating instructions must be provided to employees. The training should make specific reference to the place of work and include, but not be limited to the following topics:

- decontamination procedures;
- emergency response plan and procedures;
- spill containment;
- operating instruction *(Betriebsanweisung)* location and use;
- MSDS location and use;
- location and availability of hazardous materials inventory;
- labeling requirements; and
- any additional applicable FGS requirements.

C5.3.10.3 The date and content of the verbal instruction must be recorded and confirmed by employees through their signature. Training records must be maintained for at least 2 years.

C5.3.10.4 Verbal instruction must be provided to employees prior to assignments that may involve working with hazardous materials.

C5.3.10.5 Additional requirements for **Baden-Württemberg**, **Bayern**, **Hessen** and **Rheinland-Pfalz**.

The officially published leaflet on “Instructions for the Use and Safe Handling of Water Endangering Substances” *(Betriebs- und Verhaltensvorschriften beim Umgang mit wassergefährdenden Stoffen)* must be displayed in the vicinity of facilities that store, distribute, and/or handle hazardous substances (see Appendix C5.A8).

C5.3.11 Unauthorized Entry

The installation must prevent the unauthorized entry of persons or livestock into the hazardous materials storage area.

C5.3.12 Additional Restrictions for Specific Hazardous Material

C5.3.12.1 Table C5.T4 lists hazardous substances that are banned or otherwise restricted from use in Germany.

C5.3.12.2 Carcinogens and Mutagens

C5.3.12.2.1 Facilities must notify local German authorities through the Installation Commander when carcinogens or mutagens are used. Notification is required at least 14 days in advance of the first use of carcinogens or mutagens as well as prior to the start of new activities involving carcinogens or mutagens. The notification must include the following:

- name and volume of the substance;
- description of usage;
- protective measures;
- results of considerations concerning potential substitution of the substance and minimization of exposure;
- number of employees exposed; and
- level of potential exposure.

C5.3.12.2.2 Options for less hazardous substitutes for all applications must be evaluated and documented in writing. In the event that substitution is not possible, enclosed facilities must be utilized as much as possible, and concentrations in the ambient air must be minimized.

C5.3.12.2.3 Storage of carcinogens or mutagens must follow the storage requirements for toxic materials (see C5.3.17.2.2).

C5.3.12.3 Aliphatic Chlorinated Hydrocarbons

C5.3.12.3.1 The use of tetrachloromethane (CAS No. 56-23-5) and trichloroethane (CAS No. 25323-89-1) as solvents or cleaning agents is prohibited.

C5.3.12.3.2 The use of tetrachloroethene (CAS No. 127-18-4), trichloroethene (CAS No. 79-01-6), and dichloromethane (methylene chloride) (CAS No. 75-09-02) as cleaning agents is only permitted in enclosed systems.

C5.3.12.3.3 The application of 1,1,2,2-tetrachloroethane (CAS No. 79-34-5), 1,1,1,2-tetrachloroethane (CAS No. 630-20-6), pentachloroethane (CAS No. 76-01-

07), and trichloromethane (CAS No. 67-66-3) is only permitted in enclosed systems.

C5.3.12.4 Fertilizers

C5.3.12.4.1 Storage areas for fertilizers must comply with the requirements for water endangering substances.

C5.3.12.5 Specifically Regulated Substances Addressed in Other Chapters

Refer to chapters 2, 11, 14, 15 and 17 for additional requirements regarding ozone depleting substances (ODSs), pesticides, PCB/Ts, asbestos, and lead-based paint, respectively.

C5.3.13 Packaging of Hazardous Materials

C5.3.13.1 Properties of Packaging Used for the Storage of Hazardous Materials

C5.3.13.1.1 Packaging must be designed and constructed so that the contents cannot accidentally be released.

C5.3.13.1.2 Packaging must be resistant to normal, operational, and handling strains.

C5.3.13.1.3 Packaging must be made of materials that are compatible with its content.

C5.3.13.1.4 Packaging may not be designed so that the content may be mistaken for foodstuff or use colors or designs that may be attractive to children.

C5.3.13.2 Properties of Packaging and Receptacles Used for the Transportation of Dangerous Goods as Parcel and Bulk Goods

C5.3.13.2.1 New and reused packaging must be manufactured such that spills are prevented. Packaging must be kept closed during transportation to prevent spills.

C5.3.13.2.2 Each packaging or container *(Verpackung or Container)* for transportation must have a UN-coded label which indicates that the packaging or container design type has been tested and approved by the appropriate national authority *(zugelassene Bauart)*.

C5.3.13.2.3 Packaging must be inspected to ensure it is free of corrosion, contamination, or other damage.

C5.3.13.2.4 Packaging must be compatible with the material stored; where necessary, it must be provided with a suitable inner coating or treatment.

C5.3.13.2.5 Packaging that shows signs of reduced strength shall not be used or shall be reconditioned to the original specifications.

C5.3.14 Requirements for Facilities that Store, Distribute, and Handle Hazardous Substances

C5.3.14.1 Operational Requirements

C5.3.14.1.1 General Requirements

C5.3.14.1.1.1 Facilities that store, distribute, and handle water endangering substances (WGK 1 to WGK 3) must be operated to prevent the contamination of water bodies or other detrimental effects.

C5.3.14.1.1.2 A construction approval or a test of suitability *(Bauartzulassung oder Eignungsfeststellung)* from the German authorities is required for facilities that store, distribute, and handle water endangering substances, unless they are classified as facilities of ordinary or conventional construction type *(Anlagen einfacher oder herkömmlicher Art)* (see Appendix C5.A7). This requirement does not apply if substances are only temporarily stored for shipment operations (typically 24 hours during work days), and the respective containers comply with the requirements for dangerous goods *(gefahrgutrechtlich).* These requirements also do not apply to daily-use quantities in use at the work area and substances stored in minor quantities *(Handgebrauch)* in laboratories.

C5.3.14.1.1.3 The necessity for secondary containment is dependant on the volume and the Water Hazard Class of the substances stored, distributed, or handled (see Table C5.T2).

C5.3.14.1.1.4 Additional requirements for Facilities that Store, Distribute, and Handle Hazardous Substances in **Bayern**, **Hessen***,* and **Rheinland-Pfalz.**

The requirements in Table C5.T7 regarding facilities that store, distribute, or handle water endangering substance must be complied with.

C5.3.14.1.2 Additional Requirements for Facilities that Store, Distribute, and Handle Hazardous Substances located in Water Protection Zones and Areas Prone to Flooding

C5.3.14.1.2.1 The following requirements apply to facilities that store, distribute, and handle water endangering substances in protected areas and areas prone to flooding.

C5.3.14.1.2.1.1 Facilities that store, distribute, and handle water endangering substances are not permitted in groundwater extraction well areas *(Fassungsbereich, zone I)* nor in Zone II protected areas *(engere Zone, zone II).* Exceptions may be permitted by the competent German authority for above-ground facilities.

C5.3.14.1.2.1.2 Water Hazard Category D above-ground facilities are not permitted in zone III protected areas *(weitere Zone, zone III)* (see Table C5.T2). Above-ground facilities classified as Water Hazard Categories A, B or C (see Table C5.T2) may only be operated, if they are provided with secondary containment or are double-walled and equipped with a leak detection system.

C5.3.14.1.2.1.3 Facilities that store, distribute, and handle hazardous substances may only be operated in areas subject to flooding if they are secured against floating and shifting. It must be ensured that water cannot enter vent pipes, filling ports or other inlets in the event of flooding, and the facility must be resistant to mechanical damage from flooding.

C5.3.14.1.2.2 **Baden-Württemberg**

Facilities exceeding the capacity limits of water endangering substances as outlined below are not permitted in water protection zone III areas:

Water Hazard Class (WGK)	Capacity limit (m^3)
1	No limit provided
2	Above 100
3	Above 10

C5.3.14.1.3 Additional Requirements for Facilities that Store, Distribute, and Handle Hazardous Substances that Handle Flammable Liquids of All Hazard Classes

C5.3.14.1.3.1 Flammable storage facilities must be operated in accordance with state of the art technology *(Stand der Technik).*

C5.3.14.1.3.2 Flammable liquid storage is prohibited in the following locations:

- passageways and thoroughfares;
- staircases;
- generally accessible hallways;
- roofs of residential buildings, hospitals, office buildings and similar buildings as well as in their roof-spaces; and
- public restaurants and residences.

C5.3.14.1.3.3 The operator of a facility that stores and handles flammable liquids must maintain the facility in an adequate operating condition and ensure that the condition of the facility is continuously monitored. A facility with any

faults or defects may not be operated if it endangers personnel or third parties. Repair measures must be performed immediately.

C5.3.14.1.3.4 Areas where an explosive atmosphere may be generated must be kept clear of any substances that may increase the risk or the spread of fires. Vehicles may only be operated in these areas if required for the operation of the storage area. Smoking is prohibited and a clearly visible and legible sign must be posted.

C5.3.14.1.4 Additional Requirements for Facilities that Store, Distribute, and Handle Water Endangering Substances that Handle Hazard Class A I, A II and B Flammable Liquids

C5.3.14.1.4.1 The storage of Hazard Class A I, A II or B flammable liquids is prohibited in the following locations if the stored quantities exceed volumes specified below:

Location	Container Type	Volume (liters)	
		A I	A II or B
Residences and rooms that are immediately adjacent to residences without fire-resistant walls	Fragile containers	1	5
	Other containers	1	5
Basements of residences	Fragile containers	1	5
	Other containers	20	20
Retail and storage areas of retail facilities occupying an area of:			
< 60 m²	Fragile containers	5	10
	Other containers	60	120
60 to 500 m²	Fragile containers	20	40
	Other containers	200	400
> 500 m²	Fragile containers	30	60
	Other containers	300	600

C5.3.14.1.4.2 Hazard Class A I, A II and B flammable liquids must be stored as follows:

- electrostatic charges that could lead to a dangerous discharge are prohibited;
- buildings, in which above-ground facilities storing, dispensing, or transferring flammable liquids requiring a permit are located, as well

as above-ground outdoor tanks, must be protected against fire hazards due to lightning;

- vapor-air mixtures occurring during filling operations must be vented without danger or the facility must be equipped with a gas equilibrium system; and
- dangerous flashovers are prohibited.

C5.3.14.1.4.3 All equipment operated in an explosive atmosphere must be explosion proof.

C5.3.14.2 Inspections

C5.3.14.2.1 The following inspection requirements apply to facilities that store, distribute, and handle water endangering substances:

C5.3.14.2.1.1 An inspection is required prior to the initial use of the facility and after significant modifications.

C5.3.14.2.1.2 An inspection is required for liquid-tightness of facilities used for the storage, distribution and handling of water endangering substances and the related safety equipment. The inspection must be performed by an expert *(Sachverständiger):*

- every 5 years after commissioning of the facility;
- after the re-commissioning or reopening of a facility that has been temporarily decommissioned for more than 1 year;
- if the competent German authority issues an inspection request due to a suspected threat to water bodies;
- after decommissioning of a facility.

C5.3.14.2.1.3 The integrity of facilities for the storage, distribution, or handling of water endangering substances and the functioning of its safety devices must be continuously checked *(Eigenüberwachung).*

C5.3.14.2.2 Following a completed tank test *(Prüfbericht),* tank operators receive a inspection protocol on the completed test from the certified contractor. This inspection protocol contains information on any deficiencies detected. Severe deficiencies must be corrected as soon as possible. The inspection protocol must be maintained at a location identified by the operator of the storage tank.

C5.3.14.2.3 Additional Requirements in **Baden-Württemberg**, **Bayern**, **Hessen**, and **Rheinland-Pfalz**

C5.3.14.2.3.1 The following specific facilities require inspections by an expert *(Sachverständigen)* based on C5.3.14.2.1.1 and C5.3.14.2.1.2:

- above-ground facilities including the piping of hazard category C and D, in protection zones of category B, C, and D (see C5.3.14.2.3.2);
- underground facilities, including underground devices or equipment; and
- above-ground facilities, including the piping, of hazard category A if required in the specification, i.e., the determination of suitability or construction approval.

C5.3.14.2.3.2 In **Baden Württemberg**, **Hessen,** and **Rheinland-Pfalz** above ground facilities, including the piping, of hazard category B must be inspected prior to the initial use or after significant modifications. Further inspections may be required based on the specification, i.e., the determination of suitability or construction approval.

C5.3.14.3 Retention Basins for Fire Fighting Water

C5.3.14.3.1 Water endangering substance storage areas must be provided with a retention basin for fire fighting water if:

- water is used as the primary fire fighting agent; and
- the storage area is not exclusively constructed of non-flammable construction material; and
- the following storage volumes are exceeded:
  - 100 tons of Water Hazard Class 1 (WGK 1) substances; or
  - 10 tons of Water Hazard Class 2 (WGK 2) substances; or
  - 1 ton of Water Hazard Class 3 (WGK 3) substances.

C5.3.14.3.2 The required volume of the retention basin is not specified and depends upon safety categories (K1 to K4), a classification based on the type of fire brigade (on-post or public fire brigade), fire extinguishing equipment,, and other emergency planning factors.

C5.3.14.4 Ordinary and Conventional Facilities

A storage facility can be classified as ordinary or conventional (see Definitions, C5.2) depending upon certain criteria. See Appendix C5.A7 to determine whether a facility storing water endangering substances meets the ordinary and conventional facility criteria.

C5.3.15 Above-Ground Storage Tanks

C5.3.15.1 Notification Requirements

C5.3.15.1.1 Operators of above-ground storage tanks and tank farms that store flammable liquids outdoors are required to provide a notification

(Anzeigepflicht) to the competent German authorities (see C5.3.15.2.1) if the total storage volume of a single tank and/or tank farm is within the range of 450 to 1,000 liters of Hazard Class A I substances or 3,000 to 5,000 liters of Hazard Class A II or B substances.

In the case of the combined storage of Hazard Class A I, A II and B flammable liquids, five liters of Hazard Class A II or B substances shall be considered equal to one liter of a Hazard Class A I substance for the purpose of calculating the total storage quantity. The resulting Hazard Class A I equivalent shall be added to the Hazard Class A I volumes. For flammable liquids in Hazard Class A I with an ignition temperature *(Zündtemperatur)* below 125 °C, the volume is reduced to one-fifth of the volume prescribed for Hazard Class A liquids.

The notification must be provided to the authorities prior to commissioning.

C5.3.15.1.2 Notification is not required if the total volume of the tank and/or tank farm is less than 450 liters of Hazard Class A 1 substances or 3,000 liters of Hazard Class A II or B substances.

C5.3.15.1.3 Additional Requirements in **Bayern**

Operators must submit a notification to the competent German authority if they plan to operate or significantly modify facilities storing water endangering substances. This requirement is met if notification is already submitted to the authorities in order to comply with other regulations.

C5.3.15.1.4 Additional Requirements in **Hessen**

Operators must submit a notification to the competent German authority if they plan to operate facilities storing water endangering substances. This requirement is met if notification is already submitted to the authorities in order to comply with other regulations.

C5.3.15.1.5 Additional Requirements in **Rheinland-Pfalz**

Operators must submit a notification to the competent German authority if they plan to operate, significantly modify, or decommission facilities storing water endangering substances.

C5.3.15.2 Permit Requirements

C5.3.15.2.1 Above-ground storage tanks and tank farms storing flammable liquids outdoors require a permit *(Erlaubnis)* from the competent German authorities (listed below), if the total storage volume of the tank or tank farm exceeds 1,000 liters of Hazard Class A I substances or 5,000 liters of Hazard Class A II or B substances. This requirement applies to the construction, installation,

and operation of these tanks. Substantial modifications to such a facility also require a permit. DoD facilities, which have been in operation prior to 29 March 1998 and notified to German authorities are exempt from permit requirements as long as they have not been substantially modified.

Competent Authorities Responsible for Tanks Storing Flammable Liquids or Water Endangering Substances

Operator	***Baden-Württemberg***	***Bayern***	***Hessen***	***Rheinland-Pfalz***
Civilians	*Gewerbe-aufsichtsamt*	*Gewerbeauf-sichtsamt*	*Staatliches Amt für Arbeitsschutz und Sicherheits-technik*	*Gewerbe-aufsichts-amt*
Military	Regional *Wehrbereichsverwaltung*			
Civilians and Military	None	*Kreis-verwaltung*	Local *Untere Wasserbehörde*	

C5.3.15.3 Operational Requirements

C5.3.15.3.1 General

C5.3.15.3.1.1 Operators of above-ground tanks or tank farms that store water endangering substances must supervise this operation and ensure that all required safety equipment is in proper condition. The permitted *(zulässig)* filling levels of the above-ground storage tanks and the volume of the associated safety equipment must be monitored.

C5.3.15.3.1.2 The following additional requirements apply to the filling of storage facilities:

C5.3.15.3.1.2.1 Storage tanks may only be filled using fixed connections and overfill protection devices. This does not apply for tanks with a capacity less than 1,000 liters, if filled with a self-closing filling device. This also does not apply to collection containers *(Sammelbehälter)* that are filled by smaller, portable containers as long as the filling height of the containers to be filled can be visually controlled so that the filling process may be stopped before overfilling (as an example, the filling of a waste oil container).

C5.3.15.3.1.2.2 Drip losses must be contained.

C5.3.15.3.2 Special Provisions for Facilities Handling Flammable Liquids

C5.3.15.3.2.1 The following additional operational provisions apply to the storage of flammable liquids in above-ground storage tanks:

C5.3.15.3.2.1.1 Hazard Class A I, A II or B flammable liquids shall not be stored with light heating oil in adjoining chambers of a multiple-chamber tank.

C5.3.15.3.2.1.2 In tanks and tank containers (i.e., a tank container is a container that may be used for storage and transportation and has a minimum volume of 450 liters), the fill level shall be visible at all times from the exterior of the tank. This may be achieved by means of level indicators, or in the case of above-ground tanks, this requirement is met if the tank walls are made of a transparent material.

C5.3.15.3.2.1.3 All tank specifications shall be clearly indicated on the tank.

C5.3.15.3.2.1.4 Pressure monitoring is required for tanks with an internal positive pressure exceeding 0.1 bar.

C5.3.15.3.2.2 Indoor storage areas containing storage tanks that require notification or a permit must be equipped with ventilation and lighting.

C5.3.15.3.3 Special Provisions for the Storage of Solid Substances in **Baden-Württemberg**, **Bayern**, **Hessen**, and **Rheinland-Pfalz**

C5.3.15.3.3.1 Above-ground storage tanks, drum storage, filling and trans-shipment facilities (LAU Anlage) that store solid, water endangering substances are considered to be ordinary or conventional and do not require a determination of suitability, if:

C5.3.15.3.3.1.1 The storage area has a certified liquid-tight floor, and the solid substances are stored out-doors in containers that are always kept closed and protected from weather and potential damages, or the facilities (LAU Anlagen) are within a building or covered; or

C5.3.15.3.3.1.2 Based on the stored volumes and Water Hazard Class, the facility (LAU Anlage) is not classified above Water Hazard Category A.

C5.3.15.3.3.2 If the facility (LAU-Anlage) is not considered ordinary or conventional, the requirements contained in C5.3.15.3.1 and C5.3.15.3.2 must be complied with.

C5.3.15.4 Inspections

C5.3.15.4.1 Above-ground storage tanks containing water endangering substances must meet the requirements for inspections outlined in C5.3.14.2. (Inspection requirements for facilities that store, distribute, and handle water endangering substances).

C5.3.15.4.2 Above-ground storage tanks containing flammable liquids in quantities that require either a notification or a permit must be inspected by an expert *(Sachverständiger)* (above-ground storage tanks located indoors that require either a notification or a permit are exempt from these requirements). Inspections must be conducted as follows:

- prior to commissioning;
- after significant modifications prior to re-commissioning;
- before re-commissioning a facility that has been temporarily decommissioned for more than 1 year;
- every 5 years (lightning protection and cathodic corrosion protection systems must be inspected every 3 years).

C5.3.16 Distribution Facilities (Filling and Trans-Shipment *[Abfüll- und Umschlagplätze])*

C5.3.16.1 Notification

C5.3.16.1.1 Filling facilities for Hazard Class A I, A II, or B flammable liquids located in closed rooms require notification *(Anzeigepflicht)* to the competent German authority prior to commissioning, if their dispensing rate is between 200 and 1,000 liters/hour.

C5.3.16.1.2 Filling facilities for Hazard Class A III flammable liquids are exempt from this requirement, unless they are located in the same room as filling facilities for Hazard Class A I, A II, or B flammable liquids.

C5.3.16.1.3 Additional Requirements for Facilities in **Bayern**, **Hessen**, and **Rheinland-Pfalz**

C5.3.16.1.3.1 Operators must submit a notification to the competent German authority if they plan to operate facilities filling or trans-shipping water endangering substances. The notification is not required if other regulations that require a notification are applicable.

C5.3.16.1.3.2 In **Bayern** and **Rheinland-Pfalz**, a notification is also required if significant modifications to such a facility are conducted.

C5.3.16.2 Permits

C5.3.16.2.1 The construction, installation, and operation of filling facilities for flammable liquids listed below require a permit *(Erlaubnis):*

C5.3.16.2.1.1 Filling facilities in enclosed rooms, with a dispensing rate exceeding 1,000 liters/hr of Hazard Class A I, A II, or B flammable liquids. Filling facilities for Hazard Class A III flammable liquids are exempt from this requirement unless they are located in the same room as filling facilities for Hazard Class A I, A II or B flammable liquids.

5.3.16.2.1.2 Outdoor filling facilities for Hazard Class A I, A II, or B flammable liquids. Filling facilities for Hazard Class A III flammable liquids are exempt from this requirement, unless they are connected with filling facilities for Hazard Class A I, A II, or B flammable liquids.

5.3.16.2.1.3 DoD facilities, which have been in operation prior to 29 March 1998, are exempt from permit requirements as long as they have not been substantially modified.

C5.3.16.2.2 Considerable modifications to such facilities also require a permit.

C5.3.16.3 Operational Requirements

C5.3.16.3.1 The use of flammable liquid dispensing devices must allow for the expedient and safe access and egress to and from the facility.

C5.3.16.3.2 The ground surface in the area of filling facilities must be sufficiently stable and impermeable.

C5.3.16.3.3 Filling and trans-shipment facilities (LAU Anlage) for water endangering substances may be considered ordinary or conventional if the requirements for these facilities are complied with.

C5.3.16.3.4 Additional Requirements for **Hessen** and **Rheinland-Pfalz**

C5.3.16.3.4.1 In **Hessen** and **Rheinland-Pfalz**, at onshore filling and trans-shipment facilities, all means of transport used for the filling or trans-shipment of water endangering substances shall be secured against rolling, shifting, or moving.

C5.3.16.3.4.2 In **Rheinland-Pfalz**, onshore filling and trans-shipment facilities must be equipped with secondary containment that is sufficient to contain the maximum volume of a substance to be potentially released before safety measures are activated to stop the release. The size of the secondary containment must be determined based on the maximum potentially spilled volume.

C5.3.16.4 Inspections

Onshore filling and trans-shipment facilities that store, distribute, and handle water endangering substances must meet the requirements for inspections outlined in C5.3.14.2 (Inspection requirements for facilities that store, distribute, and handle water endangering substances).

C5.3.17 Facilities Handling Hazardous Substances

C5.3.17.1 Handling facilities, which includes facilities that produce, treat, or use *(Anlagen zum Herstellen, Behandeln, Verwenden – HBV Anlagen)* hazardous substances, must comply with the requirements in C5.3.14.2. (Inspection requirements for facilities that store, distribute, and handle water endangering substances). If during the operation of these facilities, flammable liquids are stored in quantities exceeding the volumes required for the daily use (typically for one shift), they must adhere to the requirements in C5.3.16 (i.e., requirements for distribution facilities).

C5.3.17.2 Operational Requirements

C5.3.17.2.1 Cooling and Heating Units

In **Bayern** and **Hessen**, operators are required to prevent water endangering substances from infiltrating into the cooling water of cooling and heating units or ensure leaks are easily detected and contaminated cooling water cannot be released.

C5.3.17.2.2 Storage in the Workplace

C5.3.17.2.2.1 Daily-use quantities of hazardous substances may only be stored in work areas (typically for one shift).

C5.3.17.2.2.2 Flammable substances classified as A I, A II, or B, may only be stored in work areas if they are placed in appropriate safety cabinets (as an example, safety cabinets according to DIN 12925 part 1).

C5.3.17.2.2.3 Toxic and very toxic materials must be stored and secured so that only qualified persons *(fachkundige Person)* can access these materials.

C5.3.18 Drum and Container Storage Areas

C5.3.18.1 Notifications

C5.3.18.1.1 Operators of drum and container storage areas that store quantities within the ranges outlined below are required to provide a notification *(Anzeigepflicht)* to the competent German authority prior to commissioning.

Location	Container Type	Total Volume (Liters)	
		A I	A II or B
Interior Drum Storage Areas, Above-and Below-ground Level	Fragile containers	60-200	200-1,000
	Other containers	450-1,000	3,000-5,000
Above-ground Drum Storage Areas in Outside Areas	Fragile containers	-	25-100
	Other containers	450-1,000	3,000-5,000

Notes:

If flammable liquids in Hazard Classes A II or B are stored together with flammable liquids in Hazard Class A I, then five liters of flammable liquids in Hazard Classes A II or B shall be considered equal to one liter of flammable liquid in Hazard Class A I for the purpose of calculating total storage quantity. The storage quantities of flammable liquids in Hazard Classes A II or B, calculated accordingly, shall be added to the storage quantities of flammable liquids in Hazard Class A I. For flammable liquids in Hazard Class A I with an ignition temperature *(Zündtemperatur)* below 125° C, the volume is reduced to one-fifth of the volume prescribed for Hazard Class A liquids.

C5.3.18.1.2 Notification is not required for volumes below the minimum values of the range per hazard class, location, and type of container.

C5.3.18.1.3 In **Bayern**, **Hessen**, and **Rheinland-Pfalz**, drum and container storage areas that store water endangering substances must follow the same notification requirements as for above-ground storage tanks that store water endangering substances.

C5.3.18.2 Permits

C5.3.18.2.1 The construction, installation, operation, and modification of drum and container storage areas that store flammable liquids and exceed the quantities provided below, require a permit *(Erlaubnis)* from the competent German authority.

Location	Container Type	Total Volume (Liters)	
		A I	A II or B
Interior Drum Storage Areas, Above- and Below-ground Level	Fragile containers	200	1,000
	Other containers	1,000	5,000
Above-ground Drum Storage Areas in	Fragile containers	-	100

Location	Container Type	Total Volume (Liters)	
		A I	A II or B
Outside Areas	Other containers	1,000	5,000

Notes:

If flammable liquids in Hazard Classes A II or B are stored together with flammable liquids in Hazard Class A I, then five liters of flammable liquids in Hazard Classes A II or B shall be considered equal to one liter of flammable liquid in Hazard Class A I for the purpose of calculating total storage quantity. The storage quantities of flammable liquids in Hazard Classes A II or B, calculated accordingly, shall be added to the storage quantities of flammable liquids in Hazard Class A I. For flammable liquids in Hazard Class A I with an ignition temperature *(Zündtemperatur)* below 125° C, the volume is reduced to one-fifth of the volume prescribed for Hazard Class A liquids.

German Federal forces are exempt from the requirement to obtain a permit for facilities handling flammable liquids. Consequently, facilities operated by German Federal forces are permitted by the competent military authority *(Regionale Wehrbereichsverwaltung).* This also applies to Foreign military forces (refer to Chapter 1).

5.3.18.2.2 Drum and container storage areas for Hazard Class A III flammable liquids are exempt from this requirement, unless they are stored with Hazard Class A I, A II, or B flammable liquids and the volumes specified below are exceeded.

5.3.18.2.3 DoD facilities, which have been in operation prior to 29 March 1998, are exempt from permit requirements as long as they have not been substantially modified.

C5.3.18.3 Inspections

C5.3.18.3.1 Drum and container storage areas must meet the inspection requirements for facilities that store water endangering substances in above-ground storage tanks.

C5.3.18.3.2 Drum and container storage areas that contain flammable liquids that either require a permit or notification must meet the same inspection requirements as above-ground storage tanks (with the exception of required inspections every 5 years after commissioning).

C5.3.19 Piping

C5.3.19.1 Permits

All piping associated with a facility used for the storage, distribution or handling of hazardous substances, that does not extend beyond the site boundary, is subject to the same permitting and notification requirements required for the facility.

C5.3.19.2 Operational Requirements

C5.3.19.2.1 Underground piping is only permitted if an above-ground design is not possible (see Chapter 19, USTs).

C5.3.19.2.2 In **Bayern** and **Hessen**, the following requirements must also be complied with:

C5.3.19.2.2.1 Above-ground piping used to connect several facilities must have secondary containment, unless it is double-walled and equipped with a leak detection system.

C5.3.19.2.2.2 Flexible piping may only be installed above tight and resistant surfaces, except piping running above surface waters for operational reasons.

C5.3.19.3 Inspections

All piping associated with a facility storing, distributing, or handling hazardous substances that does not extend beyond the site boundary, is subject to the same inspection requirements as the associated facilities.

C5.3.20 Storage and Handling of Compressed Gas Cylinders

C5.3.20.1 Welding Gases

C5.3.20.1.1 Compressed gas cylinders for welding as part of single-cylinder or multi-cylinder welding facilities may not be stored in:

- stairways and halls of buildings;
- in, or in the immediate vicinity of, narrow yards and passages;
- near stairs in outdoor facilities or near emergency escape routes;
- garages;
- residential rooms and rooms open to the public;
- in the immediate vicinity of highly flammable substances;
- areas without sufficient ventilation (i.e., without at least one opening near the floor and ceiling of a room with a width of at least 100 cm²); and
- rooms located below the surface level of the surrounding area (except compressed gas cylinders for oxygen). Up to 50 compressed gas cylinders of oxygen may be stored in such areas in the following cases:
  - in areas with forced ventilation, if the hourly air exchange rate exceeds twice the volume of the storage room;
  - in areas with natural ventilation if the ventilation openings have an area of at least 10 percent of the room area, the efficiency of the

ventilation is ensured and the floor of the area is not located at more than 1.5 m below the surface level of the surrounding area;

– in work areas, except in amounts required for the continuation of work.

C5.3.20.1.2 Dispensing and maintenance of compressed gas cylinders is not permitted in storage areas.

C5.3.20.1.3 Welding facilities and compressed gas cylinders shall not be exposed to heat (i.e., open flames and radiators). A minimum distance of 1.0 m shall be maintained from open flames. The distance to radiators must be at least 0.5 m.

C5.3.20.1.4 Compressed gas cylinders must be adequately secured to prevent falling.

C5.3.20.2 Compressed Gas Cylinders for Liquid Fuel

C5.3.20.2.1 Compressed gas cylinders for liquid fuel must be secured against mechanical damage and heat. Storage of compressed gas cylinders in stairways, halls, narrow passageways, and in their immediate vicinity, is only permitted on a temporary basis if this is required for the continuation of work.

C5.3.20.2.2 Liquid fuel cylinders connected to facilities must be stored at a sufficient distance from basement openings, pits *(Gruben)*, uncovered manholes, shafts, and other flammable materials. In partially segregated areas with an area of less than 2 m², the storage of liquid gas cylinders is not permitted if leaking gas cannot adequately be vented to the outside.

C5.3.21 Chlorine Facilities

C5.3.21.1 The following general requirements apply to chlorine facilities and storage areas for associated chemicals:

C5.3.21.1.1 Rooms used for the operation of chlorine facilities and for the storage of chemicals must be lockable and must not be designated for permanent occupancy. The rooms must be designed to allow for the easy removal of chemicals. Chlorine facilities for water treatment and storage of associated chemicals may be located in outside areas, if they are secured against unauthorized access and operation.

C5.3.21.1.2 Rooms used for the operation of chlorine facilities and for the storage of chemicals must be secured against unauthorized access.

C5.3.21.1.3 If sodium hypochlorite, sodium chlorite, solutions of these substances, or hydrochloric acid are stored indoors, the temperature in such rooms must not fall below 0°C.

C5.3.21.1.4 Rooms for the operation of chlorine facilities or storage areas for associated chemicals must have ventilation. In the case of electrolysis units, the ventilation opening must be located close to the ceiling.

C5.3.21.1.5 Signs must be displayed in chlorine facilities and associated storage rooms indicating hazards and appropriate precautionary measures.

C5.3.21.1.6 All parts of chlorine facilities must be resistant to operational, chemical, mechanical, and thermal strains to be expected during their lifetime.

C5.3.21.1.7 Containers used for the storage of chemicals associated with chlorination must be equipped with caps and covers that are secured against accidental opening. Caps and covers must be able to prevent the contamination of the contents with other substances and the accidental release of the contents during transport and handling. Containers must be kept closed.

C5.3.21.1.8 Chlorine gas cylinders must be secured against falling.

C5.3.21.1.9 Containers for chemicals or chlorine must be labeled according to their contents.

C5.3.21.2 The following special requirements apply to chlorine facilities operating with chlorine gas and associated storage areas:

C5.3.21.2.1 Rooms used for chlorine gas facilities may not contain any equipment other than that associated with the facility's operation and the associated chlorine gas cylinders. The rooms must not be connected to other rooms and must be separated from other rooms by fire-proof and gas-proof walls. The rooms must have a direct exit to an outdoor area. Doors must open outwards and be equipped with panic bars.

C5.3.21.2.2 Rooms used for chlorination facilities must be equipped with water sprinkler systems. The manual operation of the sprinkler system must be possible from outside the room. The room must have drains sufficient for the amount of water sprayed via the sprinkler system. Drains must be equipped with gas traps *(Geruchsverschlüsse)* and be visually inspected at least weekly.

C5.3.21.2.3 The floors of rooms for chlorine facilities must be level. The exit area may not be below the outside floor level and may not be higher than a loading ramp. For chlorine facilities used for the treatment of drinking water, underground storage rooms are permitted if they are equipped with chlorine gas detection systems.

C5.3.21.2.4 Hazardous releases of chlorine gas from chlorine facilities must be prevented (i.e., by limiting the size for any openings to the outside to 20 cm by 20 cm or by installing appropriate alarm systems). Accidental releases in emergencies

must not reach other rooms, manholes, pits, canals, or ventilation holes located below the facility level.

C5.3.21.2.5 Facilities equipped with suction pipes for chlorine gas are exempt from the above requirements.

C5.3.21.2.6 The temperature within the chlorine facility must not exceed 50°C.

C5.3.21.2.7 The chlorine gas dispensing system must be automatically interrupted if the raw water supply or the water flow is interrupted. This applies also for the dispensing systems using chlorine dioxide or chlorine solutions in chlorine electrolysis facilities.

C5.3.21.2.8 Chlorine facilities must have shut-off valves for connection pipes during the exchange of chlorine gas containers.

C5.3.21.3 The following additional requirements apply to the condition of chlorine facilities operating on chlorine dioxide and chlorine electrolysis facilities:

C5.3.21.3.1 Chlorine dioxide facilities must be operated to prevent the supply of pure sodium chlorite or acid from coming in contact with the raw water.

C5.3.21.3.2 Chlorine electrolysis facilities must be designed to prevent the release of hydrogen into rooms.

C5.3.21.4 The following requirements apply to the handling of sodium hypochlorite and sodium chlorite:

C5.3.21.4.1 Sodium hypochlorite may not come into contact with acids or chemicals that react similar to acids.

C5.3.21.4.2 Sodium hypochlorite and sodium chlorite may only be stored together with acids or chemicals that react similar to acids if either sodium hypochlorite or acidic substances are stored in unbreakable containers.

C5.3.21.4.3 Sodium chlorite may not come into contact with fats, oils, oxidizers, acids and strong salts if this is not required by the process technology.

C5.3.21.4.4 Sodium chlorite may not be stored near fats and highly flammable substances. Smoking is prohibited in areas where sodium chlorite or its solutions are handled.

C5.3.21.4.5 Sodium chlorite may not be contaminated with other substances.

C5.3.21.5 Inspections of Chlorine Facilities

C5.3.21.5.1 Chlorine facilities may only be commissioned or re-commissioned after an inspection by a qualified individual *(Sachkundiger).* Inspectors must have

obtained the knowledge to assess the technical condition of chlorine facilities through their qualifications and/or experience. The inspection shall put special focus on gas-conducting parts.

C5.3.21.5.2 During their operation, facilities must be regularly inspected by a qualified individual. Inspections must be performed at least on an annual basis.

C5.3.21.5.3 Tightness testing of flexible gas connection lines and connections, the sprinkler system and the chlorine gas detection system is required prior to commissioning of the facility, after significant modifications, and every 6 months. The type(s) and results of inspections must be recorded in an inspection log book.

C5.3.22 Dangerous Goods Advisor

C5.3.22.1 A Dangerous Goods Advisor must be appointed by each DoD installation that ships or transports dangerous goods and have a valid training certification, unless exempted. The Advisor does not have to be immediately involved in the shipment of dangerous goods.

C5.3.22.2 Appendix C5.A2 contains details regarding the duties of the Dangerous Goods Advisor. The primary responsibilities of the Dangerous Goods Advisor are:

- to monitor and train personnel;
- supervise compliance with regulations pertaining to the transport of dangerous goods;
- advise the DoD installation in its activities relating to the transport of dangerous goods;
- immediately report safety deficiencies to the responsible entity of the DoD installation; and
- prepare an annual report on the transport of dangerous goods,
- file a report if an accident during transport, loading, or unloading occurs, in which persons, animals, objects, or the environment have been damaged due to the release of dangerous goods.

C5.3.22.3 Only responsible individuals *(beauftragte Personen)* are allowed to execute the handling of dangerous goods, whereby they must work closely with the Dangerous Goods Advisor. A responsible individual must have detailed knowledge on the safe movement of dangerous good that he/she is handling. The responsible individuals must receive repetitive (i.e., annual) internal or external training. The training may be provided by the Dangerous Goods Advisor or external certified agencies.

C5.3.22.3.1 The responsible individuals *(beauftragte Person)* must be authorized to give instructions.

C5.3.22.3.2 All personnel that actually handle dangerous goods, for example at a unit level, must have been instructed by the responsible individuals how to load, unload, or handle the respective dangerous goods.

C5.3.23 Information to be Provided to the Authorities

C5.3.23.1 DoD installations that operate facilities requiring a permit must provide biennially, information concerning recycled waste types from the preceding 2 years.

C5.3.23.2 Upon request, the competent authorities should be provided with statistical data with respect to:

- accidents related to the handling of hazardous materials,
- facilities handling water endangering substances and which are subject to supervision by authorities, and
- accidents related to the transportation of hazardous materials.

C5.3.24 Protective Measures

C5.3.24.1 Employees performing hazardous work (which may include management of hazardous wastes, working alone, etc.) must be monitored. This may be done by ensuring that the person:

- keeps permanently in sight of other persons,
- is equipped with an electronic system as means of supervision, or
- is supervised by other persons at small intervals.

C5.3.24.2 Appropriate fire equipment and protection, including extinguishing media must be readily available. Available equipment must bear appropriate labels, should be easily accessible, and be easy to handle. Fire extinguishers should comply with DIN EN 3 or DIN 14406.

C5.3.24.3 Appropriate personal protective equipment must be available.

C5.3.24.4 Testing and maintenance of equipment must be performed at least on an annual basis. Fire extinguishers and ventilation systems must be inspected at least every two years.

C5.3.24.5 Any deterioration or malfunction of any facility that could present a safety issue must be corrected immediately.

Table C5.T1 Substances Classified as Hazardous to Water and Their Respective Water Hazard Classes (WKG)

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
1 acetyl-m-aminobenzoic acid	1 Acetyl-m-aminobenzoesäure	1693	1
1 Benzoylcyanide	Benzoylcyanid	1703	3
1 N-(4-Aminophenyl)-carbamic acid methyl ester	N-(4-Aminophenyl)-carbaminsäuremethylester	1415	2
1 p-Anisic acid	p-Anissäure	1402	1
1,1,1-Trichlor- ethane	1,1,1-Trichlorethan	198	3
1,1,2-Trichlortri- fluorethane	1,1,2-Trichlortrifluorethan	458	2
1,12-Dodecanedioic acid	1,12-Dodecandisäure	1197	0
1,12-Octadecandiol	1,12-Octadecandiol	1768	0
1,1'-Azobisformamide	1,1'-Azobiscarbamid	1354	1
1,1-Dichloroethene	1,1-Dichlorethen	794	3
1,2,3-Trichlor- benzene	1,2,4-Trichlorbenzol	454	3
1,2,4,5-tetra methylbenzene	1,2,4, 5-Tetramethylbenzol	191	1
1,2,4-Trivinyl cyclohexane	1,2,4-Trivinylcyclohexan	1776	2
1,2-Bis-(chloromethyl)-benzole	1,2-Bis-(chlormethyl)-Benzol	1701	2
1,2-Dibromethane	1,2-Dibromethan	241	3
1,2-Dichlorbenzene	1,2-Dichlorbenzol	74	2
1,2-Dichlorethane	1,2-Dichlorethan	102	3
1,2-Dichloro-3-nitrobenzol	1,2-Dichlor-3-nitrobenzol	749	3
1,2-Dichloroethen (cis and trans)	1,2-Dichlorethen (cis und trans)	795	2
1,2-Dichlorpropane	1,2-Dichlorpropan	446	3
1,2-Diethylbenzol	1,2-Diethylbenzol	78	2
1,2-Dinitrobenzene	1,3-Dinitrobenzol	84	3
1,2-Dodecandiol	1,2-Dodecandiol	1739	1
1,3-Butadiene	1,3-Butadien	218	2
1,3-Diaminopropane	1,3-Diaminopropan	1605	2
1,3-Dichlorbenzene	1,3-Dichlorbenzol	641	2
1,3-Dichloro-4-nitrobenzol	1,3-Dichlor-4-nitrobenzol	1274	3
1,3-Dichlorpropene(cis u. trans)	1,3-Dichlorpropen (cis u. trans)	245	3
1,3-Dinitrobenzene	1,4-Dinitrobenzol	707	3
1,4-Diaminocyclohexane	1,4-Diaminocyclohexan	1000	3
1,4-Dichlorbenzene	1,4-Dichlorbenzol	642	2
1,4-Dinitrobenzene	1,2-Dinitrobenzol	708	3
1,4-Dioxane	1,4-Dioxan	86	2
1-acetamino-7-hydroxynaphthalen	1-Acetamino-7-hydroxynaphthalin	1823	1

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
1-Alkene((14-16)dibutylmaleat (or fumarate) copolymer	1-Alkene((14-16)dibutylmaleat (oder fumarat) copolymer	1916	1
1-Aminoanthraquinone	1-Aminoanthrachinon	1215	1
1-brom-2-fluoromethane	1-Brom-2-fluorethan	972	3
1-brom-3,5-difluorobenzole	1-Brom-3,5-difluorbenzol	1480	2
1-brom-3-chloropropane	1-Brom-3-chlorpropan	920	3
1-Chloro-2-(dichloromethyl)-Benzene	1-Chlor-2-(dichlormethyl)-Benzol	1533	2
1-Chloro-2,4-dinitrobenzene	1-Chlor-2,4-dinitrobenzol	1120	2
1-Chloro-4-(dichloromethyl)-Benzene	1-Chlor-4-(dichlormethyl)-Benzol	1842	2
1-Chlorobutane	1-Chlorbutan	1190	2
1-Chloronepthalene	1-Chlornaphthalin	232	2
1-Chloro-octane	1-Chloroctan	1192	2
1-Dodecanol	1-Dodecanol	1482	1
1-Dodeclamin	1-Dodeclamin	1654	2
2 4-Dichlorotoluol	2 4-Dichlortoluol	1224	2
2,2-Dimethylpropane 14	2,2-Dimethylpropan 14	463	1
2,3-Dibrompropanol-1	2,3-Dibrompropanol-1	242	2
2,3-Dichloraniline	2,3-Dichloranilin	696	3
2,3-Dichlorphenol	2,3-Dichlorphenol	75	3
2,3-Dichlorpropene	2,3-Dichlorpropen	246	3
2,3-Dimethylaniline	2,3-Dimethylanilin	596	2
2,4,5-Trichlor- phenol	2,4,5-Trichlorphenol	455	3
2,4,5-Trichlorphen- oxyacetic acid	2,4,5-Trichlorphenoxyessigsäure	200	3
2,4,6-Trichlor aniline	2,4,6-Trichloranilin	701	3
2,4,6-Trimercaptotriazine	2,4,6-Trimercaptotriazin 8	540	2
2,4,6-Trimercaptotriazine, trisodiumsalt	2,4,6-Trimercaptotriazin, Trinatriumsalz 8	541	2
2,4-Dichloraniline	2,4-Dichloranilin	697	3
2,4-Dichlorobenzylchloride	2,4-Dichlorbenzylchlorid	1553	3
2,4-Dichlorphenol	2,4-Dichlorphenol	244	3
2,4-Diisocyanatotoluene	2,4-Toluylendiisocyanat	511	2
2,4-Dimethylaniline	2,4-Dimethylanilin	82	2
2,4-Dinitroaniline	2,4-Dinitroanilin	704	2
2,4-Dinitrotoluene	2,4-Dinitrotoluol	251	3
2,4-Pentandione	2,4-Pentandion	168	1
2,5-Dichloraniline	2,5-Dichloranilin	698	3
2,5-Dinitrotoluene	2,5-Dinitrotoluol	645	3
2,6-Dichloraniline	2,6-Dichloranilin	699	3
2,6-Dichlorobenzylchloride	2,6-Dichlorbenzylchlorid	990	3
2,6-Dichlorotoluol	2,6-Dichlortoluol	1233	2

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
2,6-Diethylaniline	2,6-Diethylanilin	1690	2
2,6-Diisocyanatotoluene	2,6-Toluylendiisocyanat	512	2
2,6-Dimethylaniline	2,6-Dimethylanilin	1521	2
2,6-Dimethylphenol	2,6-Dimethylphenol	1698	2
2,6-Dinitrotoluene	2,6-Dinitrotoluol	646	3
2,6-Di-tert.butyl-4-methylphenol	2,6-Di-tert.butyl-4-methylphenol	724	1
2-acetylamino-4-methylphenol	2-Acetylamino-4-methylphenol	1816	1
2-Amino-5-aminomethylnaphthalen-l sulfuric acid	2-Amino-5-aminomethylnaphthalin-l sulfonsäure	1873	2
2-Amino-5-nitrophenol	2-Amino-5-nitrophenol	1648	2
2-Aminobutane	2-Aminobutan	1171	2
2-Aminophenol	2-Aminophenol	1554	2
2-Anisidine	2-Anisidin	1118	3
2-Bromoethanol	2-Bromethanol	955	3
2-Chloro-4-nitroaniline	2-Chlor-4-nitroanilin	1261	2
2-Chloro-4-nitrotoluol	2-Chlor-4-nitrotoluol	1260	2
2-Chloro-5-nitroaniline	2-Chlor-5-nitroanilin	1808	2
2-Chloro-6-trichloromethylpyridine	2-Chlor-6-trichlormethylpyridin	539	2
2-Chloroaniline	2-Chloranilin	694	2
2-Chlorobenzoicacid	2-Chlorbenzoesäure	225	2
2-Chloroethanol	2-Chorethanol	229	3
2-Chloronitrobenzene	2-Chlornitrobenzol	710	2
2-Chlorophenol	2-Chlorphenol	234	2
2-Chlorotoluene	2-Chlortoluol	55	2
2-Cyclohexylphenol	2-Cyclohexylphenol	1636	3
2-Dehydrolinalool	2-Dehydrolinalool	1175	1
2-Diethylaminoethylamin	2-Diethylaminoethylamin	1563	1
2-Ethyl hexylacrylate	Acrylsäure-2-ethylhexylester	13	1
2-Ethylhexanol-1	2-Ethylhexanol-1	134	2
2-Ethylhexyl ammoniumchloride	2-Ethylhexylammoniumchlorid	537	2
2-Ethylhexylamine	2-Ethylhexylamin-1	109	2
2-Methyl-1-propene	2-Methyl-1-propen	1193	0
2-Methylaniline	2-Methylanilin	195	3
2-Methylcyclo-hexanone	2-Methylcyclohexanon	148	1
2-Methylfurane	2-Methylfuran	151	1
2-Nitroaniline	2-Nitroanilin	702	2
2-Nitroanisole	2-Nitroanisol	647	3
2-Nitrotolyene	2-Nitrotoluol	164	2
2-sek.Butyl phenol	2-sek.Butylphenol	745	2

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
3,4-Dichloraniline	3,4-Dichloranilin	700	3
3,4-Dichloro-1-nitrobenzol	3,4-Dichlor-1-nitrobenzol	845	3
3,4-Dichlorophenol	3,4-Dichlorphenol	907	3
3,4-Dichlorotoluol	3,4-Dichlortoluol	1556	2
3,4-Dimethylaniline	3,4-Dimethylanilin	595	2
3,5-Dimethylphenol	3,5-Dimethylphenol	1367	2
3-Aminoacetanilide-4-sulfonic acid	3-Aminoacetanilid-4-sulfonsäure	1532	2
3-Chloroaniline	3-Chloranilin	695	2
3-Chlorobenzoylchloride	3-Chlorbenzoylchlorid	1708	1
3-Chloronitrobenzene	3-Chlornitrobenzol	709	2
3-Diethylaminoacetanilide	3-Diethylaminoacetanilid	1817	1
3-Diethylaminophenol	3-Diethylaminophenol	1540	2
3-Methylaniline	3-Methylanilin	453	2
3-Nitroaniline	3-Nitroanilin	703	2
3-Nitrotoluene	3-Nitrotoluol	643	2
4,4'-Diaminodiphenylaminsulfate	4,4'-Diaminodiphenylaminsulfat	1876	2
4,4-Diaminodiphenylmethane	4,4-Diaminodiphenylmethan	913	3
4,4'-Dimethylphenylether	4,4'-Dimethylphenylether	1745	2
4-acetyl-morpholine	4-Acetyl-morpholin	1747	1
4-Aminoacetanilide-3-sulfonic acid	4-Aminoacetanilid-3-sulfonsäure	1560	1
4-Aminoazobenzol-3,4'-disulfonic acid, Disodiumchloride	4-Aminoazobenzol-3,4'-disulfonsäure, Dinatriumsalz	1406	1
4-Anisidine	4-Anisidin	1128	2
4-Chloro-2-nitroaniline	4-Chlor-2-nitroanilin	706	2
4-Chloroaniline	4-Chloranilin	224	3
4-Chlorobenzoicacid	4-Chlorbenzoesäure	226	2
4-Chloronitrobenzene	4-Chlornitrobenzol	233	2
4-Chlorothiophenol	4-Chlorthiophenol	916	3
4-Chlorotoluene	4-Chlortoluol	237	2
4-Methoxybenzaldehyde dimethyl acetal	Anisaldehyddimethylacetal	1167	1
4-Methylaniline	4-Methylanilin	693	2
4-Nitroaniline	4-Nitroanilin	162	2
4-Nitrotoluene	4-Nitrotoluol	644	2
4-tert. Butyl toluene	4-tert.Butyltoluol	1185	2
4-tert.Butyl phenol	4-tert.Butylphenol	1187	2
4-tert.Butylcyclohexanole	4-tert.Butylcyclohexanol	1186	1
5-Aminosalicylic acid	5-Aminosalicylsäure	1536	2
a,ß-Diacetyldigoxin	a,ß-Diacetyldigoxin	1072	3
a-acetyldigitoxin	a-Acetyldigitoxin	976	3

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
a-acetyldigoxin	a-Acetyldigoxin	1016	3
Acemetacin	Acemetacin	1082	3
Acephate, Orthin	Acephat	677	2
Acetaldehyde	Acetaldehyd	1	1
Acetamide	Acetamid	2	1
Acetic acid (less than 25%)	Essigsäure (> 25 %)	93	1
acetic anhydride	Acetanhydrid	3	1
Acetoacetanilid	Acetoacetanilid	1125	1
Acetone	Aceton 14	6	1
Acetone cyanohydrin	Acetoncyanhydrin	7	3
Acetonitrile	Acetonitril	8	2
Acetophenone	Acetophenon	735	1
acetyl acton peroxide 26	Acetylactonperoxid 26	1491	1
acetyl chloride	Acetylchlorid	784	1
acetyl-b-methyldigoxin-12	Acetyl-b-methyldigoxin-12	1081	3
Acetyldigoxin-12	Acetyldigoxin-12	1060	3
Acetylene	Acetylen	1182	0
Acetylgitoxin- 16	Acetylgitoxin- 16	1030	3
Acetylstrophanthidin-3	Acetylstrophanthidin-3	1024	3
Acetylthiocholine iodide	Acetylthiocholinjodid	987	3
Acid tar	Säureteer	333	3
Acovenoside-a	Acovenosid-A	969	3
Acrolein	Acrolein	9	3
Acroleincyanhydrindane-o-acetate	Acroleincyanhydrin-O-acetat	850	3
Acrylamide	Acrylamid	716	3
Acrylic acid	Acrylsäure	11	1
Acrylic-acid butyl ester	Acrylsäure-n-butylester	12	1
Acrylic-acid ethyl ester	Acrylsäureethylester	208	2
Acrylonitrile	Acrylnitril	10	3
Adenosine-5'-O-(thiodiphosphate), Trilithium-salt	Adenosin-5'-O-(thiodiphosphat), Trilithium-salz	1093	3
Adipic acid-2-ethylhexylester	Adipinsäuredi-2-ethylhexylester	626	1
Adipic acid-hexamethylenediamine salt	Adipinsäure-Hexamethylendiaminsalz	1342	1
Adipicacid (solid)	Adipinsäure 14	474	1
Adlpicdinitrile	Adipinsäuredinitril	209	1
Alcohol ethoxylate	Alkoholethoxylate	670	2
Aldrin	Aldrin	464	3
Alkane (C 10-21)sulfonic acid phenyl ester	Alkan (C 10-21)sulfonsäurephenylester	819	1

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
Alkoholethersulfate C 12-18 and 2-3 mol EO, Na-salt	Alkoholethersulfat C 12-18 und 2-3 mol EO, Na-Salze	665	2
Alkyl (C > 13)salicylate, branched Calcium and Magnesium salt	Alkyl (C > 13)salicylate, verzweigt Calcium- und Magnesiumsalze 35	1946	2
Alkyl (C 12-C 16)-pyridinium chloride and -bisulfate	Alkyl (C 12-C 16)-pyridiniumchlorid und -bisulfat	601	3
Alkyl (C 12-C 16)trimethylammoniumchloride and -bromide	Alkyl (C 12-C 16)trimethylammoniumchlorid und -bromid	600	3
Alkyl (C10-18)-chloride	Alkyl (C10-18)-Chlorid	1092	3
Alkyl (C15-C30)-benzenesulfonate, branched,	Alkyl (C15-C30)-benzolsulfonate, verzweigt,	1945	2
Alkyl (C8-C18)-benzyldimerthylammoniumchloride and -bromide	Alkyl (C8-C18)-benzyldimerthylammoniumchlorid und -bromid	599	3
Alkyl-(C 10/13)-benzene	Alkyl-(C 10/13)-benzol	90	1
Alkyl-(C 16-18)-Asparaginate-di-Sodium salt	Alkyl-(C16-18)asparaginsäure-di-natriumsalz	1910	1
Alkylolamide	Alkylolamide	673	2
Alkyl alcohol	Allylalkohol	444	2
Allyl-2,3-epoxypropylether	Allyl-2,3-epoxypropylether	1378	3
Allylamine	Allylamin	14	2
Allylammoniumchloride	Allylammoniumchlorid	525	2
Allylchloride	Allylchlorid	15	2
Aluminium oxide	Aluminiumoxid	1346	0
Aluminiumdiethylmonochloride	Aluminiumdiethylmonochlorid	1206	1
Aluminiumethylsesquichloride	Aluminiumethylsesquichlorid	1207	1
Aluminumchloride	Aluminiumchlorid 8	507	1
Aluminumhydroxy-chloride	Aluminiumhydroxychlorid 8	508	1
Aluminumnitrate	Aluminiumnitrat 8	509	1
Aluminumphosphide	Aluminiumphosphid	551	2
Aluminumsulfate	Aluminiumsulfat 8	486	1
Aminopterin	Aminopterin	871	3
Aminostilbentriazol	Aminostilbentriazol	1890	2
Aminotrimethylenphosphonic acid	Aminotrimethylenphosphonsäure	1821	1
Amitrol	Amitrol	1210	2
Ammonia	Ammoniak	211	2
Ammoniumarsenate	Ammoniumarsenat	289	3
Ammoniumbifluoride	Ammoniumhydrogenfluorid	292	1
Ammoniumbisulfate	Ammoniumhydrogensulfat	293	1
Ammoniumchloride	Ammoniumchlorid	213	1
Ammoniumdichromate	Ammoniumdichromat	290	3

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
Ammoniumeisen(II)-sulfate	Ammoniumeisen(II)-sulfat	513	1
Ammoniumfluoride	Ammoniumfluorid	291	1
Ammoniumhexafluorsilicate	Ammomumhexafluorsilikat	544	2
Ammoniummolybdate	Ammoniummolybdat	637	1
Ammoniummonochromate	Ammoniummonochromat	1033	3
Ammoniumnitrate	Ammoniumnitrat	212	1
Ammoniumperchlorate	Ammoniumperchlorat	294	1
Ammoniumperoxodisulfate	Ammoniumperoxodisulfat	836	1
Ammoniumpicrate	Ammoniumpikrat	295	2
Ammoniumsulfide	Ammoniumsulfid	297	2
Ammoniumsulphite	Ammoniumsulfit	296	1
Ammoniumthiocyanate	Ammoniumthiocyanat	1442	1
Ammoniumthiosulfate	Ammoniumthiosulfat	193	1
Amphotericin B	Amphotericin B	981	3
Anilazine	Anilazin	911	3
Aniline	Anilin	20	2
Anilinehydrochloride	Anilinhydrochlorid	298	2
Anisole	Anisol	21	2
Anisotropine methylbromide	Anisotropinmethylbromid	900	3
Anthrachinone	Anthrachinon	1217	1
Antimony(III)-oxide	Antimon(III)-oxid	979	2
Antimy cin A	Antimycin A	982	3
a-Olefin sulfonate C14-C18	a-Olefinsulfonate C 14-C 18	666	2
aqua regia	Königswasser	353	2
Argon	Argon	1348	0
Arsenic pentoxideor Arsenic (V) oxide	Arsen(V)-oxid	300	3
Arsenicacid	Arsensäure	301	3
Arsennons oxide orArsenic (III) oxide	Arsen(III)-oxid	299	3
Arsenoushydride(Arsine)	Arsenwasserstoff	214	3
Atrazine	Atrazin	24	2
Atropine	Atropin	867	2
Atropinmethonitrate	Atropinmethonitrat	869	3
Atropinmethylbromide	Atropinmethylbromid	998	3
Atropinsulfate	Atropinsulfat	876	3
Ottokraftstoffe, als krebserzeugend (R 45) gekennzeichnet	Automobile fuel classified as carcinogenic (R 45)	204	3
Azocyclotin	Azocyclotin	534	3
Barium carbonate	Bariumcarbonat	781	0
Barium selenate	Bariumselenat	1830	2

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
Barium selenite	Bariumselenit	1841	2
Barium sulfate	Bariumsulfat	308	0
Bariumchlorate	Bariumchlorat	302	2
Bariumchloride	Bariumchlorid	25	1
Bariumcyanide	Bariumcyanid	303	3
Bariumnitrate	Bariumnitrat	304	1
Bariumoxide	Bariumoxid	305	1
Bariumperchlorate	Bariumperchlorat	306	1
Bariumperoxide	Bariumperoxid	307	1
Bentazon	Bentazon	711	2
Benzal chloride	Benzalchlorid	1225	2
Benzaldehyde	Benzaldehyd	26	2
Benzene	Benzol	29	3
Benzene sulfonylchloride	Benzolsulfonylchlorid	215	1
Benzildimethyl ketal	Benzildimethylketal	1444	2
Benzoguanamine	Benzoguanamin	785	2
Benzoic acid	Benzoesäure	30	1
Benzoic acid methyl ester	Benzoesäuremethylester	1547	1
Benzonitrile	Benzonitril	31	2
Benzoxonium chloride	Benzoxoniumchlorid	1058	3
Benzyl (n-butyl)phthalate	Phthalsäurebenzyl-n-butylester	278	2
Benzylalcohol	Benzylalkohol	216	1
Benzylchloride	Benzotrichlorid	32	1
Benzylchloride	Benzylchlorid	33	2
Beryllium nitrate	Berylliumnitrat	34	2
Beta-Carotene	ß-Carotin 14	1416	1
Bis-(2-chloroethyl)ether	Bis-(2-chlorethyl)ether	718	2
Bis-(chloromrthyl)ether	Bis-(chlormethyl)ether	956	3
Bis-(tributyltin)-tetrachlorophthalate	Bis-(tributylzinn)-tetrachlorphthalat	565	3
Bitumen	Bitumen	326	0
Boric acid	Borsäure	315	1
Bromelain	Bromelain	1036	3
Bromoacetic Acid	Bromessigsäure	728	2
Bromochlorodifluoromethane	Bromchlordifluormethan	1360	0
Bromocyan	Bromcyan	947	3
Bromophos	Bromophos	617	3
Bromtrifluoromethane 14	Bromtrifluormethan 14	782	1
Brown coaltar	Braunkohlenteer	496	3

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
Brucine	Brucin	941	3
Busulfan	Busulfan	877	3
Butyl stannonsacid	Butylstannonsäure	577	1
Butyl thiostannoicacid	Butylthiostannonsäure	578	1
Butyldiethanolamine	Butyldiethanolamin	1572	1
Actinomycine	Actinomycin C-1	863	3
Cadmium acetate	Cadmiumacetat	851	3
Cadmium iodide	Cadmiumjodid	1034	3
Cadmium nitrate	Cadmiumnitrat	49	3
Cadmium Sulfate	Cadmiumsulfat	564	3
Cadmium sulfide	Cadmiumsulfid	1740	3
Calcium acetate 14	Calciumacetat 14	1943	1
Calcium arsenate	Calciumarsenat	360	3
Calcium arsenite	Calciumarsenit	316	3
Calcium carbide	Calciumcarbid	791	1
Calcium carbonate	Calciumcarbonat	317	0
Calcium carbonate	Calciumcarbonat	317	0
Calcium chlorate	Calciumchlorat	318	2
Calcium chloride	Calciumchlorid 14	220	1
Calcium Cyanamid	Calciumcyanamid	790	2
Calcium cyanide	Calciumcyanid	319	3
Calcium fluoride	Calciumfluorid	804	0
Calcium hydroxide	Calciumhydroxid	320	1
Calcium nitrate	Calciumnitrat	321	1
Calcium oxide	Calciumoxid	322	1
Calcium oxide	Calciumperoxid	324	1
Calcium perchlorate	Calciumperchlorat	323	1
Calcium sulfate	Calciumsulfat 14	325	1
Canthaxanthin	Canthaxanthin	1680	0
Carbaryl	Carbaryl	50	3
Carbon	Kohlenstoff	801	0
Carbon dioxide	Kohlenstoffdioxid	256	0
Carbon disulfide	Schwefelkohlenstoff	183	2
Carbon monoxide	Kohlenstoffmonoxid 14	257	1
Carbon tetrachloride	Tetrachlorkohlenstoff	189	3
Carbonic acid	Kohlensäure	354	0
Chinoleine	Chinolin	1299	2
Chloracetamide	Chloracetamid	1517	2

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
Chloral hydrate	Chloralhydrat	51	3
Chloramine-T	Chloramin T	640	2
Chloressigsäureethylester	Chloressigsäureethylester	1129	2
Chlorfenvinphos	Chlorfenvinphos	631	3
Chlorhexidin	Chlorhexidin	602	3
Chlorine	Chlor	223	2
Chloroacetic acid	Chloressigsäure	227	2
Chloroalkane	Chloralkane (C 10-C 13)	649	3
Chlorobenzol	Chlorbenzol	53	2
Chlorocyane	Chlorcyan	948	3
Chloroethane	Chlorethan	793	2
Chloroform	Chloroform	54	3
Chloropentafluoroethane	Chlorpentafluorethan	1115	1
Chlorosilane	Chlorsilane 13	557	1
Chlorosulfonic acid	Chlorsulfonsäure	236	2
Chlorphyrifos	Chlorpyrifos	622	3
Chlorthiophos	Chlorthiophos	619	3
Choline chloride	Cholinchlorid	1134	1
chromic acid cleaning mixture	Chromschwefelsäure	327	3
Chromium (III)- chloride, hexahydrate	Chrom(III)-chlorid, Hexahydrat	807	2
Chromium (III)- chloride, free of water	Chrom(III)-chlorid, wasserfrei	844	1
Chromium III oxide	Chrom(III)-oxid	806	0
Chromium trioxide (Chromic acid)	Chromtrioxid (Chromsäure)	328	3
chromium(III) sulfate, free of water	Chrom(III)-Sulfat, wasserfrei	841	1
chromium(III) sulfate, alkaline	Chrom(III)-Sulfat, basisch	809	2
Chromium(III)-nitrate, nonahydrate	Chrom(III)-nitrat, Nonahydrat	810	2
Chromolchloride	Chromylchlorid	329	3
Chromomycin A	Chromomycin A	1027	3
Cimetropium bromide	Cimetropiumbromid	1080	3
Citral	Citral	1173	1
Citricacid	Citronensäure 14	57	1
Citronellal	Citronellal	1591	1
Citronellol	Citronellol	1590	1
Climbazol	Climbazol	1078	3
Clonidine hydrochloride	Clonidinhydrochlorid	1005	3
Clonitralid	Clonitralid	862	3
Cobalt (II) chloide	Kobalt(II)-chlorid	493	2
Cobalt (II) nitrate	Kobalt(II)-nitrat	520	2

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
Cobalt (II) sulfate	Kobalt(II)-sulfat	521	2
Colcemid	Colcemid	944	3
Colchicine	Colchicin	888	3
Copper (I) chloride	Kupfer(I)-chlorid	358	2
Copper (II) arsenite	Kupfer(II)-arsenit	355	3
Copper (II) arsenite acetate	Kupfer(II)-arsenitacetat	356	3
Copper (II) chlorate	Kupfer(II)-chlorat	357	2
Copper (II) chloride	Kupfer(II)-chlorid	359	2
Copper phthalocyanin	Kupferphthalocyanin	1339	0
Crotonaldehyde	Crotonaldehyd	239	3
crotonic acid	Crotonsäure	1787	1
Crude oil (light1 liquid)	Rohöle (leichtflüssige, kin.Visk. bei 20 °C < 30 cSt, < 0,1 % Benzol)	440	2
Crude oil (thick and solid)	Rohöle (zähflüssige und feste, kin. Visk. bei 20 °C = 30 cSt)	439	1
Cumene	Cumol	58	1
Cumenehydroperoxide	Cumolhydroperoxid	59	2
Cumylperoxyneodecanoate	Cumylperoxyneodecanoat	1470	2
Cyanacetylmethylurea	Cyanacetylmethylharnstoff	1825	1
Cyanamide	Cyanamid	789	2
Cyclododecane	Cyclododecan	777	0
Cycloheptane	Cycloheptan	61	1
Cycloheptene	Cyclohepten	62	1
Cyclohexane	Cyclohexan	63	1
Cyclohexanol	Cyclohexanol	240	1
Cyclohexanone	Cyclohexanon	64	1
Cyclohexene	Cyclohexen	65	1
Cyclohexylacetate	Essigsäurecyclohexylester	66	1
Cyclohexylamine	Cyclohexylamin	67	1
Cyclohexylammoniumchloride	Cyclohexylammoniumchlorid	529	1
Cyclohexylmethanol	Cyclohexylmethanol	1564	1
Cyclohexylmethylketone	Cyclohexylmethylketon	1396	1
Cyclopentane	Cyclopentan	478	1
Cyclopentanole	Cyclopentanol	68	1
Cyclopentanone	Cyclopentanon	69	1
Cyclophosphamide	Cyclophosphamid	860	3
Cyclopropylmethylbromide	Cyclopropylmethylbromid	1026	3
Cyfluthrin	Cyfluthrin	678	3
Cyhexatin	Cyhexatin	451	3

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
Cymarin	Cymarin	950	3
Cymarol	Cymarol	942	3
Cypermethrin	Cypermethrin	679	3
Dazomet	Dazomet	1180	3
Decyloxirane	Decyloxiran	1775	1
Dehydrothio-4-toluidino disulonic acid, Di-Sodium-salt	Dehydrothio-4-toluidindisulonsäure, Di-Na-salz	1872	2
Deltamethrin	Deltamethrin	680	3
Demeton-S-methylsulphone	Demeton-S-methylsulphon	607	2
Diacetone alcohol	Diacetonalkohol	72	1
Dialifos	Dialifos	629	3
Dialkyl(C16-C18)dimethyl ammoniumchloride	Dialkyl(C 16-C 18)dimethylammoniumchlorid	674	2
Diallyl phthalate	Phthalsäurediallylester	173	2
Diazinon	Diazinon	609	3
Dibasic sodiumphosphate	Dinatriumhydrogenphosphat	330	1
Dibutylethanolamin	Dibutylethanolamin	1573	1
Dichloromethane	Dichlormethan	149	2
Dichloroacetic acid	Dichloressigsäure	243	1
Dichloroacetylchloride	Dichloracetylchlorid	1117	1
Dichlorvos	Dichlorvos	632	3
Dicyandiamide	Dicyandiamid	247	1
Didodecyltin-bis-(isooctyl thioglycolate)	Didodecylzinnbis-(thioglycolsäureisooctylester)	574	1
Dieldrin	Dieldrin	467	3
Diesel fuel	Dieselkraftstoff	76	2
Diethanolamine	Diethanolamin	77	1
Diethanolammoniumchloride	Diethanolammoniumchlorid	531	1
Diethyl oxalate	Oxalsaurediethylester	81	1
Diethylamine	Diethylamin	248	1
Diethylaminoethylcellulose	Diethylaminoethylcellulose	1487	0
Diethylaminoethylcellulose	Diethylaminoethylcellulose	1487	0
Diethylammoniumchloride	Diethylammomumchlorid	447	1
diethylene glycol	Diethylenglycol	79	1
Diethylethanolamin	Diethylethanolamin	1288	1
Diethylether	Diethylether	80	1
Diethylphthalate	Phthalsäurediethylester	174	2
Diisobutylketone	Diisobutylketon	591	1
Diisopropylamine	Diisopropylamin	614	2

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
Diisopropylammoniumchloride	Diisopropylammoniumchlorid	605	2
Diisopropylether	Diisopropylether	598	1
Dimethoate	Dimethoat	249	3
Dimethyl ammoniumchloride	Dimethylammoniumchlorid	457	1
Dimethylamine	Dimethylamin	250	2
Dimethylether	Dimethylether	714	1
Dimethylsulfate	Dimethylsulfat	734	2
Dimethyltin-bis-(isoctyl thio-glycolate)	Dimethylzinnbis-(thioglycolsäureisooctylester)	575	2
Disodium salt of Benzidine	DinatriumsalzBenzidin	905	3
Di-n-butyl ammoniumchloride	Di-n-butylammoniumchlorid	610	1
Di-n-butylamine	Di-n-butylamin	593	1
Di-n-butylether	Di-n-butylether	73	2
Di-n-butylformal	Di-n-butylformal	1764	1
Dinoseb	Dinoseb	85	2
Dioctyltin-bis-(isoctyl thio-glycolate)	Dioctylzinnbis-(thioglycolsäureisooctylester)	571	2
Dioctyltinoxide	Dioctylzinnoxid	570	2
Dipentene	Dipenten	87	1
Diphenyl methane diisocyanate	Diphenylmethandiisocyanat		
Diphenylether	Diphenylether	88	2
Diphylmethane	Diphenylmethan	89	2
Disulfoton	Disulfoton	620	3
Di-tert. Butylperoxid	Di-tert. Butylperoxid	1103	1
Dodecyldimethylamin	Dodecyldimethylamin	1259	2
Dodecyloxiran	Dodecyloxiran	1784	1
Dodecylstannonsäure	Dodecylstannonsäure	584	1
Dodecyltin oxide	Didodecylzinndichlorid	572	1
Dodecyltin oxide	Didodecylzinnoxid	573	1
e-Caprolactame	E-Caprolactam	221	1
Edifenphos	Edifenphos	1048	3
Endrin	Endrin	469	3
Epichlorhydrin	Epichlorhydrin	92	3
Ethane	Ethan	91	0
Ethanol	Ethanol 10 14	96	1
Ethanolamine	Ethanolamin	94	1
Ethanolammonium chloride	Ethanolammoniumchlorid	533	1
Ethene	Ethen	742	0
Ethephon	Ethephon	689	2
Ethoprophos	Ethoprophos	650	3

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
Ethyl acetoacetate oder acetoacetic ester	Acetessigsäureethylester	4	1
Ethyl formaline	Ameisensäuremethylester	733	1
Ethyl parathion	Parathionethyl	167	3
Ethyl propionate	Propionsäureethylester	110	1
Ethylacetate	Essigsäureethylester	95	1
Ethylamine	Ethylamin	97	1
Ethylammonium chloride	Ethylammoniumchlorid	558	1
Ethylazinphos	Azinphos-ethyl	627	3
Ethylbromophos	Bromophos-ethyl	618	3
Ethylendiamine	Ethylendiamin	103	2
Ethylendiamin-Hydrochloride	Ethylendiamin-Hydrochlorid	535	2
Ethyleneglycol	Ethylenglycol 11 14	105	1
Ethyleneglycol-mon-omethylether	Ethylenglycolmonomethylether	107	1
Ethyleneglycol-mono-n-butylether	Ethylenglycolmono-n-butylether	47	1
Ethylenimine	Ethylenimin	108	3
Ethylenoxide	Ethylenoxid	253	2
Ethyl-n-amylketone	Ethyl-n-amylketon	98	1
Ethyl-n-butyrate	n-Buttersaureethylester	100	1
Ethylpolysilicate	Ethylpolysilikat	488	1
Etrimphos	Etrimphos	623	3
Fatty acid, saturated, not branched with carbon-number between 8 - 12 and an end carboxyl group 11	Fettsäuren, gesättigt. Unverzweigt mit C-Zahl von 8 - 12 und einer endständigen Carboxylgruppe 11	657	1
Fatty acid, unsaturated, not branched with an even numbered carbon-chain, carbon-number between 16-18 and an end carboxyl group 11	Fettsäuren, ungesärtigt, unverzweigt mit geradzahliger C-Kette- C-Zahl von 16 -18 und einer endständigen Carboxylgruppe 11	659	1
Fatty acids, C16/18-triethylene Glycol diester	Fettsäuren C16/18-Triethylenglykoldiester	1419	0
Fatty acids, C16-18 and C18 unsaturated isobutyl ester	Fettsäuren C 16 - 18 und C 18 ungesättigt, Isobutylester	1435	0
Fatty acids, C16-18, 2-hexyl decyl-ester	Fettsäuren C16 - 18, 2-Hexyldecyl-ester	1915	0
Fatty acids, saturated, straight with even-numbered C-chain and C-number = 14 and a terminal carboxyl group	Fettsäuren, gesättigt, unverzweigt mit-geradzahliger C-Kette und- C-Zahl = 14 und einer endständigen Carboxylgruppe	661	0
Fatty alcohol-EO/PO-adducts	Fettalkohol- EO/PO-Addukte	672	2
Fatty alcohols, saturated, with - even-numbered C-chain and - C-number = 14 and - a terminal OH group	Fettalkohole, gesättigt mit geradzahliger C-Kette C-Zahl mind. 14 und einer endständigen OH Gruppe	656	0

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
Fatty alcohols, unsaturated, with - even-numbered straight C-chain and - C-number from 16-18 and - a terminal OH group	Fettalkohole, ungesättigt mit, geradzahliger, unverzweigter C-Kette C-Zahl von 16-18 und einer endständigen OH Gruppe	658	0
Fenpropathrin	Fenpropathrin	681	3
Fenthion	Fenthion	616	3
Fenvalerat	Fenvalerat	682	3
Fluoroacetic acid	Fluoressigsäure	156	3
Flutropium bromide	Flutropiumbromid	1088	3
Folic acid	Folsäure	1504	1
Formaldehyde	Formaldehyd	112	2
Formamide	Formamid	1509	1
Formetanate	Formetanat	1065	3
Formetanate hydrochloride	Formetanathydrochlorid	1066	3
Formicacid	Ameisensäure	210	1
Fuchsin(e)	Fuchsin	857	3
Fufural	Furfural	113	2
Fumaric acid	Fumarsäure	1191	1
Furfuyl alcohol	Furfurylalkohol	114	1
Geranyl acetone	Geranylaceton	1410	2
Gitalin	Gitalin	980	3
Gitaloxin	Gitaloxin	1001	3
Gitoxigenin	Gitoxigenin	957	3
Gitoxin	Gitoxin	1011	3
Glutardialdehyde	Glutardialdehyd	712	2
Glutaric acid	Glutarsäure	1296	1
Glycerine	Glycerin 14	116	1
Glycerine diester	Glycerindiester (Fettsäurerest unverzweigt mit C-Zahl 8 und endständiger Carboxylgruppe 11 14	691	1
Glycerine monoester	Glycerinmonoester (Fettsäurerest unverzweigt mit C-Zahl 8 und endständiger Carboxylgruppe 11 14	690	1
Glyoxal	Glyoxal	1130	1
Guanidinhydrochloride	Guanidinhydrochlorid	788	1
Guanidinnitrate	Guanidinnitrat	787	1
Heating oil, heavy	Heizöl, schwer	443	1
Heating oil EL	Heizöl EL	119	2
Heptenophos	Heptenophos	651	3

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
Hexachlorbutadiene	Hexachlorbutadien	123	3
Hexachlorobenzene	Hexachlorbenzol	470	3
Hexafluorosilicicacid	Hexafluorkieselsäure	491	2
Hydrazine	Hydrazin	130	3
Hydriquione	Hydrochinon	128	2
Hydrocyanic acid	Blausäure	9	3
Hydrogen	Wasserstoff	741	0
Hydrogen bromide (hydrobromide acid)	Bromwasserstoff	217	1
Hydrogen fluoride	Fluorwasserstoff	254	1
Hydrogen iodide(Hydroiodic acid)	Jodwasserstoff	332	1
Hydrogen selenide	Selenwasserstoff	284	3
Hydrogen sulfide	Schwefelwasserstoff	283	2
Hydrogenchloride	Chlorwasserstoff 8	238	1
Hydroquione monomethylether	Hydrochinonmonomethylether	129	1
Imidazoline salt	Imidazoliniumsalz	675	2
Iodine	Jod	492	1
Iron	Eisen	748	0
Iron (111) hydroxide	Eisen(III)-hydroxidoxid	752	0
Iron (II) chloride	Eisen(II)-chlorid	524	1
Iron (II) Sulfate	Eisen(II)-Sulfat 8	514	1
Iron (III) nitrate	Eisen(III)-nitrat 8	516	1
Iron II oxide	Eisen(11)-oxid	750	0
Iron II, III oxide	Eisen(II,III)-oxid	751	0
Iron III oxide	Eisen(III)-oxid	800	0
Isoamyl alcohol	Isoamylalkohol	597	1
Isobutane	Isobutan	562	0
Isobutanol	Isobutanol	131	1
Isobutyl acetate	Essigsäureisobutylester	133	1
Isobutyrenitrile	Isobuttersäurenitril	132	2
Isofenphos	Isofenphos	684	3
Isopentane	Isopentan	648	1
Isopropanol	Isopropanol	135	1
Isopropyl acetate	Essigsäureisopropylester	136	1
Isopropyl myristate	Isopropylmyristat	1608	0
Isostearic acid	Isostearinsäure	1423	0
IXylene (all isomers)	Xylol (alle Isomere)	206	2
Kaliumacetat	Kaliumacetat	757	
L(+)-Ascorbic acid	L(+)-Ascorbinsäure	737	1

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
l,l-Dichloroethan	l,l-Dichlorethan	895	3
Lead (II) acetate	Blei(II)-acetat	36	2
Lead (II) arsenate	Blei(II)-arsenat	310	3
Lead (II) arsenite	Blei(II)-arsenit	311	3
Lead (II) cyanide	Blei(II)-cyanid	312	3
Lead (II) nitrate	Blei(II)-nitrat	313	2
Lead (II) per-chlorate	Blei(II)-perchlorat	314	2
Lindane	Lindan	143	3
Lubricating oil(crude oil unmixed or unrefined, highest boiling-point over 400°C)	Schmieröle (Grundöle, unlegierte, außer dunkle Prozeßöle, obere Siedegrenze > 400 °C)	435	1
Lubricating oil(refined or mixed, emulsified, highest boiling-point over 400°C)	Schmieröle (legierte, emulgierbare und nicht emulgierbare, obere Siedegrenze > 400 °C) 19	436	2
Magnesiumarsenate	Magnesiumarsenat	361	3
Magnesiumchlorate	Magnesiumchlorat	362	2
Magnesiumchloride	Magnesiumchlorid 14	259	1
Magnesiumhexa fluorsilicate	Magnesiumhexafluorsilikat	518	2
Magnesiumnitrate	Magnesiumnitrat	363	1
Magnesiumper chlorate	Magnesiumperchlorat	364	1
Magnesiumperoxide	Magnesiumperoxid 14	365	1
Magnesiumphosphide	Magnesiumphosphid	552	2
Magnesiumsulfate	Magnesiumsulfat 14	366	1
Malathion	Malathion	615	3
Maleic acid	Maleinsäure	260	1
m-Aminoacetanilide, Hydrochloride	m-Aminoacetanilid, Hydrochlorid	1711	2
Manganese (II) chloride	Mangan(II)-Chlorid	494	1
Manganese (II) sulfate	Mangan(II)-Sulfat	522	1
Manganese anhydride	Maleinsäureanhydrid	261	1
m-Cresol	m-Kresol	140	2
Mercury	Quecksilber	393	3
Mercury (I) bromide	Quecksilber(I)-bromid	397	3
Mercury (I) chloride	Quecksilber(I)-chlorid	399	3
Mercury (I) nitrate	Quecksilber(I)-nitrat	405	3
Mercury (I) sulfate	Quecksilber(I)-sulfat	411	3
Mercury (II) acetate	Quecksilber(II)-acetat	394	3
Mercury (II) arsenate	Quecksilber(II)-arsenat	395	3
Mercury (II) benzoate	Quecksilber(II)-benzoat	396	3
Mercury (II) bromide	Quecksilber(II)-bromid	398	3

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
Mercury (II) chloride	Quecksilber(II)-chlorid	180	3
Mercury (II) cyanide	Quecksilber(II)-cyanid	400	3
Mercury (II) diamine chloride	Quecksilber(II)-diamminchlorid	401	3
Mercury (II) disulfonate	Quecksilher(II)-disulfat	402	3
Mercury (II) gluconate	Quecksilber(II)-gluconat	403	3
Mercury (II) iodide	Quecksilber(II)-jodid	404	3
Mercury (II) nitrate	Queckailber(II)-nitrat	406	3
Mercury (II) oleate	Quecksilber(II)-oleat	407	3
Mercury (II) oxide	Quecksilber(II)-oxid	408	3
Mercury (II) oxycyanide	Quecksilber(II)-oxidcyanid	409	3
Mercury (II) salicylate	Quecksilber(II)-salicylat	410	3
Mercury (II) sulfate	Quecksilher(II)-Sulfat	412	3
Mercury (II) thiocyanate	Quecksilber(II)-thiocyanat	413	3
Mesityloxide	Mesityloxid	262	1
Metals, if solid, not in colloidal solution and do not react with water or atmospheric oxygen	Metalle, soweit sie fest sind, nicht in kolloidaler Lösung vorliegen und nicht mit Wasser oder Luftsauerstoff reagieren	1443	0
Methamidophos	Methamidophos	688	3
Methane	Methan	1343	0
Methanol	Methanol	145	1
Methidathion	Methidathion	653	3
Methy methacrylate	Methacrylsäuremethylester	154	1
Methyl acetate	Essigsäuremethylester	146	1
Methyl acrylate	Acrylsäuremethylester	147	2
Methyl chloroacetate	Chloressigsäuremethylester	228	2
Methyl demeton-S	Demeton-S-methyl	655	3
Methyl ethyl ketone	Methylethylketon	150	1
Methyl oxicemeton	Oxidemeton-methyl	608	3
Methyl parathion	Parathionmethyl	274	3
Methyl prirmiphos	Pirimiphos-methyl	676	3
Methyl propionate	Propionsäuremethylester	153	1
Methyl toclofos	Tolclofos-methyl	685	3
Methylacetoacetate	Acetessigsäuremethylester	5	1
Methylamine	Methylamin	263	2
Methylammoniumchlor	Methylammoniumchlorid	459	1
Methylazinphos	Azinphos-methyl	628	3
Methylbromide	Methylbromid	264	3
Methylchloride	Methylchlorid	265	2
Methylisoamylketone	Methylisoamylketon	152	1

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
Methylisobutylketone	Methylisobutylketon	137	1
Mevinphos	Mevinphos	633	3
Monobutyl tin tri-chloride	Monobutylzinntrichlorid	579	1
Monobutyl tin-tris-(isoctyl thio-glycolate)	Monobutylzinntris-(thioglycolsäureisooctylester)	580	1
Monodocecyltin-tris-(isoctyltioglycolate)	Monododecylzinntris-(thioglycolsäureisooctylester)	586	1
Monododecyltin tri-chloride	Monododecylzinntrichlorid	585	1
Monomethyltin-tris-(isoctylester gly-colate)	Monomethylzinntris-(thioglycolsäureisooctylester)	576	2
Monooctyl tin-tris-(isooctylthioglycolate)	Monooctylzinntris-(thioglycolsäureisooctylester)	583	1
Monooctyltin trichloride	Monoocrylzinntrichlorid	582	1
Morpholine	Morpholin	158	2
n-(2-acetoxyethyl)-1,2,3,4-tetrahydro-2,2,4-trimethylquinoline	N-(2-Acetoxyethyl)-1,2,3,4-tetrahydro-2,2,4-trimethylchinolin	1891	2
N-(3-Diethylaminopropyl)amine	N-(3-Diethylaminopropyl)amin	1580	1
N,N-Dibutylformamide	N,N-Dibutylformamid	1721	1
N,N-Diethylaniline	N,N-Diethylanilin	1340	
N,N-Dimethylaniline	N,N-Dimethylanilin	1152	2
N+-acetyl-n- metyl-p-phenylendiamine	N+-Acetyl-N- metyl-p-phenylendiamin	1637	1
n-Alkanesulfonyl chloride (C 10-21)	n-Alkansulfochlorid (C 10-21)	1250	1
N-Alkyl (C12/18)-oxi-2-hydroxypropyldime-thyl-cyclohexylammoniumchloride	N-Alkyl (C12/18)-oxi-2-hydroxypropyldi-me-thyl-cyclohexylammoniumchlorid	1091	3
N-Allylthiourea	N-Allylthioharnstoff	16	2
n-Amylacetate	Essigsäure-n-amylester	17	1
n-Amylalcohol	n-Amylalkohol	18	1
Naphthalene	Naphthalin	269	2
Natural substances such as minerals, sand, wood, carbon and pulp, and glass and ceramic materials, if solid, non-dispersed, not water-soluble and inert	Naturstoffe wie Mineralien, Sand, Holz, Zellstoff sowie Gläser und Keramische Materialien, soweit sie fest, nicht dispergiert, wasserunlöslich und indifferent sind	765	0
n-Butane	n-Butan	792	0
n-Butanol	n-Butanol	39	1
n-Butene-1	n-Buten-1	561	0
n-Butyl amine	n-Butylamin	44	1
n-Butyl phosphate	Phosphorsäuretri-n-butylester	196	2
n-Butylacetate	Essigsäure-n-butylester	42	1
n-Butylaldehyde	n-Butylaldehyd	48	1
n-Butylamine	tert.-Butylamin	1510	1

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
n-Butylammoniumchloride	n-Butylammoniumchlorid	527	1
n-Butylglycolate	Glycolsäure-n-butylester	117	1
n-Butyric acid	n-Buttersäure	41	1
n-Decanol	n-Decanol	71	1
N-Ethylaniline	N-Ethylanilin	252	1
n-Heptane	n-Heptan	120	1
n-Heptanol-1	n-Heptanol-1	121	1
n-Heptene-1	n-Hepten-1	122	1
n-Hexane	n-Hexan	124	1
n-Hexanol-1	n-Hexanol-1	125	1
n-Hexanol-2	n-Hexanol-2	126	1
n-Hexanol-3	n-Hexanol-3	127	1
Nickel (II) chloride	Nickel(II)-chlorid	159	2
Nickel (II) nitrate	Nickel(II)-nitrat	387	2
Nickel (II) nitrite	Nickel(II)-nitrit	388	2
Nitric acid (except fuming)	Salpetersäure (außer rauchende)	414	1
Nitric acid (fuming)	Salpetersäure (rauchende)	415	2
Nitric and sulfuric acid	Nitriersäure	389	2
Nitrilotriaceticacid and sodium salt	Nitrilotriessigsäure mit Natrium- und Kaliumsalzen	160	1
Nitrobenzene	Nitrobenzol	163	2
Nitroethane	Nitroethan	588	2
Nitroethane	Nitromethan	589	2
Nitrogen	Stickstoff	1351	0
Nitrogen oxides	Stickoxide	285	1
Nitrosylchloride	Nitrosylehlorid	271	2
n-Octane	n-Octan	479	1
n-Octanol-1	n-Octanol-1	165	1
N-Octene-1	n-Octen-1	480	1
Nonylphenolethoxylate	Nonylphenolethoxylate	671	2
n-Pentane	n-Pentan	452	1
n-Propanol	n-Propanol	176	1
n-vinyl-nmethylacetamide	N-Vinyl-N-methylacetamid	1783	1
o-Chlorobenzonitrile	o-Chlorbenzonitril	1727	2
o-Chlorobenzoylchloride	o-Chlorbenzoylchlorid	1697	1
Omethoate	Omethoat	273	3
Ortho- triethyl formate	ortho-Ameisensäuretriehtylester	1195	1
Oxalic acid	Oxalsäure	166	1
Oxygen	Sauerstoff	743	0

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
P,p'-DDD	P,p'-DDD	465	3
P,p'-DDE	P,p'-DDE	466	3
P,p'-DDT	P,p'-DDT	70	3
Palmitic acid isopropyl ester	Palmitinsäureisopropylester	1669	0
p-Aminoacetanilide	p-Aminoacetanilid	1649	1
Paraffin (waxes)	Paraffine (Wachse)	268	0
p-Chlorobenzonitrile	p-Chlorbenzonitril	1713	2
p-Chlorobenzotrichloride	p-Chlorbenzotrichlorid	1265	1
p-Chlorobenzotrifluoride	p-Chlorbenzotrifluorid	1112	2
Pentachlorphenol	Pentachlorphenol	275	3
Pentaerythritol tetra fatty acid ester (C6-C10)	Pentaerythrittetrafettsäureester (C6-C10)	770	0
Perchloric acid	Perchlorsäure	390	1
Permethrin	Permethrin	683	3
Petroleum coke	Petrolkoks	433	0
Phenol	Phenol	170	2
Phenyl aetate	Essigsäurephenylester	171	2
Phosalon	Phosalon	630	3
Phosphamidon	Phosphamidon	652	3
Phosphine (or phos-Phorous hydride)	Phosphorwasserstoff	277	2
Phosphoric acid	Phosphorsäure	392	1
Phosphorous penta-Oxide	Phosphorpentoxid	391	1
Phoxim	Phoxim	686	3
Phthalic acid	Phthalsäure 14	481	1
Picric acid	Pikrinsäure	175	2
Plastics, including granulates, preformed parts, fibres, sheets and plastic resins, if solid, non-dispersed, not water-soluble and inert	Kunststoffe, z.B. Granulate, Formteile, Fasern, Folien, Kunststoffharze, soweit sie fest, nicht dispergiert, wasserunlöslich und indifferent sind	766	0
Polychlorinatedbiphenyls and terphenyls 34	Polychlorierte Biphenyle und Terphenyle 34		
Polychlorinatednapthalene	Polychlorierte Naphthaline	523	3
Polyethyleneglycol	Polyethylenglycol 11	279	1
Polymeric dispersion agent	Polymerdispersionen 12	662	1
Potassium alum	Kaliumalaun	510	1
Potassium antimonate	Kaliumantimonat (V)	22	3
Potassium antimonyl tartrate	Kaliumantimonyltartrat	334	3
Potassium arsenate	Kaliumarsenat	335	3
Potassium arsenite	Kaliumarsenit	336	3
Potassium carbonate	Kaliumcarbonat	337	1
Potassium chlorate	Kaliumchlorat	52	2

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
Potassium chloride	Kaliumchlorid	230	1
Potassium chromate	Kaliumdichromat	339	3
Potassium cyanide	Kaliumcyanid	338	3
Potassium ferric cyanide	Kaliumhexacyanoferrat (111)	490	1
Potassium ferric cyanide	Kaliumhexacyanoferrat (11)	489	1
Potassium fluoride	Kaliumfluorid	341	1
Potassium hexafluorosilicate	Kaliumhexafluorsilikat	517	2
Potassium hydrogen fluoride	Kaliumhydrogenfluorid	342	1
Potassium hydrogen sulfate	Kahumhydrogensulfat	343	1
Potassium hydrogen sulfide	Kaliumhydrogensulfid	344	2
Potassium hydroxide	Kaliumhydroxid	345	1
Potassium mercury (II) tetracyanide	Kaliumtetracyanomercurat (11)	351	3
Potassium mercury (II) tetraiodide	Kahumtetrajodomercurat (II)	352	3
Potassium nitrate	Kaliumnitrat	346	1
Potassium nitrite	Kaliumnitrit	347	2
Potassium oxide	Kaliumoxid	348	1
Potassium perchlorate	Kaliumperchlorat	169	1
Potassium peroxide	Kaliumperoxid	349	1
Potassium sulfate	Kaliumsulfat	255	1
Potassium sulfide	Kaliumsulfid	350	2
Prometon	Prometon	613	2
Propane	Propan	560	0
Propargyl alcohol	Propargylalkohol	177	2
Propene	Propen	560	0
Propionic acid	Propionsäure	483	1
Propylene glycol	1,2-Propylenglycol 14	280	1
Pyrazophos	Pyrazophos	624	3
Pyridine	Pyridin	179	2
Pyrocatechol	Brenzcatechin	536	2
Pyrosulfuric acid(oleum)	Dischwefelsäure (Oleum)	331	2
quinomethionate	Chinomethionat	993	3
Salicyl aldehyde	Salicylaldehyd	181	2
Salicylic acid	Salicylsäure	281	1
Sodium nitrate	Natriumnitrat	378	1
sec-Butanol	sek.Butanol	40	1
Secondary Alkane (C 13-C 17)sulfonate	sek. Alkan(C 13-C 17)sulfonate	663	2
Selenium dioxide	Selendioxid	419	2
Selenium acid	Selensäure	420	2

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
Silane (solid andliquid)	Silane (feste und flüssige) 13	566	1
Silanol	Silanole 13	568	1
Silica acid, magnesium salt	Kieselsäure, Magnesium-Salz	1315	0
Silicon B	Siicone B 13	543	1
Silicon dioxide	Siliciumdioxid	849	0
Silicon dioxide, surface-treated with hexamethyldisilazane, hydrohobic	Siliciumdioxid, mit Hexamethyldisilazan oberflächenbehandelt, hydrophob	1429	0
Silicone A	Silicone A 13	542	1
Silver arsenite	Silberarsenit	421	3
Silver nitrate	Silbernitrat 8	185	3
Simazin	Simazin	603	2
Sodium acetate	Natriumacetat 14	367	
Sodium adipate	Natriumadipat 14	475	1
Sodium alkyl (C8- C20) sulfate	Natriumalkyl (C8-C20)sulfate	664	2
Sodium arsenite	Natriomarsenit	368	3
Sodium arsentae	Natriumarsenat	23	3
Sodium azide	Natiriumazid	636	2
Sodium bicarbonate	Natriumhydrogencarbonat 14	374	1
Sodium bifluoride	Natriumhydrogenfluorid	375	1
Sodium bisulfate	Natriumhydrogensulfat	376	1
Sodium bromide	Natriumbromid	38	1
Sodium carbonate	Natriumcarbonat 8	222	1
Sodium chlorate	Natriumchlorat	370	2
Sodium chloride	Natriumchlorid 14	270	1
Sodium chlorite	Natriumchlorit 8	487	2
Sodium chloro-acetate	Natriumchloracetat	369	2
Sodium cyanide	Natriumcyanid	60	3
Sodium dichromate	Natriumdichromat	56	3
Sodium ethylene diaminetetra acetate	Ethylendiamintetraessigsäure mit Natrium-Salze und Kaliumsalze	104	2
Sodium fluoride	Natriumfluorid	111	1
Sodium fluoro-acetate	Natriumfluoracetat	372	3
Sodium formate	Natriumformiat	373	1
Sodium hydrosulfide	Natriumhydrogensulfid	377	2
Sodium hydroxide	Natriumhydroxid 8	142	1
Sodium molybdat	Natriummolybdat	638	1
Sodium nitrite	Natriumnitrit	161	2
Sodium oxalate	Natriumoxalat	379	1
Sodium oxide	Natriumoxid	380	1

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
Sodium pentachlor-phenolate	Natriumpentachlorphenolat	381	3
Sodium perchlorate	Natriumperchlorat	382	1
Sodium peroxide	Natriumperoxid	383	1
Sodium phenolate	Narriumphenolat	384	2
Sodium phosphate,monobasic	Natriumdihydrogenphosphat	371	1
Sodium phosphate,tribasic	Trinatriumphosphat	172	1
Sodium phthalate	Natriumphthalat 14	482	1
Sodium propionate	Natriumpropionat	484	1
Sodium salt of thiosuccinic acid	Sulfobernsteinsäureester, Na-Salze	667	2
Sodium selenate	Natriumselenat	385	2
Sodium selenite	Natriumselenit	184	2
Sodium succinate	Natriumsuccinat 14	477	1
Sodium sulfate	Natriumsulfat 14	286	1
Sodium sulfide	Natriumsulfid 8	188	2
Sodium sulfite	Natriumsulfit 8	282	1
Sodium tetrborate	Natriumtetraborat	37	1
Sodium thiosulfate	Natriumthiosulfat 14	386	1
Soium hexafluoro-silicate	Natrumhexafluorsilikat	519	2
Soium iodide	Natriumjodid	138	1
Solid (gaseous)	Silane (gasförmige) 13 14	567	0
Soot, industrial, if labelling with R 45 is not required	Ruß, technisch, soweit keine Kennzeichnung mit R 45 erforderlich ist	1742	0
Soybean sterol, refined	Sojasterin, raffiniert	1899	0
ß-acetyldigoxin	ß-Acetyldigoxin	1015	3
Strontium carbonate	Strontiumcarbonat	803	0
Styrene	Styrol	187	2
Succinic acid	Bernsteinsäure 14	476	1
Sulfotepp	Sulfotepp	687	3
Sulfur dioxide	Schwefeldioxid 8	416	1
Sulfur hexafluoride	Schwefelhexafluorid	846	0
Sulfur trioxide	Schwefeltrioxid	417	2
Sulfur, lumpy	Schwefel, stückig	842	0
Sulfuric acid	Schwefelsäure 8	182	1
Sulfurons acid	Schweflige Säure	418	1
Tall oil	Tallöl	497	2
tall oil fatty acids	Tallölfettsäuren	692	2
Tallow fatty acid isobutyl ester	Talgfettsäureisobutylester	1898	0
Terbufos	Terbufos	621	3
Terbutryn	Terbutryn	612	2

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
Terbutylazine	Terbutylazin	604	2
tert. Dodecanthiol	tert. Dodecanthiol	1067	2
tert.-Amylperbenzoate	tert.-Amylperbenzoat	1472	2
tert.-Amylperoxy-2-ethylhexanoate	tert.-Amylperoxy-2-ethylhexanoat	1467	2
tert.-Amylperoxyneodcanoate	tert.-Amylperoxyneodcanoat	1465	2
tert.-Amylperoxypivalate	tert.-Amylperoxypivalat	1466	2
tert-Amylalkohol	tert.Amylalkohol	19	1
tert-Butanol	tert.Butanol	219	1
tert-Butyl acetate	Essigsäure-tert-butylester	43	1
tert-butylbenzene	tert-Butylbenzol	45	1
Tetrachlorethene	Tetrachlorethen	287	3
Tetraethyl lead	Bleitetraethyl	35	3
Tetraethyl silicate	Tetraethylsilikat	450	1
Tetrahydrofuran	Tetrahydrofuran	190	1
Tetramethyl lead	Bleitetramethyl	538	3
Tetraoctyltin	Tetraoctylzinn	554	2
Tetraphenyl tin	Tetraphenylzinn	553	2
Tetrobutyltin	Tetrabutylzinn	498	3
Thallium (I) chlorate	Thallium(1)-chlorat	422	2
Thallium (I) nitrate	Thallium(I)-nitrat	192	2
Thallium (I) sulfate	Thallium(I)-sulfat	555	2
Thallium (II) nitrate	Thallium(III)-nitrat	423	2
Thiabendazol	Thiabendazol	713	2
Thioglycolic acid	Thioglycolsäure	485	1
Tin ester	Esterzinn	587	2
Titanium dioxide	Titandioxid	1345	0
Toluene	Toluol	194	2
Triazophos	Triazophos	625	3
Tributyltin acetate	Tributylzinnacetat	500	3
Tributyltin benzo ate	Tributylzinnbenzoat	546	3
Tributyltin chloride	Tributylzinnchlorid	501	3
Tributyltin fluoride	Tributylzinnfluorid	545	3
Tributyltin linoleate	Tributylzinnlinoleat	549	3
Tributyltin naphthenate	Tributylzinnaphthenat	548	3
Tributyltin oleate	Tributylzinnoleat	550	3
Tributyltin oxide	Tributylzinnoxid	502	3
Tributyltin phosphate	Tributylzinnphosphat	547	3
Trichlorethene	Trichlorethen	199	3

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
Trichlorofluoromethane	Trichlorfluormethan	448	2
Trichlorfone	Trichlorfon	634	3
Trichloroacetic acid	Trichloressigsäure	197	2
Triethanolamine	Triethanolamin	201	1
Triethanolammoniumchloride	Triethanolammoniumchlorid	473	1
Triethylamine	Triethylamin	556	1
Triethylammoniumchloride	Triethylammoniumchlorid	559	1
Triethylene glycol	Triethylenglycol	202	1
Triethylphosphate	Phosphorsäuretriethylester	456	1
Triglycerides (industrially untreated or hydrated; fatty acid radical saturated and unsaturated, with even-numbered, straight C-chain and C-number >=8	Triglyceride (technisch unbehandelt oder hydriert; Fettsäurerest gesättigt und ungesättigt mit geradzahliger, unverzweigter C-Kette und C-Zahl >= 8	760	
Triglycerides (peroxidized, fatty acid radical with even-numbered straight C-chain and C-number >= 12	Triglyceride, (epoxidiert, Fettsäurerest 762 mit geradzahliger unverzweigter C-Kette und C-Zahl >= 12	762	0
Trimethylamine	Trimethylamin	460	2
Trimethylammoniumchloride	Trimethylammoniumchlorid	461	1
Tri-n-butylamine	Tri-n-butylamin	594	2
Tri-n-butylammoniumchloride	Tri-n-butylammoniumchlorid	611	2
tri-n-propylamine	Tri-n-propylamin	1571	2
Triphenyltin acetate	Triphenylzinnacetat	503	3
Triphenyltin chloride	Triphenylzinnchlorid	504	3
Triphenyltin fluoride	Triphenylzinnfluorid	505	3
Triphenyltin hydroxide	Triphenylzinnhydroxid	506	3
Tripropylene glycol	Tripropylenglycol	779	1
Tripropylene glycol-di-acrylate	Tripropylenglykoldiacrylat	1868	2
Tris(1,3-dichloro-iso-propyl phosphate	Tris(1,3-dichlorisoproyl)phosphat	1840	2
Tri-tert.butyltinoxide	Tri-tert.butylzinnoxid	854	3
Tropine	Tropin	925	3
Tropinone	Tropinon	953	3
Trospiumchloride	Trospiumchlorid	1037	3
Tuniamycin	Tunicamycin	1042	3
Turbine fuel	Turbinenkraftstoffe, nicht als krebserzeugend (R45) gekennzeichnet	139	2
Ultramarine Blue	Ultramarinblau 14	1426	1
Uranyl acetate dihydrate	Uranylacetatdihydrat	1023	3
Urea	Harnstoff	118	1
Used oil	Altöle 9	438	3

ENGLISH NAME	GERMAN NAME	NUMBER[1)]	WGK [2)]
Valinomycin	Valinomycin	989	3
Vanadyl (IV) sulfate	Vanadin(IV)-oxidsulfat	856	3
Vanadium pertaoxide	Vanadiumpentoxid	654	2
Vaseline (hydrated)	Vaseline (hydriert)	1935	0
Vinyl acetate	Essigsäurevinylester	203	2
vinyl cyclohexyl ether	Vinylcyclohexylether	1756	1
Vinyl ethyl ether	Vinylethylether	1606	1
Vinyl isobutyl ether	Vinylisobutylether	1146	1
Vinylchloride	Vinylchlorid	462	2
Vinylpropionate	Vinylpropionat	1587	1
Vinylpyrrolidone	Vinylpyrrolidon	1141	2
Zinc	Zink	1349	0
Zinc (II) chloride	Zinn(II)-chlorid	495	1
Zinc (IV) chloride	Zinntetrachlorid	1267	2
Zinc ammonium nitrate	Zinkammoniumnitrat	424	1
Zinc arsenate	Zinkarsenat	425	3
Zinc arsenite	Zinkarsenit	426	3
Zinc chlorate	Zinkchlorat	427	2
Zinc chloride	Zinkchlorid	207	1
Zinc cyanide	Zinkcyanid	428	3
Zinc nitrate	Zinknitrat	429	1
Zinc peroxide	Zinkperoxid	430	1
Zinc phosphide	Zinkphosphid	431	2
Zinc selenite	Zinkselenit	1839	2
Zinc sulfate	Zinksulfat	432	1

Notes

1. Unique identification number of substance, which has been officially assigned a Water Hazard Class

2. WGK (*Wassergefährdungsklasse*) is the Water Hazard Class

WGK 0 - Substance classified as non-water endangering

WGK 1 - Substance with a low hazard rating for water

WGK 2 - Substance with a medium hazard rating for water

WGK 3 - Substance with a high hazard rating for water

Table C5.T2 Water Hazard Categories of Facilities (A to D) (see C5.2, Definitions)

The following region-specific tables define the Water Hazard Category of Facilities (i.e., categories A to D) based on the Water Hazard Class of the hazardous material stored, and the volume of hazardous material in cubic meters (m^3) or mass in metric tons.

Bayern

	Water Hazard Class			
Volume in m^3 or mass in metric tons	**0**	**1**	**2**	**3**
up to 0.1	Category A	Category A	Category A	Category A
between 0.1 and 1.0	Category A	Category A	Category A	Category B
between 1.0 and 10	Category A	Category A	Category B	Category C
between 10 and 100	Category A	Category A	Category C	Category D
between 100 and 1000	Category A	Category B	Category D	Category D
above 1000	Category A	Category C	Category D	Category D

Baden-Württemberg

	Water Hazard Class			
Volume in m^3 or mass in metric tons	**0**	**1**	**2**	**3**
up to 0.1	Category A	Category A	Category A	Category A
between 0.1 and 1.0	Category A	Category A	Category A	Category C
between 1 and 10	Category A	Category A	Category B	Category D
between 10 and 100	Category A	Category A	Category C	Category D
between 100 and 1000	Category A	Category B	Category D	Category D
above 1000	Category A	Category C	Category D	Category D

Hessen

	Water Hazard Class			
Volume in m^3 or mass in metric tons	**0**	**1**	**2**	**3**
up to 0.1	Category A	Category A	Category A	Category A
between 0.1 and 1.0	Category A	Category A	Category A	Category C
between 1.0 and 10	Category A	Category A	Category B	Category D
between 10 and 100	Category A	Category A	Category C	Category D
between 100 and 1000	Category A	Category B	Category D	Category D
above 1000	Category A	Category C	Category D	Category D

Rheinland-Pfalz

	Water Hazard Class		
Volume in m^3 or mass in metric tons	**1**	**2**	**3**
up to 0.1	Category A	Category A	Category A
between 0.1 and 1.0	Category A	Category A	Category B
between 1.0 and 10	Category A	Category B	Category C
between 10 and 100	Category A	Category C	Category D
between 100 and 1000	Category B	Category D	Category D
above 1000	Category C	Category D	Category D

Table C5.T3 Combined Hazard Properties of Hazardous Substances

1.	Items which are explosive upon friction, impact, or ignition (e.g., certain peroxides)
2.	Oxidizing items which are flammable (e.g., peroxides), or which are suitable to ignite combustible materials, or which are explosive in contact with combustibles (e.g., certain chlorates)
3.	Extremely flammable items (liquids with a flash point below 0°C, and a boiling point of up to 35°C, or gases which ignite in air under ambient conditions)
4.	Highly flammable items (flash point below 21°C, or materials which are easily ignited and keep burning, or materials which release extremely flammable gases in contact with water or moist air)
5.	Flammable items (flash point between 21°C and 55°C)
6.	Very toxic items, which show very high acute or chronic toxicity if swallowed, inhaled, or upon dermal contact
7.	Toxic items, which show high acute or chronic toxicity if swallowed, inhaled, or upon dermal contact
8.	Items which are harmful to health, e.g., show moderate acute or chronic toxicity if swallowed, inhaled, or upon dermal contact
9.	Corrosive items, which may destroy living tissue
10.	Irritant items, which may cause inflammation of the skin
11.	Sensitizing items, which may cause allergic reaction at repeated exposure
12.	Carcinogenic items
13.	Mutagenic items
14.	Items which are toxic for reproduction
15.	Items which pose a hazard to the environment
16.	In the course of normal operations, accidents, leaks, or spills, the item may produce dusts, gases, fumes, vapors, mists, or smokes with one or more of the above characteristics.
17.	Compressed gasses

Table C5.T4 Bans and Restrictions on Hazardous Substances

Substance	Prohibition	Exemption
Asbestos and asbestos-containing materials	Use and manufacturing	• Research and analyses, • Demolition activities, • Maintenance of existing facilities, • Use of asbestos-containing acetylene pressure bottles manufactured before 31 December 1994 until end of their lifetime
2- Naphthylamin, 4-aminobiphenyl, benzidin, 4-nitrobiphenyl, and their salts	Use and manufacturing	• Research and analyses • Intermediate products in closed systems
Arsenic and arsenic compounds	Use in a wide range of applications, including cleaning, painting, and wood preservation	None identified
Benzene	Use	• Motor fuels • Industrial processes in closed cycles • Research and analyses
Anti fouling paints containing arsenic, mercury, organostannic compounds, or hexa-chloro cyclohexane	Use	Paints with chemically-bound organostannic compounds, on the hulls of boats of more than 25 m overall length, which are primarily used outside of sweet water areas.
Lead carbonate, lead sulfate	Use of materials containing these compounds, such as lead paints	Paints used for restoration and maintenance of works of art and historical buildings
Mercury and mercury-compounds	Use for: • wood preservation • impregnation of heavy-duty industrial textiles and yarn intended for their manufacture • treatment of industrial waters	None identified
Organostannic compounds	Use for treatment of water in industrial, commercial, or sanitary water	None identified
Di-µ-oxo-di-n-butylstannio-hydroxyborane	Usage and manufacturing	• Production of goods with a content of less than 0.1% • Research and analyses
Decorative objects containing liquid hazardous substances	Manufacturing	None identified

Substance	Prohibition	Exemption
or preparations		
Aliphatic chlorinated hydrocarbons	Use of: • tetrachloro carbon • 1,1,2,2-tetrachloro ethane • 1,1,1,2-tetrachloro ethane • pentachloro ethane • trichloro methane • 1,1,2-trichloro ethane • 1,1-dichloro ethylene • 1,1,1-trichloro ethane distribution to private users	Use in closed systems by non-private users
Pentachloro phenol and compounds	Use and manufacturing	• wood, furniture, and textiles manufactured before 1989 • analyses
Tar oils	Use and manufacturing as wood preservative of: • creosote • creosote oil • distillates (coal tar), naphthalene oils • creosote oil, acenaphthene fraction • higher distillates (coal tar) • anthtracene oil • tar acids, coal, crude • creosote, wood • low temperature tar oil, alkaline • wood items treated with these substances	Use and manufacturing in closed systems at up to 3% of water soluble phenol: • and up to 5 mg/kg benzo(a)pyrene, for non-private users and outdoor application • up to 50 mg/kg benzo(a)pyrene, for certain impregnation methods Use of treated wood for certain applications
Polychlorinated biphenyls (PCB) and terphenyle (TCB) and monomethyltetrachlor diphenymethan, monomethyl dichloro diphenymethan, monomethylsibromdiphenylmethan	Use and manufacturing See Chapter 14, PCBs	See Chapter 14, PCBs
Vinyl chloride	Use as aerosol propellant	Research, education, and analyses
Cadmium and cadmium-compounds	Use for: • dying plastics • stabilizers in a wide range of PVC products • treatment of metallic surfaces	• Coloring or stabilizing required for safety reasons • Research, education, analyses • Certain applications requiring high safety standards, including aviation,

Substance	Prohibition	Exemption
	for a wide range of applications Use of cadmium-containing paints	mining, off-shore, and nuclear energy • Safety components for road and agricultural vehicles, railbound vehicles, and vessels
Cooling lubricants with nitrosating agents	Use	None identified
DDT	Use and manufacturing	None identified
Hexachloro hexane	Use for manufacturing of processing of non-iron metals	• Research, education, analyses • Certain processes for aluminum and magnesium manufacturing
Biopersistent fibers	Use and manufacturing of artificial mineral fibers	Fibers which have been confirmed to be non-cancerogenic

Table C5.T5 Thresholds for Classification of Preparations Containing Hazardous Substances

Danger Category of the Substance [1)]	Concentration to take into consideration for:	
	Gaseous preparations %vol/vol	Other preparations %w/w
Very toxic	≥0.02	≥0.1
Toxic	≥0.02	≥0.1
Carcinogenic Category 1 or 2 [1)]	≥0.02	≥0.1
Mutagenic Category 1 or 2 [1)]	≥0.02	≥0.1
Toxic for Reproduction Category 1 or 2 [1)]	≥0.02	≥0.1
Harmful	≥0.2	≥1.0
Corrosive	≥0.02	≥1.0
Irritant	≥0.2	≥1.0
Sensitizing	≥0.2	≥1.0
Carcinogenic Catergory 3 [1)]	≥0.2	≥1.0
Mutagenic Category 3 [1)]	≥0.2	≥1.0
Toxic for Reproduction Category 3 [1)]	≥0.2	≥1.0
Dangerous for the Environment		≥0.1
Dangerous for the Environment Ozone	≥0.1	≥0.1
Dangerous for the Environment		≥1.0

Notes:

1. Categories:

   Category 1: Substances which are confirmed to cause hazard to humans

   Category 2: Substances which are very likely to cause hazard to humans

   Category 3: Substances which are suspected to cause hazard to humans

Table C5.T6 R- and S-Phrases

R-Sätze:
R-Phrases:

R1 *In trockenem Zustand explosionsgefährlich.*
Explosive when dry.

R2 *Durch Schlag, Reibung, Feuer oder andere Zündquellen explosionsgefährlich.*
Risk of explosion by shock, friction, flame, or other sources of ignition.

R3 *Durch Schlag, Reibung, Feuer oder andere Zündquellen besonders explosionsgefährlich.*
Extreme risk of explosion by shock, friction, flame or other sources of ignition.

R4 *Bildet hochempfindliche explosionsgefährliche Metallverbindungen.*
Forms very sensitive explosive metallic salts.

R5 *Beim Erwärmen explosionsfähig.*
Heating may cause an explosion.

R6 *Mit und ohne Luft explosionsfähig.*
Explosive with or without contact with air.

R7 *Kann Brand verursachen .*
May cause fire.

R8 *Feuergefahr bei Berührung mit brennbaren Stoffen*.
Contact with combustible material may cause fire.

R9 *Explosionsgefahr bei Mischung mit brennbaren Stoffen.*
Explosive when mixed with combustible m aterial.

R10 *Entzündlich. Brennbar*
Flammable.

R11 *Leichtentzündlich.*
Very flammable.

R12 *Hochentzündlich.*
Highly flammable.

R14 *Reagiert heftig mit Wasser.*
Reacts violently with water.

R15 *Reagiert mit Wasser unter Bildung hochenzündlicher Gase.*
Contact with water liberates extremely flammable gases.

R16 *Explosionsgefährlich in Mischung mit brandfördernden Stoffen.*
Explosive when mixed with oxidising substances.

R17 *Selbstentzündlich an der Luft.*
Spontaneously flammable in air.

R18 *Bei Gebrauch Bildung explosionsfähiger/leichtentzündlicher Dampf-Luft-Gemische möglich.*
In use, may form flammable/explosive vapor-air mixture.

R19 *Kann explosionfähige Peroxide bilden.*
May form explosive peroxides.

R20 *Gesundheitsschädlich beim Einatmen.*
Harm ful by inhalation.

R21 *Gesundheitsschädlich bei Berührung mit der Haut.*
Harmful in contact with skin.

R22 *Gesundheitsschädlich beim Verschlucken.*
Harmful if swallowed.

R23 *Giftig beim Einatmen.*
Toxic by inhalation.

R24 *Giftig bei Berührung mit der Haut.*
Poisonous by skin contact.

R25 *Giftig beim Verschlucken.*
Toxic if swallowed.

R26 *Sehr giftig beim Einatmen.*
Very toxic by inhalation.

R27 *Sehr giftig bei Berührung mit der Haut.*
Very toxic in contact with skin.

R28 *Sehr giftig beim Verschlucken.*
Very toxic if swallowed.

R29 *Entwickelt bei Berührung mit Wasser giftige Gase.*
Contact with water liberates toxic gas.

R30 *Kann bei Gebrauch leicht entzündlich werden.*
Can become highly flammable in use.

R31 *Entwickelt bei Berührung mit Säure giftige Gase.*
Contact with acids liberates toxic gas.

R32 *Entwickelt bei Berührung mit Säure sehr giftige Gase.*
Contact with acids liberates extremely toxic gas.

R33 *Gefahr kumulativer Wirkungen.*
Danger of cumulative effects.

R34 *Verursacht Verätzungen.*
Causes burns.

R35 *Verursacht schwere Verätzungen.*
Causes severe burns.

R36 *Reizt die Augen.*
Causes irritation of the eyes.

R37 *Reizt die Atmungsorgane.*
Irritating to respiratory system.

R38 *Reizt die Haut.*
Causes irritation of the skin.

R39 *Ernste Gefahr irreversiblen Schadens.*
Danger of very serious irreversible effects.

R40 *Irreversibler Schaden möglich.*
Possible risks of irreversible effects.

R41 *Gefahr ernster Augenschäden.*
Risk of serious damage to eyes.

R42 *Sensibilisierung durch Einatmen möglich.*
May cause sensitization by inhalation.

R43 *Sensibilisierung durch Hautkontakt möglich.*
May cause sensitization by skin contact.

R44 *Explosionsgefahr bei Erhitzen unter Einschluß.*
Risk of explosion if heated under confinement.

R45 *Kann Krebs erzeugen.*
May cause cancer.

R46 *Kann vererbbare Schäden verursachen.*
May cause inheritable genetic damage.

R48 *Gefahr ernster Gesundheitsschäden bei längerer Exposition.*
Extended exposure may cause serious health damages.

R49 *Kann Krebs erzeugen beim Einatmen.*
May cause cancer by inhalation.

R50 *Sehr giftig für Wasserorganismen.*
Very toxic to aquatic organisms.

R51 *Giftig für Wasserorganismen.*
Toxic to aquatic organisms.

R52 *Schädlich für Wasserorganismen.*
Harmful to aquatic organisms.

R53 *Kann in Gewässer längerfristig schädliche Wirkung haben.*
May cause long-term adverse effects in the aquatic environment.

R54 *Giftig für Pflanzen.*
Toxic to flora.

R55 *Giftig für Tiere.*
Toxic to fauna.

R56 *Giftig für Bodenorganismen.*
Toxic to soil organisms.

R57 *Giftig für Bienen.*
Toxic to bees.

R58 *Kann längerfristig schädliche Wirkung auf die Umwelt haben.*
May cause long-term adverse effects in the environment.

R59 *Gefährlich für die Ozonschicht.*
Dangerous for the ozone layer.

R60 *Kann die Fortpflanzungsfähigkeit beeinträchtigen.*
May impair fertility.

R61 *Kann das Kind im Mutterleib schädigen.*
May cause harm to the unborn child.

R62 *Kann möglicherweise die Fortpflanzungsfähigkeit beeinträchtigen.*
Possible risk of impaired fertility.

R63 *Kann das Kind im Mutterleib möglicherweise schädigen.*
Possible risk of harm to the unborn child.

R64 *Kann Säuglinge über die Muttermilch schädigen.*
May cause harm to breastfed babies.

R65 *Gesundheitsschädlich: kann beim Verschlucken Lungenschäden verursachen.*
Harmful: may cause lung damage if swallowed.

R66 *Wiederholter Kontakt kann zu spröder oder rissiger Haut führen.*
Repeated exposure may cause skin dryness or cracking.

R67 *Dämpfe können Schläfrigkeit und Benommenheit verursachen.*
Vapors m ay cause drowsiness or dizziness.

Kombinationen der R-Sätze:
Combination of R-Phrases:

R14/15 *Reagiert heftig mit Wasser unter Bildung hochentzündlicher Gase*.
Reacts violently with water, liberating extremely flammable gases.

R15/29 *Reagiert mit Wasser unter Bildung giftiger und hochentzündlicher Gase.*
Contact with water liberates toxic, extremely flammable gas.

R20/21 *Gesundheitsschädlich beim Einatmen und bei Berührung mit der Haut.*
Harmful by inhalation and in contact with skin.

R20/21/22 *Gesundheitsschädlich beim Einatmen, Verschlucken und bei Berührung mit der Haut.*
Harmful by inhalation, in contact with skin and if swallowed.

R20/22 *Gesundheitsschädlich beim Einatmen und Verschlucken.*
Harmful by inhalation and if swallowed.

R21/22 *Gesundheitsschädlich bei Berührung mit der Haut und beim Verschlucken.*
Harmful in contact with skin and if swallowed.

R23/24 *Giftig beim Einatmen und bei Berührung mit der Haut.*
Toxic by inhalation and in contact with skin.

R23/24/25 *Giftig beim Einatmen, Verschlucken und bei Berührung mit der Haut.*
Toxic by inhalation, in contact with skin, and if swallowed.

R23/25 *Giftig beim Einatmen und Verschlucken.*
Toxic by inhalation and if swallowed.

R24/25 *Giftig bei Berührung mit der Haut und beim Verschlucken.*
Toxic in contact with skin and if swallowed.

R26/27 *Sehr giftig beim Einatmen und bei Berührung der Haut.*
Very toxic by inhalation and in contact with skin.

R26/27/28	*Sehr giftig beim Einatmen, Verschlucken und Berührung mit der Haut.* Very toxic by inhalation, in contact with skin, and if swallowed.
R26/28	*Sehr giftig beim Einatmen und Verschlucken.* Very toxic by inhalation and if swallowed.
R27/28	*Sehr giftig bei Berührung mit der Haut und beim Verschlucken*. Very toxic in contact with skin and if swallowed.
R36/37	*Reizt die Augen und die Atmungsorgane.* Irritating to eyes and respiratory system.
R36/37/38	*Reizt die Augen, Atmungsorgane und die Haut.* Irritating to eyes, respiratory system, and skin.
R36/38	*Reizt die Augen und die Haut.* Irritating to eyes and skin.
R37/38	*Reizt die Atmungsorgane und die Haut.* Irritating to respiratory system and skin.
R39/23	*Giftig: ernste Gefahr irreversiblen Schadens durch Einatmen.* Toxic: danger of very serious irreversible effects through inhalation.
R39/23/24	*Giftig: ernste Gefahr irreversiblen Schadens durch Einatmen und bei Berührung mit der Haut.* Toxic: danger of very serious irreversible effects through inhalation and in contact with skin.
R39/23/24/25	*Giftig: ernste Gefahr irreversiblen Schadens durch Einatmen, Berührung mit der Haut und durch Verschlucken.* Toxic: danger of very serious irreversible effects through inhalation, in contact with skin, and if swallowed.
R39/23/25	Giftig: ernste Gefahr irreversiblen Schadens durch Einatmen und durch Verschlucken. Toxic: danger of very serious irreversible effects through inhalation and if swallowed.
R39/24	*Giftig: ernste Gefahr irreversiblen Schadens bei Berührung mit der Haut.* Toxic: danger of very serious irreversible effects in contact with skin.

R39/24/25	*Giftig: ernste Gefahr irreversiblen Schadens bei Berührung mit der Haut und durch Verschlucken.* Toxic: danger of very serious irreversible effects in contact with skin and if swallowed.
R39/25	*Giftig: ernste Gefahr irreversiblen Schadens durch Verschlucken.* Toxic: danger of very serious irreversible effects if swallowed.
R39/26	*Sehr giftig: ernste Gefahr irreversiblen Schadens durch Einatmen.* Very toxic: danger of very serious irreversible effects through inhalation.
R39/26/27	*Sehr giftig: ernste Gefahr irreversiblen Schadens durch Einatmen und bei Berührung mit der Haut.* Very toxic: danger of very serious irreversible effects through inhalation and in contact with skin.
R39/26/27/28	*Sehr giftig: ernste Gefahr irreversiblen Schadens durch Einatmen, Berührung mit der Haut und durch Verschlucken.* Very toxic: danger of very serious irreversible effects through inhalation, in contact with skin, and if swallowed.
R39/26/28	*Sehr giftig: ernste Gefahr irreversiblen Schadens durch Einatmen und durch Verschlucken.* Very toxic: danger of very serious irreversible effects through inhalation and if swallowed.
R39/27	*Sehr giftig: ernste Gefahr irreversiblen Schadens bei Berührung mit der Haut.* Very toxic: danger of very serious irreversible effects in contact with skin.
R39/27/28	*Sehr giftig: ernste Gefahr irreversiblen Schadens bei Berührung mit der Haut und durch Verschlucken.* Very toxic: danger of very serious irreversible effects in contact with skin and if swallowed.
R39/28	*Sehr giftig: ernste Gefahr irreversiblen Schadens durch Verschlucken.* Very toxic: danger of very serious irreversible effects if swallowed.
R40/20	*Gesundheitsschädlich: Möglichkeit irreversiblen Schadens durch Einatmen.* Harmful: possible risk of irreversible effects through inhalation.
R40/20/21	*Gesundheitsschädlich: Möglichkeit irreversiblen Schadens durch Einatmen und bei Berührung mit der Haut.* Harmful: possible risk of irreversible effects through inhalation and in contact with skin.

R40/20/21/22 *Gesundheitsschädlich: Möglichkeit irreversiblen Schadens durch Einatmen, Berührung mit der Haut und durch Verschlucken.*

Harmful: possible risk of irreversible effects through inhalation, in contact with skin, and if swallowed.

R40/20/22 *Gesundheitsschädlich: Möglichkeit irreversiblen Schadens durch Einatmen und durch Verschlucken.*

Harmful: possible risk of irreversible effects through inhalation and if swallowed.

R40/21 *Gesundheitsschädlich:* Möglichkeit *irreversiblen Schadens bei Berührung mit der Haut.*

Harmful: possible risk of irreversible effects in contact with skin.

R40/21/22 *Gesundheitsschädlich: Möglichkeit irreversiblen Schadens bei Berührung mit der Haut und durch Verschlucken.*

Harmful: possible risk of irreversible effects in contact with skin and if swallowed.

R40/22 *Gesundheitsschädlich: Möglichkeit irreversiblen Schadens durch Verschlucken.*

Harmful: possible risk of irreversible effects if swallowed.

R42/43 *Sensibilisierung durch Einatmen und Hautkontakt möglich.*

May cause sensitization by inhalation and skin contact.

R48/20 *Gesundheitsschädlich: Gefahr ernster Gesundheitsschäden bei längerer Exposition durch Einatmen.*

Harmful: danger of serious damage to health by prolonged exposure through inhalation.

R48/20/21 *Gesundheitsschädlich: Gefahr ernster Gesundheitsschäden bei längerer Exposition durch Einatmen und durch Berührung mit der Haut.*

Harmful: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin.

R48/20/21/22 *Gesundheitsschädlich: Gefahr ernster Gesundheitsschäden bei längerer Exposition durch Einatmen, Berührung mit der Haut und durch Verschlucken.*

Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin, and if swallowed.

R48/20/22 *Gesundheitsschädlich: Gefahr ernster Gesundheitsschäden bei längerer Exposition durch Einatmen und durch Verschlucken.*

Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

R48/21 *Gesundheitsschädlich: Gefahr bei ernster Gesundheitsschäden bei längerer Exposition durch Berührung mit der Haut.*

Harmful: danger of serious damage to health by prolonged exposure in contact with skin.

R48/21/22	*Gesundheitsschädlich: Gefahr ernster Gesundheitsschäden bei längerer Exposition durch Berührung mit der Haut und durch Verschlucken.* Harmful: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed.
R48/22	*Gesundheitsschädlich: Gefahr ernster Gesundheitsschäden bei längerer Exposition durch Verschlucken.* Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R48/23	*Giftig: Gefahr ernster Gesundheitsschäden bei längerer Exposition durch Einatmen.* Toxic: danger of serious damage to health by prolonged exposure through inhalation.
R48/23/24	*Giftig: Gefahr ernster Gesundheitsschäden bei längerer Exposition durch Einatmen und durch Berührung mit der Haut.* Toxic: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin.
R48/23/24/25	*Giftig: Gefahr ernster Gesundheitsschäden bei längerer Exposition durch Einatmen, Berührung mit der Haut und durch Verschlucken.* Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin, and if swallowed.
R48/23/25	*Giftig: Gefahr ernster Gesundheitsschäden bei längerer Exposition durch Einatmen und durch Verschlucken.* Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
R48/24	*Giftig: Gefahr ernster Gesundheitsschäden bei längerer Exposition durch Berührung mit der Haut.* Toxic: danger of serious damage to health by prolonged exposure in contact with skin.
R48/24/25	*Giftig: Gefahr ernster Gesundheitsschäden bei längerer Exposition durch Berührung mit der Haut und durch Verschlucken.* Toxic: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed.
R48/25	*Giftig: Gefahr ernster Gesundheitsschäden bei längerer Exposition durch Verschlucken.* Toxic: danger of serious damage to health by prolonged exposure if swallowed.
R50/53	*Sehr giftig für Wasserorganismen, kann in Gewässern längerfristig schädliche Wirkungen haben.* Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R51/53 *Giftig für Wasserorganismen, kann in Gewässern längerfristig schädliche Wirkungen haben.*

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R52/53 *Schädlich für Wasserorganismen, kann in Gewässern längerfristig schädliche Wirkungen haben.*

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-Sätze:
S-Phrases:

S1 *Unter Verschluß aufbewahren.*

Keep this material locked up.

S2 *Darf nicht in die Hände von Kindern gelangen.*

Keep this material out of reach of children.

S3 *Kühl aufbewahren.*

Store in a cool place.

S4 *Von Wohnplätzen fernhalten.*

Store away from living quarters.

S5 *Unter ... aufbewahren (geeignete Flüssigkeit vom Hersteller anzugeben).*

Keep contents under . . . (appropriate liquid to be specified by the manufacturer).

S6 *Unter ... aufbewahren (inertes Gas vom Hersteller anzugeben).*

Keep under . . . (inert gas to be specified by the manufacturer).

S7 *Behälter dicht geschlossen halten.*

Keep container tightly closed.

S8 *Behälter trocken halten.*

Keep container dry.

S9 *Behälter an einem gut gelüfteten Ort aufbewahren.*

Keep container in a well-ventilated place.

S12 *Behälter nicht gasdicht verschließen.*

Do not keep the container sealed.

S13 *Von Nahrungsmitteln, Getränken und Futtermitteln fernhalten.*
Keep away from food, drink, and animal feedstock.

S14 *Von ... fernhalten (inkompatible Substanzen vom Hersteller anzugeben).*
Keep away from . . . (incompatible materials to be indicated by the manufacturer).

S15 *Vor Hitze schützen.*
Keep away from heat.

S16 *Von Zündquellen fernhalten - Nicht rauchen.*
Keep away from sources of ignition - No smoking.

S17 *Von brennbaren Stoffen fernhalten.*
Keep away from combustible material.

S18 *Behälter mit Vorsicht öffnen und handhaben.*
Handle and open container with care.

S20 *Bei der Arbeit nicht essen und trinken.*
When using, do not eat or smoke.

S21 *Bei der Arbeit nicht rauchen.*
When using, do not smoke.

S22 *Staub nicht einatmen.*
Avoid breathing dust.

S23 *Gas/Rauch/Dampf/Aerosol nicht einatmen (geeignete Bezeichnung[en] vom Hersteller anzugeben).*
Do not breathe gas/fumes/vapor/spray (appropriate wording to be specified by the manufacturer).

S24 *Berührung mit der Haut vermeiden.*
Avoid contact with skin.

S25 *Berührung mit den Augen vermeiden.*
Avoid contact with eyes.

S26 *Bei Berührung mit den Augen sofort gründlich mit Wasser abspülen und Arzt konsultieren.*
After contact with eyes, wash immediately and thoroughly with water, and consult a doctor.

S27 *Beschmutzte, getränkte Kleidung sofort ausziehen.*

Take off immediately all contaminated clothing.

S28 *Bei Berührung mit der Haut sofort abwaschen mit viel ... (vom Hersteller anzugeben).*

After contact with skin, wash immediately with plenty of . . . (to be specified by the manufacturer).

S29 *Nicht in die Kanalisation gelangen lassen.*

Do not empty into drains.

S30 *Niemals Wasser hinzugießen.*

Never add water to this product.

S33 *Maßnahmen gegen elektrostatische Aufladungen treffen.*

Take precautionary measures against static discharges.

S35 *Abfälle und Behälter müssen in gesicherter Weise beseitigt werden.*

This material and its container must be disposed of in a safe way.

S36 *Bei der Arbeit geeignete Schutzkleidung tragen.*

Wear suitable protective clothing.

S37 *Geeignete Schutzhandschuhe tragen.*

Wear suitable gloves.

S38 *Bei unzureichender Belüftung Atemschutzgerät anlegen*.

In case of insufficient ventilation, wear suitable respiratory equipment.

S39 *Schutzbrille/Gesichtsschutz tragen.*

Wear eye/face protection.

S40 *Fußboden und verunreinigte Gegenstände mit ... reinigen (Material vom Hersteller anzugeben).*

To clean the floor and all objects contaminated by this material, use . . . (to be specified by the manufacturer).

S41 *Explosions- und Brandgase nicht einatmen.*

In case of fire and/or explosion do not breathe fumes.

S42 Beim Räuchern/Versprühen geeignetes Atemschutzgerät anlegen (geeignete Bezeichnung[en] vom Hersteller anzugeben).

During fumigation/spraying, wear suitable respiratory equipment (appropriate wording to be specified by the manufacturer).

S43 *Zum Löschen ... (vom Hersteller anzugeben) verwenden (wenn Wasser die Gefahr erhöht, anfügen: "Kein Wasser verwenden").*

In case of fire, use . . . (indicate in the space the precise type of fire-fighting equipment. If water increases risk, add – “Never use water”).

S45 *Bei Unfall oder Unwohlsein sofort Arzt zuziehen (wenn möglich dieses Etikett vorzeigen).*

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S46 *Bei Verschlucken sofort ärztlichen Rat einholen und Verpackung oder Etikett vorzeigen.*

If swallowed, seek medical advice immediately and show this container or label.

S47 *Nicht bei Temperaturen über ... °C aufbewahren (vom Hersteller anzugeben).*

Keep at temperature not exceeding . . . °C (to be specified by the manufacturer).

S48 *Feucht halten mit ... (geeignetes Mittel vom Hersteller anzugeben).*

Keep wet with . . . (appropriate material to be specified by the manufacturer).

S49 *Nur im Originalbehälter aufbewahren.*

Keep only in the original container.

S50 *Nicht mischen mit ... (vom Hersteller anzugeben).*

Do not mix with . . . (to be specified by the manufacturer).

S51 *Nur in gut gelüfteten Bereichen verwenden.*

Use only in well-ventilated areas.

S52 *Nicht großflächig für Wohn- und Aufenthaltsräume zu verwenden.*

Not recommended for interior use on large surface areas.

S53 *Exposition vermeiden - vor Gebrauch besondere Anweisungen einholen.*

Avoid exposure - obtain special instructions before use.

S56 *Diesen Stoff und seinen Behälter der Problemabfallentsorgung zuführen.*

Dispose of this material and its container at hazardous or special waste collection point.

S57 *Zur Vermeidung einer Kontamination der Umwelt geeigneten Behälter verwenden.*

Use appropriate container to avoid environmental contamination.

S59 *Informationen zur Wiederverwendung/Wiederverwertung beim Hersteller/Lieferanten erfragen.*

Refer to manufacturer/supplier for information on recovery/recycling.

S60 *Dieser Stoff und sein Behälter sind als gefährlicher Abfall zu entsorgen.*

This material and its container must be disposed of as hazardous waste.

S61 *Freisetzung in die Umwelt vermeiden. Besondere Anweisungen einholen / Sicherheitsdatenblatt zu Rate ziehen.*

Avoid release to the environment. Refer to special instructions/Safety data sheets.

S62 *Bei Verschlucken kein Erbrechen herbeiführen. Sofort ärztlichen Rat einholen und Verpackung oder dieses Etikett vorzeigen.*

If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

S63 *Bei Unfall durch Einatmen: Verunfallten an die frische Luft bringen und ruhigstellen.*

In case of accident by inhalation: remove casualty to fresh air and keep at rest.

S64 *Bei Verschlucken Mund mit Wasser ausspülen (nur wenn Verunfallter bei Bewusstsein ist).*

If swallowed, rinse mouth with water (only if the person is conscious).

Kombination der S-Sätze:

Combination of S-Phrases:

S1/2 *Unter Verschluß und für Kinder unzugänglich aufbewahren.*

Keep locked up and out of the reach of children.

S3/7 *Behälter dicht geschlossen halten und an einem kühlen Ort aufbewahren.*

Keep container tightly closed in a cool place.

S3/9 *Behälter an einem kühlen, gut gelüfteten Ort aufbewahren.*

Keep container in a cool and well-ventilated place.

S3/9/14 *An einem kühlen, gut gelüfteten Ort, enfernt von ... aufbewahren (die Stoffe, mit denen Kontakt vermieden werden muß, sind vom Hersteller anzugeben).*

Keep in a cool, well-ventilated place away from . . . (incompatible materials to be indicated by the manufacturer).

S3/9/14/49 *Nur im Originalbehälter an einem kühlen, gut gelüfteten Ort, entfernt von aufbewahren (die Stoffe, mit denen Kontakt vermieden werden muß, sind vom Hersteller anzugeben).*

Keep only in the original container in a cool, well-ventilated place away from . . . (incompatible materials to be indicated by the manufacturer).

S3/9/49 *Nur im Orginalbehälter an einem kühlen, gut gelüfteten Ort aufbewahren.*

Keep only in the original container in a cool, well-ventilated place.

S3/14 *An einem kühlen, von ... entfernten Ort aufbewahren (die Stoffe, mit denen Kontakt vermieden werden muß, sind vom Hersteller anzugeben).*

Keep in a cool place away from . . . (incompatible materials to be indicated by the manufacturer).

S7/8 *Behälter trocken und dicht geschlossen halten.*

Keep container tightly closed and dry.

S7/9 *Behälter dicht geschlossen an einem gut gelüfteten Ort aufbewahren.*

Keep container tightly closed and in a well-ventilated place.

S7/47 *Behälter dicht geschlossen und nicht bei Temperaturen über ... °C aufbewahren.*

Keep container tightly closed and at a temperature not exceeding . . . °C (to be specified by the manufacturer).

S20/21 *Bei der Arbeit nicht essen, trinken, rauchen.*

When using, do not eat, drink or smoke.

S24/25 *Berührung mit den Augen und der Haut vermeiden.*

Avoid contact with skin and eyes.

S27/28 *Bei Berührung mit der Haut beschmutzte, getränkte Kleidung sofort ausziehen und sofort mit viel … abwaschen (vom Hersteller anzugeben).*

Take off immediately all contaminated clothing, after contact with skin, wash immediately with plenty of . . . (to be specified by the manufacturer).

S29/35 *Nicht in die Kanalisation gelangen lassen; Abfälle und Behälter müssen in gesicherter Weise beseitigt werden.*

Do not empty into drains. This material and its container must be disposed of in a safe way.

S29/56 *Nicht in die Kanalisation gelangen lassen; diesen Stoff und seinen Behälter der Problemabfallentsorgung zuführen.*

Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.

S36/37 *Bei der Arbeit geeignete Schutzhandschuhe und Schutzkleidung tragen.*

Wear suitable protective clothing and gloves.

S36/37/39 *Bei der Arbeit geeignete Schutzkleidung, Schutzhandschuhe und Schutzbrille/Gesichtsschutz tragen.*

Wear suitable protective clothing, gloves, and eye/face protection.

S36/39 *Bei der Arbeit geeignete Schutzkleidung und Schutzbrille/Gesichtsschutz tragen.*

Wear suitable protective clothing and eye/face protection.

S37/39 *Bei der Arbeit geeignete Schutzhandschuhe und Schutzbrille/Gesichtsschutz tragen.*

Wear suitable gloves and eye/face protection.

S47/49 *Nur im Originalbehälter bei einer Temperatur von nicht über ... °C (vom Hersteller anzugeben) aufbewahren.*

Keep only in the original container at a temperature not exceeding . . . °C (to be specified by the manufacturer).

Table C5.T7 Additional Requirements for Areas Storing Water Endangering Substances (Bayern, Hessen, Rheinland-Pfalz)

		B[1]	H[2]	R-P[3]
Properties of Storage Areas				
1. General Stability				
1.1	Facilities that store, distribute, or handle water endangering substances must be stable and leak-proof under the operational strains typically expected during their lifetime. They must be constructed and assembled so that displacement, tilting, or shifting, which may pose a threat to the safety and tightness of the facility, is prevented.	X	X	X
2. Location and Inspection				
2.1	Single-walled containers, piping and other facility parts must be located at a minimum distance from walls or other units that allows visual inspections of the container and ensures that leaks are readily detected. If containers, pipelines, and other facility parts are sheathed for purposes such as heat insulation, other provisions must be made to readily detect leaks. These requirements are fulfilled for containers which satisfy the following criteria:	X	X	--
2.1.1	For containers with a height up to 1.5 m, the distance between the container and the containment wall must be at least 0.4 m. Smaller distances shall only be admissible if the area that cannot be visually inspected is monitored with a leak detection device or has a sufficient downward gradient towards an observable area allowing for the immediate detection of leaks.	X	X	--
2.1.2	Transportable containers with a capacity up to 1,000 liters may be installed without adhering to minimum distances if the containment can be visually inspected.	X	X	--
2.1.3	For containers made from plastic placed in secondary containment, a distance of 0.1 m between the container and the containment wall is sufficient under the following conditions:	X	X	--
	• The containment must be made of a corrosion-resistant material.	X	X	--
	• The height of the containment area must be at least equal to the maximum fill level of the container, less the distance between the container and the containment wall.	X	X	--
	• The contained area must be continuously monitored with an approved leak detection device. It must be ensured that any release is detected by the leak detection device. A leak detection system is not required if the containment can be easily inspected. This is the case if the containment wall is no higher than 1.5 m, and the distance between the	X	X	--

		B[1]	H[2]	R-P[3]
	containment and any other unit is at least 0.4 m.			
2.2	There must be a sufficient distance between the floor and the bottom of the container to detect leaks and to perform a visual inspection of the containment area. The distance is considered sufficient if it corresponds to the requirements of DIN 6623, or fulfills the criteria below. If this distance is not maintained, a leak detection system must be installed.	X	X	--
2.2.1	It is at least equal to 1/50 of the diameter of a cylindrical container, or equal to the length of the shortest edge of the basis of a rectangular container, and	X	X	--
2.2.2	The distance is greater than 0.1 m.	X	X	--
3. Equipment, Safety Devices, Protective Measures				
3.1	Leak detection sensors (Leckagesonde) must detect any potential release of hazardous materials and emit a visual or audio alarm signal if the height of the accidentally released liquid reaches a maximum of 5 cm, measured from the lowest point of the secondary containment.	X	X	X
3.2	Ventilation systems, safety valves, and burst disks (Berstscheiben) must be designed to prevent the build-up of dangerous overpressure or negative pressure in any parts of the facility, particularly in containers and piping. Safety valves and burst disks must have catchment systems for collecting releases.	X	X	X
3.3	Shut-off devices must be easily accessible and easy to operate.	X	X	X
3.4	Automatic safety devices for fires and interruptions in operations (e.g., slide valves, swing valves, gates, or pumps) must have an independent power supply or other additional safeguards to ensure the operation of these devices in the event of power loss.	X	X	X
3.5	Facilities that store, distribute, or handle hazardous substances must be protected against mechanical impairment, especially against collisions.	X	X	--
3.6	Facilities must be constructed, operated, maintained, overhauled and cleaned to ensure leaks are excluded during normal operations and that they are easily detectable in the event of defects. It must be ensured that water endangering substances may not cross the facility boundary in an uncontrolled way. Special response measures must be established for emergencies.	--	X	--
3.7	The following fire protection measures are required:			
3.7.1	In case of fires at facilities that store, distribute, and handle hazardous substances must be designed so that the substances are not released before fire response measures become effective. Materials used for secondary containment must be fire-resistant for a period of at least 30 minutes.	--	X	X

		B[1]	H[2]	R-P[3]
3.7.2	If the above criterion cannot be complied with, appropriate measures are required to prevent the spread of fires from outside areas to the facility and to prevent fires within the facility itself.	--	X	--
4. Secondary Containment				
4.1	Secondary containment systems should be physically located with corresponding containers. Secondary containment systems that are physically separated from corresponding facilities are permitted, if in the event of a release, it is ensured that hazardous substances are safely directed to the containment.	X	X	X
4.2	Incompatible substances that may react in a way leading to the destruction of the secondary containment, if spilled, must be stored in separate containments.	X	X	X
4.3	The secondary containment surface must safely collect releases from splashing or dripping. Parts of the facility where drip losses cannot be excluded must be provided with separate drip trays.	X	X	X
4.4	Secondary containment made of non-metallic porous materials must be designed and constructed to ensure that hazardous substances entering the contained area may only penetrate containment walls up to two-thirds of their total thickness before response measures become effective. This also applies to joints and seams.	X	X	X
4.5	If various materials with partly unknown properties are handled in contained areas, these areas must be regularly inspected for possible releases and penetration through the floor and walls. If this cannot be reliably assessed, leak detection devices are required.	X	X	X
4.6	Pipes and cable crossings through the containment must be permanently leak-proof.	X	X	X
4.7	If the secondary containment itself is made from a material not sufficiently leak-proof, suitable sealing material must be used. The sealing material must be sufficiently resistant to mechanical, thermal, chemical, and biological strains. It must remain leak-proof throughout its lifetime, be resistant to aging, and correspond to the fire safety class B2 according to DIN 4102. For outdoor uses, the sealing material must be resistant to weathering.	X	X	X
4.8	Properties of sealing material:			
4.8.1	Pastes or liquid sealing materials applied to the surface of secondary containment must adhere to the surface they are applied to after drying and solidification. They must cover cracks in the subsurface after solidification. In multi-layer systems, individual layers must be adhesive.	X	--	X
4.8.2	Synthetic liners or sheathing must be included during construction to ensure they are completely tight. They must be chemically resistant to hydrolysis.	X	--	X
4.9	An impermeable surface coating is required in areas where solid hazardous substances are handled that may have adhesive	X	--	X

		B[1]	H[2]	R-P[3]
	properties. Secondary containment must be sufficiently sized to collect the total volume of hazardous materials that can be released until response measures become effective. Automatic alarm systems or regular visual inspections are required. These areas must be protected against rain.			
4.10	The secondary containment volume must correspond to the capacity of the installed container. For several containers with a shared secondary containment, the volume of the secondary containment must be 10 percent of the total volume stored in all containers, and at least equal to the volume of the largest container.	X	X	--
4.11	Stormwater in secondary containment structures must be removed when necessary. In uncovered areas, an additional 5 cm must be added to the required height of containment walls. Outlets of secondary containments are permitted if they are connected to a suitable wastewater treatment unit and equipped with a shut-off valve.	X	X	--
4.12	Transport containers and packaging of liquid substances with a content up to 450 liters are considered appropriate for facilities that store, fill, and conduct trans-shipments of hazardous substances if they are provided with secondary containment complying with requirements detailed above. Without secondary containment, they may only be used for this purpose if adherence to regulations on the transport of dangerous goods has been demonstrated to the district authority for each type of container or packaging used.	X	--	--
4.13	In Hessen, secondary containment outlet drains may be permitted by the competent authority if required for the drainage of stormwater and if it is ensured that water endangering substances cannot be discharged through these drains. Containments for POL storage facilities may be provided with outlets to drain stormwater, if they are lockable and associated with a wastewater treatment plant (municipal or on-site wastewater treatment plant, a POL separator is not considered to be sufficient). Stormwater outlets may be permitted for handling facilities.	X	X	X-
4.14	The stability of the secondary containment must be demonstrated in accordance with the guideline on static stability for containment areas for hazardous substances (Standsicherheits - und Brauchbarkeitsnachweise für beschichtete Auffangräume zur Lagerung wassergefährdender Flüssigkeiten, Institut für Bautechnik).	--	X	--

Notes:
Water Hazard Class 0 has been abolished.
[1]B: Bayern [2]H: Hessen [3]R-P: Rheinland-Pfalz

Appendix C5.A1 Hazard Symbols and Hazard Definitions

Explosive
(*Explosions-gefährlich*)

Oxidizing
(*Brandfördernd*)

Extremely Flammable
(*Hochentzündlich*)

Highly Flammable
(*Leichtentzündlich*)

Very Toxic
(*Sehr giftig*)

Toxic
(*Giftig*)

Corrosive
(*Ätzend*)

Irritant
(*Reizend*)

Harmful to Health
(*Gesundheitsschädlich*)

Harmful to the Environment
(*Umweltgefährlich*)

Appendix C5.A2 Duties of Dangerous Goods Advisor (*Gefahrgutbeauftragter*)

Statutory duties of the Dangerous Goods Advisor include the following.

- To prepare an annual report on the transport of hazardous goods within 6 months of the conclusion of the financial year. The annual report shall include the following:
  - type of hazardous goods ordered according to classification category;
  - quantity of hazardous good in one of the following four increments:
    (1) up to 5 tons
    (2) more than 5 tons and up to 50 tons
    (3) more than 50 tons and up to 1000 tons
    (4) more than 1000 tons;
  - number and type of accidents involving hazardous goods about which a report has been filed;
  - other details that are significant for the assessment of the level of safety.

  The reports shall be kept on file for 5 years and shall be submitted to the relevant host nation authorities upon request.

The statutory duties of the Dangerous Goods Advisor include the supervision of the following:

- processes for ensuring the correct identification of the transported dangerous goods, as required by the regulations;
- DoD procedures ensuring that the special requirements imposed by the transported good are taken into account when purchasing transport vehicles;
- adequate training of the employees, with a note confirming this training in the personnel records;
- processes for the inspection of materials used for dangerous goods transport or for the loading and unloading of these goods;
- implementation of appropriate emergency measures in the case of accidents or incidents that, under certain conditions, could endanger safety during transport or during loading or unloading;
- implementation of investigations and, if reports are necessary, the filing of reports on accidents, incidents, or grave violations established during the transport of dangerous goods or during loading or unloading; the reports shall be submitted to the employer or the commander of the installation;
- the introduction of appropriate measures for the prevention of further accidents, incidents, or violations;
- the observance of the legal provisions and the special requirements imposed by the transport of dangerous goods during the selection and commissioning of subcontractors or other third parties;
- supervising the supply of detailed working instructions and guidelines to the staff entrusted with the transport of dangerous goods or with the loading and unloading of dangerous goods;
- the introduction of measures for providing information on the dangers involved in the transport of dangerous goods or loading and unloading dangerous goods;
- the introduction of measures to ensure the presence of the requisite documents and safety equipment in the transport vehicle; and
- the introduction of processes to ensure the observance of regulations for loading and unloading.

Appendix C5.A3 Material Safety Data Sheet, MSDS (*Sicherheitsdatenblatt*), Explanatory Notes and Sample of an MSDS

Guide to the Compilation of Material Safety Data Sheets

The following explanatory notes are intended as a guide. Their purpose is to ensure that the content of each of the mandatory headings will enable industrial users to take the necessary measures relating to protection of health and safety at the workplace. The information must be written in a clear and concise manner. Additional information may prove necessary in some cases in view of the wide range of properties of the substances and preparations. If, in other cases, it emerges that information from certain properties is of no significance or that it is technically impossible to provide, the reasons for this must be clearly stated.

Although the order of headings is not obligatory, the sequence given below is recommended.

When a safety data sheet has been revised, the changes should be brought to the attention of the recipient.

1. Identification of the substance/preparation and of the company/undertaking

1.1. Identification of the substance or preparation

The term used for identification must be identical to that provided on the label. Other means of identification available may also be indicated.

1.2. Company/undertaking identification

- Identification of the person established within the European Community responsible for placing the substance or preparation on the market whether it be the manufacturer, importer or distributor
- Full address and telephone number of this person

1.3. Emergency telephone number of the company and/or official advisory body

2. Composition/Information on Ingredients

The information given should enable the recipient to readily identify the risks attached to the substance or preparation. In the case of a preparation:

- It is not necessary to give the full composition (nature of the ingredients and their concentration).
- However, the following substances shall be indicated, together with their concentration or concentration range, if they are present in concentrations equal to or greater than those in Table C5.T5:
  - substances presenting a health hazard; and
  - substances subject to recognized exposure limit values pursuant to host nation provisions;

    a) The classification of the above substances shall be given in the form of the symbols and R-phrases which are assigned in accordance with their health hazards;

    b) If the identity of certain substances is to be kept confidential, their chemical nature shall be described in order to ensure safe handling. The name used must be the same as that which derives from the above procedure.

3. Hazards identification

Indicate clearly and briefly the most important hazards the substance or preparation presents, in particular the critical hazards to man and the environment. Describe the most important adverse human health effects and symptoms, relating to the uses and possible misuses, of the substance or preparation that can reasonably be foreseen. The information should be compatible with that shown on the product label but need not repeat it.

4. First-aid measures

Describe first aid measures; however, it is important to specify whether immediate medical attention is required. The information on first aid must be brief and easy to understand by the victim, bystanders, and first-aiders. The symptoms and effects should be briefly summarized. The instructions should indicate what is to be done on the spot in the case of an accident, and whether delayed effects can be expected after exposure. Subdivide the information according to the different routes of exposure, i. e. inhalation, skin and eye contact and ingestion, under different subheadings. Indicate whether professional assistance by a doctor is needed or advisable. For some substances or preparations, it may be important to emphasize that special means to provide specific and immediate treatment must be available at the workplace.

5. Fire-fighting measures

Refer to requirements for fighting a fire caused by the substance or preparation, or arising in its vicinity by indicating:

- suitable extinguishing media;
- extinguishing media which must not be used for safety reasons;
- special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases; and
- special protective equipment for firefighters

6. Accidental release measures

Depending on the substance or preparation involved, information may be needed on:

- Personal precautions such as:

  Removal of ignition sources, provision of sufficient ventilation/respiratory protection, control of dust, prevention of skin and eye contact.

- Environmental precautions such as:

  Keeping away from drains, surface- and groundwater and soil, possible need to alert the neighborhood.

- Methods for cleaning up such as:

  Use of absorbent material (e. g. sand, silica gel, acid binder, universal binder, sawdust) reduction of gases/fumes with water, dilution.

7. Handling and storage

7.1. Handling

Consider precautions for safe handling, including advice on technical measures such as: local and general ventilation, measures to prevent aerosol and dust generation and fire, and any specific requirements or

rules relating to the substance or preparation (e.g. procedures or equipment which are prohibited or recommended), and if possible, give a brief description.

7.2. Storage

Consider the conditions for safe storage, such as: specific design for storage rooms or vessels (including retention walls and ventilation), incompatible materials, conditions of storage (e.g., temperature and humidity limit/range, light, inert gas), special electrical equipment, and prevention of static electricity. Give advice, if relevant, on quantity limits under storage conditions. In particular, indicate any special requirements such as the type of material used in the packaging/containers of the substance or preparation.

8. Exposure controls/personal protection

For the purposes of this document, exposure control means the full range of precautionary measures to be taken during use, in order to minimize worker exposure. Engineering measures should be taken before personal protection equipment is necessary. Therefore, give information on the system design, e. g. enclosure. This information should complement that already given in point 7.1. Indicate, with their references, any specific control parameters such as limit values or biological standards. Give information on the recommended monitoring procedures and indicate the reference.

Where personal protection is needed, specify the type of equipment to provide adequate and suitable protection:

- Respiratory protection:

  In the case of dangerous gases, vapors or dust, consider the need for appropriate protective equipment, such as self-contained breathing apparatus, adequate masks and filters.

- Hand protection:

  Specify the type of gloves to be worn when handling the substance or preparation. If necessary, indicate any additional skin and hand protection measures.

- Eye protection:

  Specify the type of eye protection equipment required, such as: safety glasses, safety goggles, face shield.

- Skin protection:

  If it is necessary to protect a part of the body other than the hands, specify the type and quality of protection equipment required, such as: apron, boots and full protective suit. If necessary, indicate specific hygiene measures.

9. Physical and chemical properties

This section includes the following information, where applicable, on the substances or preparation.

- Appearance: Indicate the physical state (solid, liquid, gas) and the color of the substance or preparation as supplied.

- Odor: If odor is perceptible, describe it briefly.

- pH: Indicate the pH of the substance or preparation as supplied. In the case of an aqueous solution, also indicate its concentration.

- Boiling point/boiling range
- Melting point/melting range
- Flash point
- Flammability (solid, gas)
- Autoflammability
- Explosive properties
- Oxidizing properties
- Vapor pressure
- Relative density
- Solubility: (water solubility, fat solubility for the last solvent – oil, to be specified)
- Partition coefficient: n-octanol/water
- Other data: indicate important safety parameters, such as vapor density, miscibility, evaporation rate, conductivity, viscosity, etc.

The above properties should be determined in accordance with EU regulations or any other comparable method.

10. Stability and reactivity

State the stability of the substance or preparation, and the possibility of hazardous reactions occurring under certain conditions.

- Conditions to avoid:

  List those conditions such as temperature, pressure, light, shock, etc., which may cause a dangerous reaction and if possible give a brief description.

- Materials to avoid:

  List materials such as water, air, acids, bases, oxidizing agents or any other specific substance which may cause a dangerous reaction, and if possible give a brief description.

- Hazardous decomposition products:

  List hazardous materials produced in dangerous amounts upon decomposition.

- Address specifically:

  - the need for, and the presence of, stabilizers
  - the possibility of a hazardous exothermic reaction
  - safety significance, if any, of a change in physical appearance of the substance or preparation

- hazardous decomposition products, if any, formed upon contact with water, possibility of degradation to unstable products

11. Toxicological information

This section deals with the need for a concise, but complete and comprehensible, description of the various toxicological (health) effects that can arise if the user comes into contact with the substance or preparation. Include dangerous-to-health effects from exposure to the substance or preparation, based on both experience and conclusions from scientific experiments. Include information on the different routes of exposure (inhalation, ingestion, skin and eye contact), and describe the symptoms related to the physical, chemical and toxicological characteristics. Include known delayed and immediate effects, and also chronic effects from short- and long-term exposure: for example sensitization, carcinogenicity, mutagenicity and reproductive toxicity, including teratogenicity, and narcosis. Taking account of the information already provided under point 2, 'Composition/information on ingredients', it may be necessary to make reference to specific health effects of certain components in preparations.

12. Ecological information

Give an assessment of the possible effects, behavior, and environmental fate of the substance or preparation. Describe the most important characteristics likely to have an effect on the environment, owing to the nature of the substance or preparation, and likely methods of use:

- mobility
- persistence and degradability
- bioaccumulative potential
- aquatic toxicity and other data relating to ecotoxicity (e.g. behavior in sewage works)

Remarks: Pending criteria for the evaluation of the environmental impact of a preparation, information shall be given for substances classified as dangerous to the environment which are present in the preparation.

13. Disposal considerations

If the disposal of the substance or preparation (surplus, or waste resulting from the foreseeable use) presents a danger, a description of these residues and information on their safe handling shall be given. Indicate the appropriate methods of disposal of both the substance/preparation and any contaminated packaging (incineration, recycling, landfills, etc.)

Comment: Refer to any European Community provisions relating to waste. In their absence, it is useful to remind the user that national or regional provisions may be in force.

14. Transport information

Indicate any special precautions, which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside his premises. Additional information, provided for by the United Nations Recommendation and other international agreements on the transport and packaging of dangerous goods, may also be given.

15. Regulatory information

Give the information on the label according to the Directives relating to the classification, packaging, and labeling of dangerous substances and preparations. If the substance or preparation covered by this safety data sheet is the subject of specific provisions in relation to protection of man or the environment at Community level (e. g. restrictions on marketing and use, limit values for exposure at the place of work) these

provisions should, as far as is possible, be stated. The attention of recipients should also be drawn to the existence of national laws that implement these provisions. It is also recommended that the data sheet should remind recipients to refer to any other national measures that may be relevant.

16. Other information

Indicate any other information, which might be of importance for safety and health, for example:

- training advices;
- recommended uses and restrictions;
- further information (written references and/or technical contact point);
- sources of key data used to compile the data sheet; and
- also provide the date of issue of the data sheet, if not otherwise stated

Safety data sheet

MERCK

According to EC Directive 91/155/EEC
11.2000 from CD-ROM 2000/3 Date of issue: 05.12.1997 Supersedes edition of 06.11.1996

1. Identification of the substance/preparation and of the company/undertaking

Identification of the product

Catalogue No.: 101782

Product name: Benzene extra pure

Manufacturer/supplier identification

Company: Merck KGaA * 64271 Darmstadt * Germany * Tel: +49 6151 72-2440

Emergency telephone No.: Please contact the regional Merck representation in your country.

2. Composition/information on ingredients

Synonyms

Cyclohexatriene

CAS-No.:	71-43-2	EC-Index-No.:	601-020-00-8
M:	78.11 g/mol	EC-No.:	200-753-7
Molecular formula: (Hill)	C_6H_6		

3. Hazards identification

May cause cancer. Highly flammable. Also toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.

Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use.

4. First aid measures

After inhalation: fresh air. If breathing stops: immediately apply mechanical ventilation, if necessary oxygen mask. Immediately summon doctor.
After skin contact: wash off with plenty of water. Dab with polyethylene glycol 400. Immediately remove contaminated clothing.
After eye contact: rinse out with plenty of water for at least 10 minutes with the eyelid held wide open. Summon eye specialist.
After swallowing: make victim drink plenty of water, induce vomiting. Immediately summon doctor. Clean skin of vomit.

5. Fire-fighting measures

Suitable extinguishing media:
powder, foam.

Special risks:
Combustible. Vapours heavier than air. Forms explosive mixtures with air at ambient temperatures. Development of hazardous combustion gases or vapours possible in the event of fire.

Special protective equipment for fire fighting:
Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.

Other information:
Prevent fire-fighting water from entering surface water or groundwater. Cool container with spray water from a save distance. Contain escaping vapours with water.

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Merck Safety Data Sheet 11.2000 from CD-ROM 2000/3 According to EC Directive 91/155/EEC

Catalogue No.: 101782
Product name: Benzene extra pure

6. Accidental release measures

Person-related precautionary measures:
Do not inhale vapours/aerosols. Avoid substance contact. Ensure supply of fresh air in enclosed rooms.

Environmental-protection measures:
Do not allow to enter sewerage system; risk of explosion!

Procedures for cleaning / absorption:
Take up with liquid-absorbent material (e.g. Chemizorb®). Forward for disposal. Clean up affected area.

7. Handling and storage

Handling:

Take measures to prevent electrostatic charging. Keep away from sources of ignition.
Work under hood . Do not inhale substance. Avoid generation of vapours/aerosols.

Storage:

Tightly closed. In a well-ventilated place. Keep away from sources of ignition and heat. At +15°C to +25°C.
Accessible only for authorized persons.

8. Exposure controls/personal protection

Specific control parameter

EC

Name	Benzene
Value	1 ml/m^3
	3.25 mg/m^3
Carcinogenic	C 1:(known to be carcinogenic to man)

German regulations

MAK Germany (max. workplace conc.)

Name	Benzene
Value	see MAK-List - Section IX: Carcinogenic Working Materials
Carcinogenic	cat. 1 carcinogenic for men
Mutagenic	cat. 3 damage to genetic material proven
Skin resorption	Risk of skin absorption

Personal protective equipment:

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory protection:	required when vapours/aerosols are generated. Filter A (acc. to DIN 3181) for vapours of organic compounds, Respirator.
Eye protection:	required
Hand protection:	required

Industrial hygiene:
Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance. Under no circumstances eat or drink at workplace. Work under hood . Do not inhale substance. Avoid generation of vapours/aerosols.

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Catalogue No.: 101782
Product name: Benzene extra pure

9. Physical and chemical properties

Form:		liquid			
Colour:		colourless			
Odour:		characteristic			
pH value			not available		
Viscosity dynamic		(20 °C)	0.66	mPa*s	
Viscosity kinematic			0.75	mm^2/s	
Melting point			5.5	°C	
Boiling point			80.1	°C	
Ignition temperature			555	°C	(DIN 51794)
Flash point			-11	°C	(DIN 51755)
Explosion limits	lower		1.4	Vol%	
	upper		8.0	Vol%	
Vapour pressure		(20 °C)	101	hPa	
Density		(20 °C)	0.88	g/cm^3	
Solubility in water		(20 °C)	1.770	g/l	
log P(oct):			2.13		
Bioconcentration factor			1-10		

10. Stability and reactivity

Conditions to be avoided

Heating.

Substances to be avoided

mineral acids, sulfur, halogens, halogen-halogen compounds, oxidizing agent, (i.a. nitric acid, ozone, peroxi compounds, oxyhalogenic compounds, CrO_3), halogenated hydrocarbons (in the presence of: light metals).

Hazardous decomposition products

not known to date

Further information

steam-volatile;
incompatible with rubber, various plastics.
Explosible with air in a vaporous/gaseous state.

11. Toxicological information

Acute toxicity

LD_{50} (oral, rat): 930 mg/kg.
LC_{50} (inhalation, rat): 44 mg/l /4 h.
LDLo (oral, human): 50 mg/kg.

Skin irritation test (rabbit): Slight irritations.
Eye irritation test (rabbit): Severe irritations.

The literature data available to us do not conform with the labelling prescribed by the EC. The EC has dossiers which have not been published.

Subacute to chronic toxicity

Experience has shown this substance to be carcinogenic in man. A mutagenic effect has been demonstrated in animal studies on mammals, justifying the assumption that exposure of humans to the substance produces hereditary damage.

Mutagenic effect in animal experiments.
No teratogenic effect in animal experiments.
The data available on the impairment of reproductive performance are inadequate for any assessment.

Bacterial mutagenicity:
Salmonella typhimurium: negative.

Further toxicological information

After skin contact: irritant effect. Danger of skin absorption. No sensitizing effect. Degreasing effect on the skin, possibly followed by secondary inflammation.
After eye contact: mucosal irritations.
After swallowing: nausea and vomiting. Risk of aspiration upon vomiting.
After absorption: headache, dizziness, cardiac dysrhythmia, drop in blood pressure, dyspnoea, agitation, spasms, narcosis, cardiovascular failure, respiratory paralysis, death.

Further data

This substance should be handled with particular care.

Merck Safety Data Sheet 11.2000 from CD-ROM 2000/3 According to EC Directive 91/155/EEC

Catalogue No.: 101782
Product name: Benzene extra pure

12. Ecological information

Biologic degradation:
Readily biodegradable (reduction: DOC >70 %; BOD >60 %; BOD_5 to COD >50 %).

Behavior in environmental compartments:
Distribution preferentially in air.
log P(oct): 2.13;
No appreciable bioaccumulation potential is to be expected (log P(o/w) 1-3).
BCF: 1-10.

Ecotoxic effects:
Biological effects: Toxic for aquatic organisms. Endangers drinking-water supplies if allowed to enter soil or water. Risk of formation of toxic and explosive mixtures with air above water surface.
Fish toxicity: Onchorhynchus mykiss LC_{50}: 5.3 mg/l /96 h;
C.auratus LC_{50}: 34 mg/l /96 h;
Daphnia toxicity: Daphnia magna EC_{50}: 200 mg/l /48 h;
Algeal toxicity: Chlorella vulgaris IC_{50}: 530 mg/l /24 h;
Bacterial toxicity: Ps.putida EC_{10}: 168 mg/l

Further ecologic data:
Degradability:
BOD 71 % of ThOD /5 d;
COD 19 % of ThOD;
ThOD: 3.10 g/g;

Do not allow to enter waters, waste water, or soil!

13. Disposal considerations

Product:

There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding laws and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste.

Packaging:

Disposal in compliance with official regulations. Handle contaminated packaging in the same way as the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

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Merck Safety Data Sheet 11.2000 from CD-ROM 2000/3 According to EC Directive 91/155/EEC

Catalogue No.: 101782
Product name: Benzene extra pure

14. Transport information

Land transport	GGVS, GGVE, ADR, RID
Classification	3/3b
Name	1114 BENZEN
River transport	ADN, ADNR
Classification	not tested
Sea transport	IMDG, GGVSee
Classification	3.2/UN 1114/PG II
Ems	3-03
MFAG	312
Name	BENZENE
Air transport	ICAO, IATA
Classification	3/UN 1114/PG II
Name	BENZENE

The transport regulations are cited according to international regulations and in the form applicable in Germany (GGVS/GGVE). Possible national deviations in other countries are not considered.

15. Regulatory information

Labelling according to EC Directives

Symbol:	F	Highly flammable
	T	Toxic
R-phrases:	45-11-48/23/24/25	May cause cancer. Highly flammable. Also toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
S-phrases:	53-45	Avoid exposure - obtain special instructions before use. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
EC-No.:	200-753-7	EC label

16. Other information

Reason for alteration

General update.

Regional representation:

This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.

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Appendix C5.A4 Hazard Signs (*Warnzeichen*)

Warning!
Flammable Substances

Warning!
Explosive Substances

Warning!
Toxic Substances

Warning!
Corrosive Substances

Warning!
Combustible Substances

Warning!
Harmful to Health or
Irritant Substances

Warning!
Pressurized Gas
Bottles

Warning!
Danger from Batteries

Warning!
Explosive Atmosphere

Appendix C5.A5 Mandatory Signs (*Gebotszeichen*)

Wear safety goggles

Wear hard hat

Wear ear protection

Wear respirator

Wear safety boots

Wear safety gloves

Appendix C5.A6 Example of Operating Instructions, SOP (Standard Operation Procedure) (*Betriebsanweisung*)

Arbeitsbereich Waschkabine	**Betriebsanweisung Hochdruckreiniger**	XY Maschinenfabrik GmbH
Tätigkeit:	Zubereitung der alkalischen Reinigungslösung (Vapornet Reinigungsmittel) Reinigung von Metallteilen mittels Hochdruckreiniger	

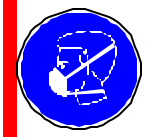
Gefahren für Mensch und Umwelt

Unbeabsichtigter Kontakt des Produktes oder des Sprühnebels mit dem Auge oder der Haut
Einatmung des erzeugten Sprühnebels

Gefährdungen

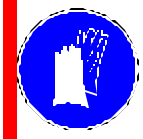
Wirkt ätzend auf die Augen und die Haut
Schadstoffaufnahme über die Atemwege, über Hautkontakt
und über die Nahrung (bei mangelnder Hygiene) möglich

Schutzmaßnahmen



Schutz der Atemwege:

Halbmaske mit Filter verwenden

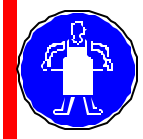


Schutz der Hände:

Handschuhe benutzen

Schutz der Augen:

Vollschutzbrille oder Schutz-schild benutzen



Allgemeine Schutz- und Hygienemaßnahmen:

Schürze verwenden, Augen und Schleimhautkontakt vermeiden

Verhaltensregeln:

Hautschutzpflegemittel verwenden

In den Pausen und bei Arbeits-ende Hände gründlich waschen

Im Arbeitsbereich nicht Essen, Trinken oder Rauchen

Verhalten bei Gefahr

Außerhalb der Waschkabine ausgelaufene Lösung mit Bindemittel aufnehmen. Verunreinigte Bindemittel in die gekennzeichneten Behälter zu Entsorgung geben.

Erste Hilfe

Augenkontakt

Die Augen mindestens 10 Minuten lang mit fließendem Wasser ausspülen. Wenn die Reizung nicht nachläßt, Arzt aufsuchen.

Hautkontakt

Haut mit fließendem Wasser und neutraler Seife waschen.

Inhalation

Verschlucken: Arzt aufsuchen (Betriebsanweisung vorlegen)

Appendix C5.A7 Requirements on Ordinary and Conventional Facilities (*einfache und herkömmliche Anlagen*)

1. In Hessen, facilities are classified as ordinary and conventional facilities

   A. if they fall under Water Hazard Category (*Gefährdungsstufe*) A, or

   B. if they do not fall under Water Hazard Category (*Gefährdungsstufe*) A, but have a maximum volume of 450 liters, and

      1. are double-walled or above-ground single-walled storage containers and are equipped with secondary containment, and

      2. are equipped with automatic leak detection (except for above-ground storage containers that are equipped with secondary containment), and

      3. if the secondary containment can retain the entire volume of the storage container (in case there are several containers: the secondary containment must retain the volume of the largest container, but at least 10 percent of the total storage volume), and

      4. meet the specific criteria stipulated by the upper water authority (oberste *Wasserbehörde)* for Hessen for ordinary and conventional storage facilities.

   Containers (*Behälter*) and packages (*Verpackungen*) with a maximum volume of 450 liters that are part of storage or handling areas fall under the category "ordinary and conventional" if they comply with all applicable legislation for hazardous goods (*gefahrgutrechtlich zulässig*).

   Other drums and cans with a maximum volume of 450 liters used for the storage of substances that are hazardous to water fall under the category "ordinary and conventional" if they are equipped with secondary containment that can retain the entire volume of the storage container, or in case of drum and can storage areas (*Faß- und Gebindeläger*), if they meet the specific regulatory requirements inn Hessen.

2. In Bayern, facilities are classified as ordinary and conventional facilities

   A. If they fall under Water Hazard Category (Gefährdungsstufe) A, and are equipped with secondary containment, comply with the specific regulatory requirements in Bayern, and if the piping system is above-ground or if, for safety reasons, it is impossible to install aboveground piping, the underground piping system is double-walled, designed as a suction channel, equipped with an automatic leak detection system and fitted with a leak-proof protective sheathing or installed in a channel.

   B. If they do not fall under Water Hazard Category (Gefährdungsstufe) A, but are above-ground, equipped with secondary containment, comply with the regulatory specific requirements in Bayern and with the generally recognized rules of technology (Allgemein anerkannte Regeln der Technik), and if the piping system is above-ground. If, for safety reasons, it is impossible to install above-ground piping, the underground piping system must be double-walled, designed as a suction channel, equipped with a leak detection system, and be fitted with a leak-proof protective sheathing or be installed in a channel.

   C. If they do not fall under Water Hazard Category (Gefährdungsstufe) A, are underground storage facilities used for the storage of substances that are hazardous to water, are equipped with secondary containment, comply with the specific regulatory requirements in Bayern and with the generally recognized rules of technology, and if the storage containers (Lagerbehälter) are double-walled and equipped with an automatic leak detection system, and if the piping system is above-ground. If, for safety reasons, it is impossible to install above-ground piping, the underground piping system must be double-walled, designed as a suction channel, equipped with a leak detection system, and be fitted with a leak-proof protective sheathing, or be installed in a channel.

3. In Baden-Württemberg and Rheinland-Pfalz, facilities are classified as "ordinary and conventional"

   A. if they fall under Water Hazard Category (Gefährdungsstufe) A, or

B. if they do not fall under Water Hazard Category (Gefährdungsstufe) A, but

1. if the storage containers (*Lagerbehälter*) are double-walled or above-ground single-walled containers with liquid-proof secondary containment, and

2. if they are equipped with an automatic leak detection system (except for above-ground containers in sufficient secondary containment) (sufficient secondary containment means that the secondary containment can retain the entire volume of the container (in case there are several above-ground containers: the secondary containment must retain the volume of the largest container, but at least 10 percent of the total volume.)), and

3. comply with applicable technical specifications and construction regulations.

Additionally, in Rheinland-Pfalz, the following specific criterion for drum storage areas applies:

Drum storage areas (*Faß- und Gebindeläger*) fall under the category “ordinary and conventional facilities” if they comply with applicable legislation for hazardous materials and if they are equipped with secondary containment that meets the specific regulatory requirements in Rheinland-Pfalz.

Appendix C5.A8 Official Leaflets (Merkblätter) for Bayern, Hessen, and Rheinland-Pfalz

1. Official Leaflets (*Merkblätter*) Issued by the State of Bayern

1.1 Leaflet for the Operation of Heating Oil Powered Facilities

Merkblatt Bayern

Betriebs - und Verhaltensvorschriften für Betreiber von Heizölverbraucheranlagen nach § 19 g Wasserhaushaltsgesetz (WHG) und § 9 Abs. 2 der Anlagenverordnung (VAwS) vom 3.8.1996 (GVBl S. 348 ff.)

An gut sichtbarer Stelle in der Nähe der Heizungsanlage anbringen!

1. Sorgfalt und Aufmerksamkeit beim Betrieb

Für Behälter und Sicherheitseinrichtungen werden regelmäßig Betriebs - und Bedienungsanleitungen und behördliche Zulassungen mitgeliefert. Die Betriebs - und Bedienungsanleitungen sind zu beachten und einzuhalten. Bewahren Sie die Schriftstücke sorgfältig auf!

2. Vorsicht beim Befüllen und Entleeren

Das Befüllen und Entleeren ist ununterbrochen zu überwachen.

Behälter in Anlagen zum Lagern von Heizöl EL von mehr als 1 000 l Volumen dürfen aus Straßentankwagen und Aufsetztanks nur mit festen Leitungsanschlüssen und unter Verwendung einer selbsttätig schließenden Abfüllsicherung befüllt werden.

Behälter bis zu einem Volumen von 1 000 l dürfen mit einer selbsttätig schließenden Zapfpistole befüllt werden.

Tropfendes Heizöl ist aufzufangen. Vor jedem Befüllen ist zu prüfen, welche Menge aufgenommen werden kann und ob die Abfüllsicherung (Grenzwertgeber) sich in ordnungsgemäßem Zustand befindet. Beim Befüllen ist darauf zu achten, daß der zulässige Betriebsdruck nicht überschritten wird.

3. Eigenüberwachung

Prüfen Sie regelmäßig oberirdische Anlagenteile wie Tank, Rohrleitungen und den Auffangraum durch Sichtprüfung auf Dichtheit. Bei doppelwandigen Behältern mit Leckanzeigegerät muß das Leckanzeigegerät immer in Betrieb sein; ein Alarm muß sicher bemerkt werden können. Machen Sie sich Aufzeichnungen über die Eigenüberwachungen. Sind Sie selbst nicht hinreichend fachkundig, sollten Sie einen Wartungsvertrag mit einem geeigneten Betrieb abschließen.

4. Fachbetriebspflicht

Tätigkeiten an Heizöl-Lagerungsanlagen mit mehr als 10 000 l Volumen dürfen nur von Fachbetrieben ausgeführt werden. Die Fachbetriebseigenschaft ist gegenüber den Betreibern einer Anlage nachzuweisen, wenn diese den Fachbetrieb mit fachbetriebspflichtigen Tätigkeiten beauftragen.

Heizöl-Lagerungsanlagen von 1 000 bis 10 000 l Volumen sind von der Fachbetriebspflicht ausgenommen, wenn vom beauftragten Handwerksbetrieb eine Unternehmererklärung über die vorgenommenen Tätigkeiten

ausgestellt und der Kreisverwaltungsbehörde zur Ergänzung der Anzeige nach Art. 37 BayWG übermittelt wird.

Anlagen unter 1 000 l Volumen sind von der Fachbetriebspflicht befreit.

5. Prüfung durch Sachverständige

Unterirdische Anlagen unabhängig vom Volumen und oberirdische Anlagen mit einem Volumen von mehr als 10 000 l müssen vor Inbetriebnahme, nach einer wesentlichen Änderung, wiederkehrend alle fünf Jahre und bei Stillegung von bestellten Sachverständigen geprüft werden. Oberirdische Anlagen in Wasserschutzgebieten unterliegen der Prüfpflicht bereits ab einem Volumen von 1 000 l; bei unterirdischen Anlagen in Wasserschutzgebieten sind die Prüfungen alle zweieinhalb Jahre zu wiederholen.

Oberirdische Anlagen mit einem Volumen von mehr als 10 000 l bis zu 40 000 l, die bereits vor dem 01.10.1996 eingebaut oder aufgestellt waren, müssen erstmals bis zum 31.12.1999 durch Sachverständige überprüft werden.

Bei den Prüfungen festgestellte Mängel müssen Sie unverzüglich beseitigen lassen. Werden erhebliche Mängel an der Anlage festgestellt, bedarf deren Beseitigung der Nachprüfung durch Sachverständige. Bei gefährlichen Mängeln ist die Anlage unverzüglich außer Betrieb zu nehmen. Die Wiederinbetriebnahme ist erst nach Vorlage einer Sachverständigenbestätigung bei der Kreisverwaltungsbehörde zulässig.

6. Schadensfall

Nehmen Sie Ihre Anlage bei Schadensfällen und Störungen außer Betrieb, wenn die Gefahr besteht, daß Heizöl austritt der bereits ausgetreten ist. Informieren Sie unverzüglich die Kreisverwaltungsbehörde (Landratsamt) oder die nächste Polizeidienststelle.

Tragen Sie bitte in Ihrem Interesse die Telefonnummer ein!

Kreisverwaltungsbehörde:	
Feuerwehr:	***Polizei:***

1.2 Leaflet for the Operation of Facilities Used for Storage and Distribution of Water Endangering Substances

Merkblatt

Betriebs- und Verhaltensvorschriften für das Lagern und Abfüllen wassergefährdender Stoffe

Diese Anlage beinhaltet …m³ wassergefährdende Stoffe der Wassergefährdungsklasse(n) …… und ist der Gefährdungsstufe …… zuzuordnen.
Die Anschlüsse am Abfüllplatz sind mit dem Stoffnamen, dem jeweiligen maximal zulässigen Betriebsdruck (bar) und den maximal zulässigen Volumenstrom (l/min) gekennzeichnet

Wichtige Rufnummern	Sorgfalt und Aufmerksamkeit beim Betrieb	Vorsicht beim Befüllen und Entleeren	Kontrolle aller Sicherheits-einrichtungen	Eigenüberwachung	Fremdüberwachung (Sachverständige/Fachbetriebe)
Betriebszentrale ..... *Polizei..... .....* *Feuerwehr..... .....* *Kreisverwaltung (Landratsamt) .....*	- *Bedienungs- und Betriebsan-* - *weisung beachten* - *behördliche Zulassungen beachten* - *Sind die Bedienungs- und Betriebsanwei-- sung eingehalten?* - *Werden die behördlichen Zulassungen eingehalten?*	- *Ist der Standortplatz des TKW in Ordnung (Risse, Löcher)?* - *Ist die Entwässerung gesichert (vorhandener Absperrschieber geschlossen!)?* - *Wird der richtige Schlauch verwendet?* - *Sind die Schlauch-verbindungen richtig angeschlossen?* - *Ist der Fließweg zum richtigen Behälter freigegeben (Schieberstellungen)?* - *Wie voll ist der angeschlossene Behälter (Freiraum)?* - *Ist die Gaspendelleistung richtig angeschlossen? (soweit erforderlich)* - *Sind ausreichende Bindemittel vorhanden (Verfallsdatum beachten?)*	- *Ist die Überfüll-sicherung überprüft?* - *Wird der zulässige Betriebsdruck nicht überschritten?* - *Funktioniert der Alarm bzw. die Pumpenab-schaltung bei max. Füllstand oder NOTAUS (erforderliche Prüfungen durchgeführt)?* - *Ist der Tankkraftwagen mit einer Abfüllsicherung ausgerüstet und ist diese richtig angeschlossen?*	- *Jede Unregelmäßigkeit ist der Betriebszentrale unverzüglich mitzuteilen. (Telefon–Nr:.....) (Risse in den Rückhalteeinrichtungen, Austreten von Tropfverlusten an Verbindungsstellen, unterbrochene Kontakte u.a.)* - *Sind die Ergebnisse der Eigenüberwachung im Betriebsbuch protokolliert und entsprechende Maßnahmen bei Unregelmäßigkeiten eingeleitet?* - *Wurden die nach den behördlichen Zulassungen erforderlichen technischen Prüfungen durchgeführt (z.B. einmal jährlich Funktion der Überfüllsicherung)?*	- *Wurde die Anlage einer kompletten (abschließenden) Abnahmeprüfung unterzogen?* - *Wurde eine Mängelbeseitigung durchgeführt? (soweit erforderlich)* - *Sind die Fristen der wiederkehrenden Prüfu eingehalten? (soweit vorgeschrieben)*

2. Official Leaflets (*Merkblätter*) Issued by the State of Hessen

2.1 Leaflet for the Operation of Heating Oil Powered Facilities

Merkblatt

Betriebs- und Verhaltensvorschriften für Betreiber von Heizölverbraucheranlagen nach § 19 g des Wasserhaushaltsgesetzes (WHG) und § 9 Abs. 2 der Anlagenverordnung (VAwS Hessen) vom 16. September 1993 (GVBl. 1 S. 409), zuletzt geändert durch Art. 36 des Gesetzes vom 15. Juli 1997 (GVBl. I S. 217) *)

An gut sichtbarer Stelle in der Nähe der Heizungsanlage anbringen!

1. Zulassungen, Betriebsanleitungen

Beachten Sie die zur Anlage gehörenden Zulassungen und Betriebsanleitungen! Bewahren Sie sie sorgfältig auf:

2. Fachbetriebspflicht

Beauftragen Sie zum Einbau, zur Aufstellung, zur Instandhaltung, Instandsetzung und Reinigung Fachbetriebe nach § 19 i Wasserhaushaltsgesetz (WHG)! Bei mehr als 10.000 l Lagervolumen ist dies eine gesetzliche Pflicht (§ 19 i WHG, § 24 Anlagenverordnung (VAwS). Ein Fachbetrieb hat Ihnen seine Fachbetriebseigenschaft auf Anforderung durch Bestätigung einer anerkannten Überwachungs- und Gütegemeinschaft oder einer Technischen Überwachungsorganisation (§ 26 VAwS) nachzuweisen.

3. Eigenüberwachung

Prüfen Sie regelmäßig Ihren Tank und die Rohrleitungen auf Dichtigkeit durch Sichtprüfung und Kontrolle des Füllstandes sowie der Verbrauchsmengen (§ 19 i Abs. 2 Satz 1 WHG)! Achten Sie bei einem doppelwandigen Tank mit Leckanzeigegerät darauf, daß das Leckanzeigegerät immer in Betrieb ist und ein Alarm auch sicher bemerkt wird! Prüfen Sie bei einem Tank im Auffangraum regelmäßig den Auffangraum auf Dichtigkeit und Austritte von Heizöl (Leckagen)! Machen Sie sich zu Ihrer Sicherheit Aufzeichnungen über die Eigenüberwachung und die Ergebnisse! Sind Sie selbst nicht hinreichend fachkundig, sollten Sie einen Wartungsvertrag mit einem geeigneten Betrieb abschließen.

4. Befüllen der Behälter

Der Lieferant des Heizöls muß das Befüllen da Behälter ununterbrochen überwachen (§ 19 k WHG). Behälter mit einem Rauminhalt von mehr als 1.000 l dürfen nur befüllt werden, wenn eine ordnungsgemäß funktionierende Abfüllsicherung vorhanden ist, die selbsttätig vor Überfüllung des Behälters den Füllvorgang unterbricht (§ 20 Abs. 1 VAwS). Behälter bis zu 1.000 l Rauminhalt dürfen mit einer selbsttätig schließenden Zapfpistole befüllt werden. Vor jedem Befüllen hat der Lieferant zu prüfen, welche Menge der Behälter aufnehmen kann und ob eine erforderliche Abfüllsicherung in Ordnung ist. Achten auch Sie hierauf, im Schadensfalle müssen Sie für die Kosten aufkommen, falls kein Verursacher herangezogen werden kann.

5. Prüfung durch Sachverständige

Alle unterirdischen Behälter, unabhängig, von ihrer Größe, und oberirdische Behälter mit einem Rauminhalt von mehr als 10.000 l müssen vor Inbetriebnahme, nach einer wesentlichen Änderung, wiederkehrend alle fünf Jahre und bei Stillegung von anerkannten Sachverständigen geprüft werden (§ 19 i Abs. 2 Satz 3 WHG). Oberirdische Behälter in Wasserschutzgebieten unterliegen dieser Prüfpflicht bereits, wem dir Rauminhalt mehr als 1.000 l beträgt. Außerhalb von Schutzgebieten müssen oberirdische Behälter mit einem Rauminhalt von mehr als 1.000 l und bis zu 10.000 l nur vor Inbetriebnahme und nach einer wesentlichen Änderung geprüft werden. Unterirdische Behälter in Wasserschutzgebieten müssen wiederkehrend bereits alle zweieinhalb Jahre geprüft werden (§ 23 Abs. 1 VAwS). Oberirdische Behälter mit einem Rauminhalt von mehr als 10.000 l und bis zu 40.000 l, die bereits vor dem 1. Oktober 1993 bestanden haben, mußten erstmals bis zum 30. September 1997 durch Sachverständige geprüft werden (§ 28 Abs. 6 VAwS). Es ist Ihre Aufgabe, Sachverständige rechtzeitig zu beauftragen, die Prüfungen durchzuführen. Listen anerkannter Sachverständiger haben die Wasserbehörden. Bringen Sie das Merkblatt "Prüfungen" in der Nähe Ihrer Anlage an! Bei den Prüfungen festgestellte Mängel müssen Sie unverzüglich beseitigen lassen (§ 23 Abs. 7 VAwS). Die Wasserbehörde erhält ebenfalls den Prüfbescheid und überwacht die Mängelbeseitigung.

6. Schadensfälle

Nehmen Sie Ihre Anlage bei Schadensfällen und Störungen außer Betrieb, wenn die Gefahr besteht, daß Heizöl austritt oder bereits ausgetreten ist (§ 18 VAwS). Informieren Sie unverzüglich die Wasserbehörde, die nächste Polizeidienststelle (§ 31 Abs. 6 Hessisches Wassergesetz (HWG)) oder die Feuerwehr.

Tragen Sie bitte in Ihrem Interesse die Telefonnummern ein!

Wasserbehörde	Polizei:
Feuerwehr	

*)Das Hessische Ministerium für Umwelt, Energie, Jugend, Familie und Gesundheit gab zu dieser Regelung mit Erlaß vom 14. Mai 1998 folgende Erläuterungen:

> "Die Daten der Anlagen zum Umgang mit wassergefährdenden Stoffen und die Ergebnisse der durchgeführten Anlagenprüfungen durch sachverständige Stellen nach § 22 VAwS werden derzeit überwiegend durch die kommunalen Gebietsrechenzentren und durch die Kommunale Informationsverarbeitung (KM erfaßt und im Auftrag der Wasserbehörden weiterverarbeitet. Die Eingaben der Daten erfolgt dabei durch die jeweilige zuständige Wasserbehörde. Von den Wasserbehörden war der Wunsch geäußert worden, diese Dateneingabe durch verbindliche Mängelkennziffern zu vereinfachen."

2.2 Leaflet for the Inspection of Facilities Used for Storage, Distribution and Handling of Water Endangering Substances

Merkblatt für Prüfungen

von Anlagen zum Umgang mit wassergefährdenden Stoffen nach den §§ 19 g und 19 i Wasserhaushaltsgesetz (WHG) und § 23 der Anlagenverordnung (VAwS Hessen)

An gut sichtbarer Stelle in der Nähe der Heizungsanlage anbringen!
(oder sichere betriebliche Ablage mit Terminkontrolle)

Hersteller:_____Anlagentyp:_____

Anlagen-Nr.:_____Inbetriebnahmejahr:_____

Anlagenbetreiber:_____

Prüfdatum Vorschrift: Prüfung vor Inbetriebnahme und wiederkehrend alle 5 Jahre oder alle 2,5 Jahre bei unterirdischen Anlagen in Wasserschutzgebieten	Prüfung durchgeführt am/durch Vorschrift: Prüfung durch anerkannte Sachverständige nach §§ 22 und 23 der Anlagenverordnung	Mängelbeseitigung erforlich, ja/nein Entsprechend dem Prüfbericht des Sachverständigen	Mängel beseitigt -am/durch Vorschrift: Bei Anlagen der Gefährdungstufen C und D (§ 6 VAwS) dürfen mir Fachbetriebe nach § 19 l WHG Mängel beseitigen. Heizölverbraucheranlagen mit mehr als 10 m³ sind fachbetriebspflichtig
Prüfung vor Inbetriebnahme oder Wiederinbetriebnahme oder noch einer wesentlichen Änderung § 19 i Abs. 3 Satz 3 Nr. 1 und 3 WHG und § 23 Abs. 8 oder § 28 Abs. 6 VAwS			
1. wiederkehrende Prüfung § 19 i Abs. 3 Satz 3 Nr. 2 WHG und § 23 Abs. 9 VAwS			
2. wiederkehrende Prüfung			
3. wiederkehrende Prüfung			
4. wiederkehrende Prüfung			
5. wiederkehrende Prüfung			
6. wiederkehrende Prüfung			
7. wiederkehrende Prüfung			

Datum der Stillegung	Stillegungs-Prüfung am/durch (Sachverständigen)
	§ 19 i Abs. 3 Satz 3 Nr. 5 WHG und § 23 Abs. 10 VAwS

3. Official Leaflet (*Merkblatt*) Issued by the State of Rheinland-Pfalz

3.1 Leaflet for the Operation of Facilities Used for Storage, Distribution and Handling of Water Endangering Substances (Second Page)

Anlage

Vorderseite: Merkblatt "Betriebs- und Verhaltensvorschriften beim Umgang mit wassergefährdenden Stoffen"

Rückseite

Das Bedienungspersonal über den Inhalt bitte unterrichten.

1. Sorgfalt beim Betrieb!

   Für jeden Behälter und für Sicherheitseinrichtungen werden Betriebsanleitungen und behördliche Zulassungen mitgeliefert. Sie enthalten für den Betrieb wichtige Hinweise und sind zu beachten.

2. Vorsicht beim Befüllen und Entleeren!

   Das Befüllen und Entleeren ist ununterbrochen zu überwachen.

   Behälter in Anlagen zum Lagern von Heizöl EL, Dieselkraftstoff, Ottokraftstoff sowie von anderen flüssigen Stoffen dürfen nur mit festen Leitungsanschlüssen und unter Verwendung einer zugelassenen Überfüllsicherung, die rechtzeitig vor Erreichen des zulässigen Flüssigkeitsstandes den Füllvorgang unterbricht oder akustischen Alarm auslöst befüllt werden.

   Behälter in Anlagen zum Lagern von Heizöl EL und Dieselkraftstoffen dürfen aus Straßentankwagen und Aufsetztanks nur unter Verwendung einer selbsttätig schließenden Abfüll- oder Überfüllsicherung befüllt werden.

   Vor dem Befüllen ist zu prüfen, wieviel Lagerflüssigkeit der Behälter aufnehmen kann und ob die Sicherheitseinrichtungen, insbesondere der Grenzwertgeber, in ordnungsgemäßem Zustand sind. Beim Befüllen ist unbedingt darauf zu achten, dass der zulässige Betriebsüberdruck nicht überschritten wird, um ein Bersten des Behälters und der Rohrleitungen zu vermeiden.

3. Kontrolle aller Sicherheitseinrichtungen!

   Sicherheitseinrichtungen und Schutzvorkehrungen müssen ununterbrochen wirksam sein. Wer selbst den Zustand der Anlage nicht beurteilen und Störungen nicht beheben kann, muss einen Sachverständigen oder einen zugelassenen Fachbetrieb nach § 19l des Wasserhaushaltsgesetzes (WHG) einschalten.

4. Wartung durch Fachbetriebe!

   Errichtung, Instandhaltung, Instandsetzung und Reinigung dürfen ab einer bestimmten Gefährdungsstufe der Anlage nur von zugelassenen Fachbetrieben durchgeführt werden. Ein Fachbetrieb hat Ihnen seine Fachbetriebseigenschaft auf Anforderung nachzuweisen.

5. Anlage von Sachverständigen überprüfen lassen!

   Prüfpflichtige Anlagen sind zu den vorgeschriebenen Prüfungszeitpunkten unaufgefordert und auf eigene Kosten durch zugelassene Sachverständige überprüfen zu lassen. Dem Sachverständigen sind vor der Prüfung alle für die Anlage erteilten behördlichen Bescheide, sowie die vom Hersteller ausgehändigten Bescheinigungen und Zulassungen vorzulegen. Der Betreiber der Anlage ist für die Vollständigkeit der Unterlagen und die Beseitigung der vom Sachverständigen festgestellten Mängel verantwortlich.

   Zeitpunkt der Prüfung:

   1. Vor der ersten Inbetriebnahme, nach einer wesentlichen Änderung, vor Wiederinbetriebnahme einer langer als 1 Jahr dauernden Stilllegung;

   2. wiederkehrend in Zeitabständen von höchstens 5 Jahren, in Schutzgebieten 2 ½ Jahre.

   Inbetriebnahme am: .....

   wiederkehrende Prüfung am: .....

   wiederkehrende Prüfung am: .....

   wiederkehrende Prüfung am: .....

   wiederkehrende Prüfung am: .....

   wiederkehrende Prüfung am: .....

6. Bei Gefahr Anlage außer Betrieb nehmen!

   Bei Betriebsstörungen und Schadensfällen ist die Anlage unverzüglich außer Betrieb zu nehmen und, soweit erforderlich, wenn das Austreten oder die Gefahr des Austritts wassergefährdender Stoffe aus der Anlage nicht auf andere Weise verhindert oder unterbunden werden kann.

7. Schaden melden!

   Das Austreten wassergefährdender Stoffe ist unverzüglich der nächsten Polizeidienststelle, der Feuerwehr oder der Wasserbehörde zu melden, wenn die Stoffe in ein oberirdisches Gewässer, in den Untergrund oder in die Kanalisation eingedrungen sind oder einzudringen drohen.

8. Anzeigepflicht!

   Anzeigepflichtig ist der Betreiber, der Fahrzeugführer oder wer die Anlage instandhält, instandsetzt, reinigt, überwacht oder prüft oder das Austreten des wassergefährdenden Stoffes verursacht hat.

3.2 Leaflet for the Operation of Facilities Used for Storage, Distribution, and Handling of Water Endangering Substances (front page only)

Merkblatt

Betriebs- und Verhaltensvorschriften für den Umgang mit wassergefährdenden flüssigen Stoffen.

Diese Anlage kann Grundwasser, Bäche, Flüsse und Seen gefährden.

Deshalb:

1. Sorgfalt beim Betrieb !
2. Vorsicht beim Befüllen und Entleeren !
3. Kontrolle aller Sicherheitseinrichtungen !
4. Wartung durch Fachbetriebe !
5. Anlage vom Sachverständigen prüfen lassen !
6. Bei Gefahr Anlage außer Betrieb nehmen !
7. Im Schadensfall sofort verständigen :

Kreis-/Stadtverwaltung

.....

in .....Tel: .....

oder Polizeidienststelle

in .....Tel: .....

oder Feuerwehr

in .....Tel: .....

An gut sichtbarer Stelle in der Nähe der Anlage anbringen

Nähere Angaben siehe Rückseite

Appendix C5.A9 Example for Written Instructions (*schriftliche Weisungen*) According to ADR

Schriftliche Weisung für den Straßentransport

Ladung **METHANOL**

Klasse 3

Ziffer 17 b

Eigenschaften des Ladegutes

Farblose Flüssigkeit

Art der Gefahr

- Leicht entzündbar
- Auslaufende Flüssigkeit verdampft – große Explosionsgefahr
- Bildet mit Luft explosionsfähige Gemische, auch in leeren, ungereinigten Behältern
- Erhitzen führt zu Drucksteigerung – Berst- und Explosionsgefahr
- Schwere, evtl. tödliche Vergiftungen durch Verschlucken
- Flüssigkeit reizt die Augen stark
- Dämpfe können Rauschzustände verursachen
- Ist wasser- und umweltgefährdend

Persönliche Schutzausrüstung

- Warnweste
- Atemschutz
- Schutzbrille
- Handschuhe aus Leder oder dickem Stoff
- Antistatische Stiefel
- Leichter Schutzanzug
- Augenspülflasche mit Flüssigkeit
- Handlampe

Vom Fahrzeugführer zu treffende allgemeine Maßnahmen

2 selbststehende Warnzeichen

Polizei	1 10
Feuerwehr	1 12

- Motor abstellen
- Keine offenen Flammen, Rauchverbot
- Warnzeichen auf der Straße aufstellen und andere Verkehrsteilnehmer und Passanten warnen
- Öffentlichkeit über die Gefahren informieren und darauf hinweisen, sich auf der dem Wind zugewandten Seite aufzuhalten
- Polizei und Feuerwehr schnellstmöglich verständigen

Vom Fahrzeugführer zu treffende zusätzliche und/oder besondere Maßnahmen

Ausrüstung
- Kanalisationsabdeckung
- Schaufel
- Besen
- Auffangbehälter

- **Selbstschutz beachten**
- Alle warnen – Explosionsgefahr
- Alle Zündquellen entfernen oder unwirksam machen (z.B. Blinklichter, Motor ausschalten)
- Eindringen von Flüssigkeit in Kanalisationen, Gruben und Keller – wenn möglich – verhindern
- Kanalisation abdecken
- Keller evakuieren lassen
- Undichtigkeiten nur beseitigen, falls ohne eigene Gefährdung möglich

Feuer

- Nur Entstehungsbrände löschen
- Keine Ladungsbrände löschen

Erste Hilfe

- Falls Produkt in die Augen gelangt, unverzüglich mit viel Wasser mehrere Minuten ausspülen
- Durchtränkte Kleidungsstücke unverzüglich entfernen und betroffene Haut mit viel Wasser waschen
- Ärztliche Hilfe erforderlich bei Symptomen, die offensichtlich auf Einatmen oder Einwirkung auf Haut oder Augen zurückzuführen sind

Zusätzliche Hinweise

- Telefonische Rückfrage unter _____

Schriftliche Weisung für den Straßentransport

Ladung

ENTZÜNDBARE GASE

Klasse 2	23
Ziffer 2 F	1010
	1011
	1012
	1027
	1032
	1033
	1039
	1041
	1055
	1060
	1061

Eigenschaften des Ladegutes

Farblose, oft geruchlose, unter Druck verflüssigte Gase

Art der Gefahr

- Leicht entzündbar
- Gase sind unsichtbar, schwerer als Luft und breiten sich am Boden aus
- Bilden mit Luft explosionsfähige Gemische, auch in leeren, ungereinigten Behältern
- Erhitzen führt zu Drucksteigerung – erhöhte Berst- und Explosionsgefahr
- Flüssigkeit verursacht schwere Augenschäden

Persönliche Schutzausrüstung

- Warnweste
- Dichtschließende Schutzbrille
- Handschuhe aus Leder oder dickem Stoff
- Antistatische Stiefel
- Leichter Schutzanzug
- Augenspülflasche mit Flüssigkeit
- Handlampe

Vom Fahrzeugführer zu treffende allgemeine Maßnahmen

- Motor abstellen
- Keine offenen Flammen, Rauchverbot
- Warnzeichen auf der Straße aufstellen und andere Verkehrsteilnehmer und Passanten warnen
- Öffentlichkeit über die Gefahren informieren und darauf hinweisen, sich auf der dem Wind zugewandten Seite aufzuhalten
- Polizei und Feuerwehr schnellstmöglich verständigen

2 selbststehende Warnzeichen

Polizei 1 10
Feuerwehr 1 12

Vom Fahrzeugführer zu treffende zusätzliche und/oder besondere Maßnahmen

- **Selbstschutz beachten**
- Alle warnen – Explosionsgefahr
- Alle Zündquellen entfernen oder unwirksam machen (z.B. Blinklichter, Motor ausschalten)
- Eindringen von Flüssigkeit in Kanalisationen, Gruben und Keller – wenn möglich – verhindern
- Kanalisation abdecken
- Keller evakuieren lassen
- Undichtigkeiten nur beseitigen, falls ohne eigene Gefährdung möglich

Ausrüstung
- Kanalisationsabdeckung
- Schaufel
- Besen
- Auffangbehälter

Feuer

- Nur Entstehungsbrände löschen
- Keine Ladungsbrände löschen

Erste Hilfe

- Durchtränkte Kleidungsstücke unverzüglich entfernen
- Ärztliche Hilfe erforderlich bei Symptomen, die offensichtlich auf Einatmen oder Einwirkung auf Haut oder Augen zurückzuführen sind

Sonstige Hinweise

- Telefonische Rückfrage unter _____

Schriftliche Weisung für den Straßentransport

Ladung

GIFTIGE STOFFE

Klasse 6.1

Eigenschaften des Ladegutes

Flüssigkeiten, Feststoffe oder Pasten oft mit Geruch

Art der Gefahr

- Können sehr giftig sein
- Können ätzend und entzündbar sein
- Schwere, evtl. tödliche Vergiftungen durch Einatmen, Verschlucken oder bei Einwirkung auf die Haut
- Dämpfe können unsichtbar und schwerer als Luft sein und sich am Boden ausbreiten
- Dämpfe verursachen Vergiftungs- und Verätzungsgefahr
- Können mit Luft explosionsfähige Gemische bilden, z.B. in leeren ungereinigten Behältern
- Können sich im Feuer unter Bildung giftiger Gase zersetzen. Die gesundheitsschädliche Wirkung beim Einatmen der in einem Feuer entwickelten Rauchgase oder Dämpfe kann auch erst später auftreten
- Staubexplosion möglich
- Reaktionen mit Säuren oder brandfördernden Stoffen können Explosionen verursachen
- Sind wasser- und umweltgefährdend

Persönliche Schutzausrüstung

- Warnweste
- Atemschutz
- Schutzbrille
- Handschuhe aus Kunststoff
- Antistatische Stiefel
- Leichter Schutzanzug
- Augenspülflasche mit reinem Wasser
- Handlampe

Vom Fahrzeugführer zu treffende allgemeine Maßnahmen

2 selbststehende Warnzeichen

Polizei	1 10
Feuerwehr	1 12

- Motor abstellen
- Keine offenen Flammen, Rauchverbot
- Warnzeichen auf der Straße aufstellen und andere Verkehrsteilnehmer und Passanten warnen
- Öffentlichkeit über die Gefahren informieren und darauf hinweisen, sich auf der dem Wind zugewandten Seite aufzuhalten
- Polizei und Feuerwehr schnellstmöglich verständigen

Vom Fahrzeugführer zu treffende zusätzliche und/oder besondere Maßnahmen

Ausrüstung
- Kanalisationsabdeckung
- Schaufel
- Besen
- Auffangbehälter

- **Selbstschutz beachten**
- Alle warnen – Vergiftungsgefahr
- Eindringen von Flüssigkeit in Kanalisationen, Gruben und Keller – wenn möglich – verhindern
- Verschüttetes Ladegut mit trockenem Sand, Erde oder anderem geeigneten trockenen Material zudecken, dabei Staubentwicklung vermeiden
- Falls Produkt in Gewässer oder Kanalisation gelangt ist oder Erdboden oder Pflanzen verunreinigt hat, Feuerwehr oder Polizei darauf hinweisen
- Undichtheiten nur beseitigen, falls ohne eigene Gefährdung möglich

Feuer

- Nur Entstehungsbrände löschen
- Keine Ladungsbrände löschen

Erste Hilfe

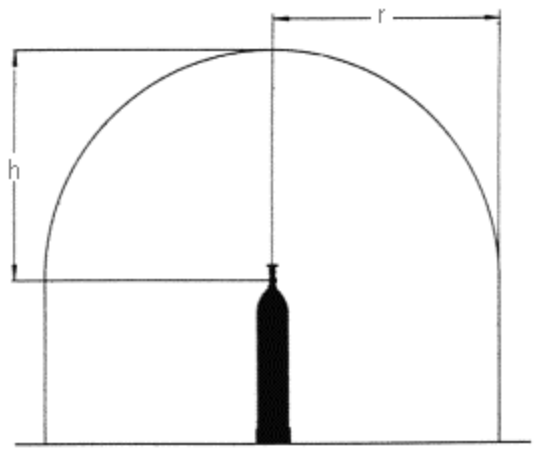
- Falls Produkt in die Augen gelangt, unverzüglich mit viel Wasser mehrere Minuten spülen
- Durchtränkte Kleidungsstücke unverzüglich entfernen und betroffene Haut mit viel Wasser waschen
- Nach Einatmen, Verschlucken oder Einwirkung auf Haut oder Augen, insbesondere bei Auftreten von Symptomen, sofort Arzt hinzuziehen

Zusätzliche Hinweise

- Telefonische Rückfrage unter _____

Appendix C5.A10 Special Protection Areas

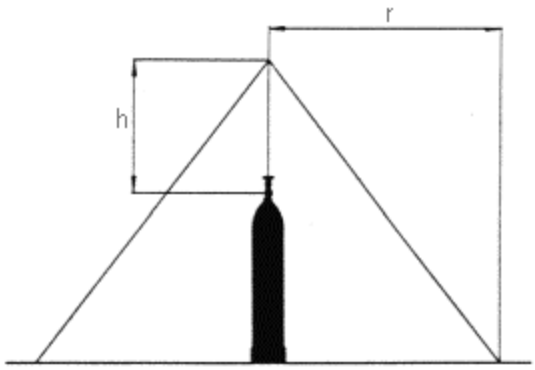
Figure 1. Special protection area (Schutzzone) for compressed gas containers containing gas lighter than the ambient air (for minimum dimensions of the special protection area refer to Tables 1 and 2 in this appendix).



Notes:

h: height
r: radius

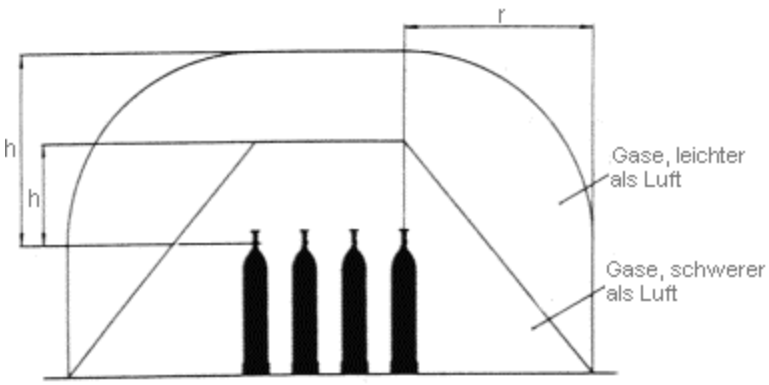
Figure 2. Special protection area (Schutzzone) for compressed gas containers containing gas heavier than the ambient air (for minimum dimensions of the special protection area refer to Tables 1 and 2 in this appendix).



Notes:

h: height
r: radius

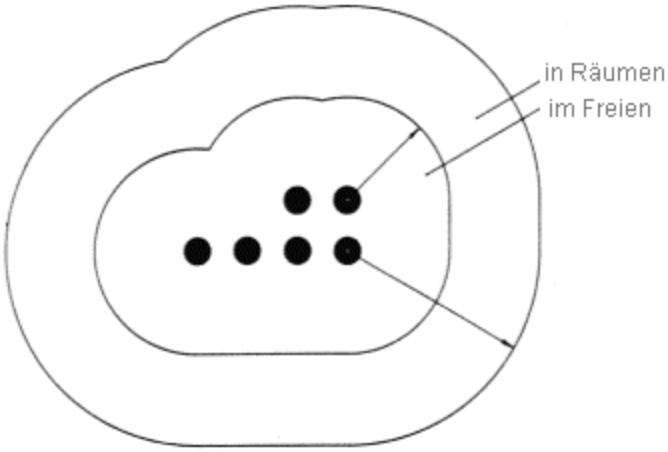
Figure 3. Special protection area (Schutzzone) for a group of compressed gas containers stored together. The rounded and angular shape of the space indicated relates to compressed gases that are heavier or lighter than ambient air as described in Figures 1 and 2 above (for dimensions refer to Tables 1 and 2 in this appendix).



Notes:

h: height
r: radius

Figure 4. Top view of a special protection area for a group of compressed gas containers. The figure illustrates two special protection areas of different sizes referring to outside storage (smaller area, *Freien*) and inside storage (larger area, Räumen) of compressed gas containers.



Notes:

h: height
r: radius

Table 1. Dimensions of special protection areas for inside storage of compressed gas containers containing flammable and very toxic gases.

	Compressed gas lighter than ambient air		Compressed gas heavier than ambient air	
	Bottles	**Drums**	**Bottles**	**Drums**
Height (h) [m]	2	2	1	1
Radius (r) [m]	2	2	2	3

Table 2. Dimensions of special protection areas for outside storage of compressed gas containers containing flammable and very toxic gases

	Compressed gas lighter than ambient air	Compressed gas heavier than ambient air
Height (h) [m]	1	0.5
Radius (r) [m]	1	1

FGS CHAPTER 6

CHAPTER 6
HAZARDOUS WASTE

C6.1 SCOPE

This Chapter contains criteria for a comprehensive management program to ensure that hazardous waste is identified, stored, transported, treated, disposed, and recycled in an environmentally sound manner. Specific disposal requirements for ozone depleting substances (ODSs) and polychlorinated biphenyls/terphenyls (PCB/Ts) may be found in Chapter 2, Air Emissions and Chapter 14, Polychlorinated Biphenyls, respectively. This chapter must be used in conjunction with Chapter 5, Hazardous Materials, and Chapter 7, Solid Waste.

C6.2 DEFINITIONS

Container *(Behälter).* A general term used to describe different types of receptacles to include tanks, drums, cans, and canisters.

Dangerous Goods *(Gefahrgut).* An ADR classification for the shipment of hazardous substances.

Disposal. The treatment, recycling, reuse, or permanent disposal (e.g., landfilling) of waste.

Elementary Neutralization. A process of neutralizing a HW, which is hazardous only because of the corrosivity characteristic. It must be accomplished in a tank, transport vehicle, or container.

Generator. The DoD authority within a DoD installation that for the German authorities represents the producer of the hazardous waste at the DoD installation. The generator must ensure that German legal requirements with respect to hazardous waste management, storage, shipment and disposal are complied with (e.g., the preparation of waste registries and waste management programs, providing appropriate training to personnel involved in hazardous waste management).

Generating Activity. The actual organization, unit, or shop within a DoD installation that produces the waste. The generating activity is typically the activity that is responsible for properly managing the waste and preparing internal hazardous waste documentation.

Hazardous Properties. Hazardous Properties *(Gefährlichkeitsmerkmale).* Hazardous substances, including hazardous waste, are classified according to a range of established properties, such as flammability, oxidizability or toxicity. Hazardous properties are listed in Table C5.T3 of Chapter 5, Hazardous Material.

Hazardous Substance. Substances that are classified as hazardous according to a range of properties (i.e., flammable, oxidizing, or representing a hazard to the environment) described in Table C5.T3 of Chapter 5, Hazardous Material. Hazardous substances include both hazardous materials and hazardous wastes.

Hazardous Waste. Those wastes that are specifically designated as hazardous wastes in Europe (see Table C6.T3) and all wastes having hazardous properties, which includes all “wastes requiring special supervision” *(besonders überwachungsbedürftiger Abfall)* and some “wastes

requiring supervision" *(überwachungsbedürftiger Abfall).* The requirements do not specifically define which wastes requiring supervision are considered hazardous wastes (HW); this must be decided on a case by case basis.

Hazardous Waste Accumulation Point (HWAP). A location where hazardous wastes are accumulated until removed to a Hazardous Waste Storage Area (HWSA) or transported for treatment or disposal. A HWAP may be used to accumulate per waste stream no more than one container as specified for the particular waste stream in the European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR). The HWAP must be at or near the point of generation and under the control of the operator.

Hazardous Waste Fuel. Hazardous wastes burned for energy recovery. Fuel produced from hazardous waste by processing, blending, or other treatment is also hazardous waste fuel.

Hazardous Waste Generation. Any act or process that produces hazardous waste as defined in these FGS.

Hazardous Waste Log. A listing of HW deposited and removed from a HWSA. Information such as the waste type, volume, location, and storage removal dates should be recorded.

Hazardous Waste Profile Sheet (HWPS). A document that identifies and characterizes the waste by providing user's knowledge of the waste, and/or lab analysis, and details the physical, chemical, and other descriptive properties or processes which created the hazardous waste.

Hazardous Waste Storage Area (HWSA). One or more locations on a DoD installation where HW is collected and stored prior to shipment for treatment or disposal. At a HWSA more than one container as specified for the particular waste stream in the European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR) per waste stream may be accumulated. The requirements for storage, distribution and handling facilities as described of Chapter 5, Hazardous Materials, are also applicable to HWSAs.

Hazardous Waste Storage Area Manager. A DoD employee, or agency, on the installation assigned the operational responsibility for receiving, storing, inspecting, and general management of the installation's HWSA or HWSA program.

Tender *(Andienen).* To offer waste (specifically, waste requiring special supervision) to a central State agency for the purposes of determining a permanent disposal facility for the waste. A waste generator may propose to the central State agency to permanently dispose of waste at a facility of its choice, and assuming the agency agrees to the manner of disposal and the disposal facility, the generator may permanently dispose of waste at the desired facility. A contracted organization or other entity may tender waste on behalf of the waste generator.

Treatment. Any method, technique, or process, excluding elementary neutralization, designed to change the physical, chemical, or biological characteristics or composition of any hazardous waste so as to render such waste non-hazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.

Unique Identification Number. A number assigned to generators of hazardous waste to identify the generator and used to assist in tracking the waste from point of generation to ultimate disposal. The number is the Department of Defense Activity Address Code (DoDAAC).

Used Oil *(Altöl)*. All used fluids or semi-fluid substances that consist partly or entirely of mineral oil or synthetic oil, including oil-containing residues from containers, emulsions and water-oil mixtures. Used oil may also include impurities as a result of use, or additives added prior to use such as PCBs, solvents, and turpentine. Note: used oil is considered a hazardous waste.

PCB-Containing Waste. Waste polychlorinated biphenyls, polychlorinated terphenyls, halogenated monomethyldiphenylmethane, and wastes containing more than 50 mg/kg of these substances are referred to as PCB-containing wastes.

Waste Requiring Special Supervision *(besonders überwachungsbedürftiger Abfall)*. All waste types that are classified as waste requiring special supervision, refer to table C7.T1 of Chapter 7, Solid Waste.

Waste Requiring Supervision *(überwachungsbedürftiger Abfall)*. All waste types that are classified as waste requiring supervision, refer to table C7.T1 of Chapter 7, Solid Waste.

C6.3 REQUIREMENTS

C6.3.1 DOD HAZARDOUS WASTE GENERATORS

C6.3.1.1 Hazardous Waste Determination and Characterization. A chemical analysis in accordance with established German guidelines of waste requiring special supervision must be conducted prior to disposal by the DoD installation that is responsible for the disposal of the hazardous waste, the waste collector, or by the disposal company. For the disposal of wastes requiring supervision, and for the disposal of wastes requiring special supervision by means of a collective disposal manifest *(Sammelentsorgungsnachweis)*, it is acceptable that the waste identification provided to the waste collector or the disposal company is based on the knowledge of the waste generator.

C6.3.1.2 Waste Management Plan and Registry. Generators that annually produce greater than 2,000 kilograms (kg) (2 metric tons) of waste requiring special supervision or 2,000 metric tons (2,000,000 kilograms) of waste requiring supervision, per waste type, must prepare a waste management plan and an annual waste registry. Both the waste management plan and waste registry must be submitted to the competent German authorities upon request.

C6.3.1.2.1 Waste Management Plan (*Abfallwirtschaftskonzept)*

C6.3.1.2.1.1 The waste management plan is a management plan that addresses current and planned waste generation and disposal activities. The waste management plan must be updated at least every 5 years.

C6.3.1.2.1.2 The waste management plan must address:

- the generation and storage of waste requiring special supervision and waste requiring supervision (for all waste, regardless of whether such waste is collected for disposal or recycling);
- the estimated quantities of waste in metric tons;
- the associated waste codes and descriptions (see Table C6.T3 and Table C7.T1 of Chapter 7, Solid Waste);
- the methods of recycling or disposal; and
- the associated waste accumulation facilities *(Abfall-Anfallstellen),* specifically to include the:
  - identification of the facility operator;
  - name and address of the facility;
  - disposal number *(Entsorgernummer)* of the contracted disposal company; and
  - declaration from the importing country, if recycling or disposal is conducted outside of Germany.

C6.3.1.2.1.3 The waste management plan must address any measures planned for reduction and recycling for each waste, as well the necessity for disposal *(Beseitigung)* if other measures are not implemented.

C6.3.1.2.1.4 If an organization disposes of its waste at its own facility, the waste management plan must address whether the disposal facility will remain in operation or is planned for closure.

C6.3.1.2.2 Waste Registry (*Abfallbilanz)*

C6.3.1.2.2.1 The waste registry documents the waste generation and disposal activities that have occurred in the past year. A recommended (i.e., non-mandatory) form for the waste registry is presented in Table C7.T10 in Chapter 7, Solid Waste, as the waste registry addresses solid waste as well as hazardous waste.

C6.3.1.2.2.2 The waste registry must document:

- the annual generation and storage of waste requiring special supervision and waste requiring supervision that occurred (for all waste, regardless of whether such waste were collected for disposal or recycling);
- the annual quantities of waste generated in metric tons;
- the associated waste codes and descriptions (see Table C6.T3 and Table C7.T1 of Chapter 7, Solid Waste) for the waste generated;
- the methods of recycling or disposal that were utilized; and

- the associated waste accumulation facilities *(Abfall-Anfallstellen)* that were utilized, specifically to include the:
  - identification of the facility operator;
  - name and address of the facility;
  - disposal number *(Entsorgernummer)* of the contracted disposal company; and
  - declaration from the importing country, if recycling or disposal was conducted outside of Germany.

C6.3.1.3 Identification Numbering. Each generator will use a unique identification number for all DoD internal recordkeeping, reports, and transportation documentation for hazardous waste. Generators will also use the official waste generator number *(Abfallerzeugernummer)* assigned by the competent German authority to the DoD installation *(disposal manifest, Entsorgungsnachweis)* or to the disposal company (collective disposal, *Sammelentsorgungsnachweis).* The hazardous waste generator number is used for disposal documentation as described in C6.3.1.5.

C6.3.1.4 Transportation. Hazardous waste transportation must be conducted in accordance with the Joint Regulation for the Safe Movement of Hazardous Goods via Surface Modes (USAREUR Regulation 55-4, USAFE Instruction 24-203), the ADR, and international agreements. For the transportation of hazardous wastes that are classified as dangerous goods, the requirements of Chapter 5, Hazardous Materials are also applicable.

C6.3.1.4.1 The transport of hazardous waste must be accompanied by appropriate documentation. The requirements regarding the transportation documentation are detailed in C5.3.3 of Chapter 5, Hazardous Materials.

C6.3.1.5 Disposal Documentation. As part of the hazardous waste disposal audit trail, the waste generator is required to maintain specific documentation that depends on the waste category and disposal method (see C6.3.1.6). The required documentation is summarized in Table C6.T1 and includes a “Proof Procedure” *(Nachweisverfahren)* or the related simplified procedures, documentation regarding the permissibility of the disposal method, and records of actual waste transactions in “Proof Logs” *(Nachweisbüchern).*

C6.3.1.5.1 Waste Requiring Supervision

C6.3.1.5.1.1 For the disposal of wastes requiring supervision that are to be recycled, the waste generator must complete the appropriate forms for the simplified proof *(vereinfachter Nachweis),* unless the wastes do not exceed 5 metric tons (5,000 kilograms) per waste code, per calendar year. The simplified proof consists of:

- a declaration by the waste generator (Verantwortliche Erklärung des Abfallerzeugers); and
- an acceptance declaration by the waste disposal facility *(Annahmeerklärung des Entsorgers)*.

As an alternative, the proof of permissibility of the planned disposal method may be provided with a simplified collective proof *(vereinfachter Sammelnachweis)* (see also C7.3.17 of Chapter 7, Solid Waste). The simplified collective proof consists of:

- a declaration by the collector; and
- a declaration of acceptance by the waste disposal facility *(Annahmeerklärung des Entsorgers)*.

Prior to beginning the planned disposal, both declaration forms must be completed and copies exchanged between the participating parties, i.e., the collector and the waste disposal facility. In the case of the simplified collective proof procedure, the waste generator is only required to document the proper disposal by means of the acceptance slips *(Übernahmescheine)* obtained from the waste collector.

C6.3.1.5.1.2 Additional requirements regarding disposal documentation for wastes requiring supervision are provided in Chapter 7, Solid Waste.

C6.3.1.5.2 Waste Requiring Special Supervision

C6.3.1.5.2.1 Waste generators that generate greater than 2,000 kg (2 metric tons) per year of wastes requiring special supervision must follow one of the following procedures:

- <u>Obligatory proof procedure</u> *(obligatorisches Nachweisverfahren).* This procedure is comprised of a disposal manifest *(Entsorgungsnachweis)* and subsequent accompanying documentation *(Begleitschein)* and proof logs *(Nachweisbücher).* The disposal manifest comprises a declaration of the waste generator *(Verantwortliche Erklärung des Abfallerzeugers)* which includes an identification analysis of the waste *(Deklarationsanalyse),* and a declaration of acceptance from the disposal company *(Annahmeerklärung des Entsorgers).* The proof logs are a collection of disposal manifests and accompanying documentation.
- <u>Collective disposal manifest</u> *(Sammelentsorgungsnachweis).* A collective disposal manifest is allowable for the generation of wastes requiring special supervision that does not exceed 15 metric tons (15,000 kilograms) per year per waste code. The waste generator is only required to document the proper disposal by means of the acceptance slips obtained by the waste collector.

- Privileged proof procedure *(priviligiertes Nachweisverfahren)*. This procedure is comprised of only a notification to the competent German authority. In this procedure, a certified disposal company *(Entsorgungsfachbetrieb)* is contracted for waste disposal and a disposal manifest is not required to be maintained by the waste generator.

C6.3.1.5.2.2 Waste generators that generate less than 2,000 kg (2 metric tons) per year of wastes requiring special supervision *(Kleinmengen)* need only document waste disposal by maintaining acceptance slips *(Übernahmescheine)* for each waste type.

C6.3.1.5.3 Documentation regarding the use and disposal of wastes includes documentation regarding the permissibility of the use and disposal of wastes as well as documentation of the actual waste transactions in proof logs *(Nachweisbücher)*. Completed simplified proof forms and acceptance slips must be maintained in the proof log that documents actual waste transactions *(Nachweisbücher)*. The proof log must be kept for a minimum of three years after the date of the last entry. Disposal documentation must be maintained by the operator of a facility for at least 10 years after closure of the facility.

C6.3.1.5.4 Disposal documentation must include the following (note that this documentation includes information that is additional to the German waste documentation requirements):

C6.3.1.5.4.1 The name and address of the hazardous waste generator.

C6.3.1.5.4.2 The hazardous waste generator number *(Abfallerzeugernummer)* assigned by the competent German authority to the DoD installation.

C6.3.1.5.4.3 Transporter's name and address.

C6.3.1.5.4.4 Destination name and address.

C6.3.1.5.4.5 The waste key and corresponding name (see Table C6.T3 and Table C7.T1 of Chapter 7, Solid Waste) of the hazardous waste to be disposed of must be included as part of the accompanying documentation or acceptance slips.

C6.3.1.5.4.6 The disposal company accepting the waste must record the total quantity of waste in metric tons.

C6.3.1.5.4.7 Date of shipment.

C6.3.1.5.4.8 Date of receipt.

C6.3.1.6 Audit Trail.

C6.3.1.6.1 The hazardous waste generator, will maintain an audit trail of hazardous waste from the point of generation to disposal using the accompanying documentation *(Begleitscheine)* or acceptance slips *(Übernahmescheine).*

C6.3.1.6.2 Volumes of waste and methods of waste disposal must be documented in a waste management plan *(Abfallwirtschaftskonzept)* and waste registry *(Abfallbilanz).*

C6.3.1.6.3 An internal audit trail for tracking hazardous waste disposal must also be established. Generating activities using DRMS disposal services will obtain a signed copy of the disposal documentation from the initial DRMS recipient of the waste, at which time DRMS assumes responsibility. A generating activity, as provided in a host-tenant agreement, that uses the hazardous waste management and/or disposal program of a DoD component that has a unique identification number (see C6.2, Definitions), will obtain a signed copy of the disposal documentation from the receiving component, at which time the receiving component will assume responsibility for subsequent storage, transfer and disposal of the waste. Activities desiring to dispose of their waste outside of the DRMS system will file the original disposal documentation to provide an audit trail from point of generation to ultimate disposal.

C6.3.1.7 Waste Identification Number. Generators must assign a six-digit waste key (see Table C6.T3 and Table C7.T1 of Chapter 7, Solid Waste) for all wastes generated in Germany.

C6.3.1.8 A Hazardous Waste Profile Sheet (HWPS) will be used to identify each hazardous waste stream. The HWPS must be updated by the generator, as necessary, to reflect any new waste streams or process modifications that change the character of the hazardous waste being handled.

C6.3.2 HAZARDOUS WASTE ACCUMULATION POINT (HWAP)

C6.3.2.1 A HWAP is defined in C6.2. Each HWAP must be designed and operated to provide appropriate segregation for different waste streams, including those that are chemically incompatible. Each HWAP will have hazard signs appropriate for the waste being accumulated at that site (see C5.3.7.3 and C5.A4 of Chapter 5).

C6.3.2.2 A HWAP will comply with the storage limits specified in the definition for a HWAP in C6.2. When these limits have been reached, the generator will make arrangements within 5 working days to move the hazardous waste to a HWSA or ship it off-site for treatment or disposal. Arrangements must include submission of all appropriate turn-in documents to initiate the removal (e.g., DD 1348-1A) to appropriate authorities responsible for removing the HW (e.g., DRMO).

C6.3.2.3 The provisions of C6.3.4 of this Chapter, Use and Management of Containers, apply to HWAPs.

C6.3.2.4 The following provisions of C6.3.5, Recordkeeping Requirements, apply to HWAPs where HW may be shipped off-post: C6.3.5.1 (Turn-in documents), C6.3.5.2 (Hazardous Waste Log), and C6.3.5.5 (Manifests).

C6.3.2.5 Personnel Training. Personnel assigned HWAP duty must successfully complete appropriate hazardous waste training necessary to perform their assigned duties. At a minimum, this must include pertinent waste handling and emergency response procedures. Generic HW training requirements are described in C6.3.9.

C6.3.3 HAZARDOUS WASTE STORAGE AREAS (HWSA)

HWSAs must meet the following criteria and C5.3.2 (Aisle Space), C5.3.11 (Unauthorized Access), C5.3.14 (Requirements for Facilities that Store, Distribute, and Handle Hazardous Substances) and C5.3.24 (Protective Measures) of Chapter 5, Hazardous Materials.

C6.3.3.1 Hazardous waste should not be stored longer than one year in a HWSA.

C6.3.3.2 Waste Analysis and Verification.

C6.3.3.2.1 Maintenance of Waste *Verification* Analysis File. The HWSA must have, and keep on file, a HWPS for each waste stream that is stored at each HWSA.

C6.3.3.2.2 Waste Verification. Generating activities will provide identification of incoming waste based on the HWPS. The HWSA manager will verify that the identification corresponds with the information that is provided in waste disposal documentation. Prior to accepting the waste, the HWSA manager will:

C6.3.3.2.2.1 inspect the waste to ensure it matches the description provided;

C6.3.3.2.2.2 ensure that no waste is accepted for storage unless a HWPS is provided, or available and properly referenced;

C6.3.3.2.2.3 request a new HWPS from the generating activity if there is reason to believe that the process generating the waste has changed;

C6.3.3.2.2.4 analyze waste shipments of unknown waste type to provide a correct waste description on the accompanying documents; and

C6.3.3.2.2.5 reject shipments, which do not match the internal accompanying waste descriptions unless the generating activity provides an accurate description.

C6.3.3.3 Security.

C6.3.3.3.1 Security System Design. An acceptable security system for a hazardous waste storage area consists of either:

C6.3.3.3.1.1 A 24-hour surveillance system (e.g. television monitoring or surveillance by guards or other designated personnel) that continuously monitors and controls entry into the hazardous waste storage area; or

C6.3.3.3.1.2 An artificial or natural barrier (e.g. a fence in good repair or a fence combined with a cliff) that completely surrounds the hazardous waste storage area, combined with a means to control entrance at all times (e.g. an attendant, television monitors, locked gate, or controlled roadway access).

C6.3.3.3.2 Required Signs. A sign with the legend "Danger Unauthorized Personnel Keep Out," must be posted at each entrance to the hazardous waste storage area, and at other locations, in sufficient numbers to be seen from any approach to the hazardous waste storage area. The legend must be written in English and in any other language predominant in the area surrounding the installation, and must be legible from a distance of at least 25 feet. Existing signs with a legend other than "Danger Unauthorized Personnel Keep Out," may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the hazardous waste storage area, and entry to it can be dangerous.

C6.3.3.4 Access to Communications or Alarm System.

C6.3.3.4.1 General. Whenever hazardous waste is being poured, mixed, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another person.

C6.3.3.4.2 If there is only one person on duty at the HWSA premises, that person must have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance.

C6.3.3.5 Required Equipment. All HWSAs must be equipped with the following:

C6.3.3.5.1 An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to HWSA personnel.

C6.3.3.5.2 A device, such as an intrinsically safe telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from installation security, fire departments, or emergency response teams.

C6.3.3.6 General Inspection Requirements.

C6.3.3.6.1 Types of Equipment Covered. Inspections must include all equipment and areas involved in storage and handling of hazardous waste, including all containers and container storage areas, tank systems and associated piping, and all monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.

C6.3.3.6.2 Inspection Schedule. Inspections must be conducted according to a written schedule that is kept at the HWSA. The schedule must identify the types of problems (e.g., malfunctions or deterioration) that are to be looked for during the inspection (e.g., inoperative sump pump, leaking fitting, eroding dike, etc.).

C6.3.3.6.3 Frequency of Inspections. Minimum frequencies for inspecting tank systems are found in C6.3.7.1. For equipment not covered by C6.3.7.1, inspection frequency should be based on the rate of possible deterioration of the equipment and probability of an environmental or human health incident if the deterioration or malfunction or any operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use.

C6.3.3.6.4 Remedy of Problems Revealed by Inspection. The installation must remedy any deterioration or malfunction of equipment or structures that the inspection reveals on a schedule, which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, action must be taken immediately.

C6.3.3.6.5 Maintenance of Inspection Records. The installation must record inspections in an inspection log or summary, and keep these records for at least three years from the date of inspection. At a minimum, these records must include the date and time of inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions.

C6.3.3.7 Storage Practices.

C6.3.3.7.1 General requirements for ignitable, reactive, or incompatible wastes. The HWSA manager must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. While ignitable or reactive waste is being handled, the HWSA personnel must confine smoking and open flame to specially designated locations. "No smoking" signs, or appropriate icon, must be conspicuously placed wherever there is a hazard

from ignitable or reactive waste. In areas where access by non-English speaking persons is expected, the "no smoking" legend must be written in English and in any other language predominant in the area. Water reactive waste cannot be stored in the same area as flammable and combustible liquid.

C6.3.3.8 Closure and Closure Plans.

C6.3.3.8.1 Closure. At the closure of a HWSA, hazardous waste and hazardous waste residues must be removed from the containment system including remaining containers, liners, and bases. Closure should be done in a manner which eliminates or minimizes the need for future maintenance or the potential for future releases of hazardous waste and according to the Closure Plan. Facilities identified within C5.3.14.2.3.1 of Chapter 5, Hazardous Materials, require an inspection by an expert *(Sachverständigen)* prior to closure.

C6.3.3.8.2 Closure Plan. Closure plans will be developed before a new HWSA is opened. Each existing HWSA also will develop a closure plan. Concurrent with the decision to close the HWSA the plan will be implemented. The closure plan will include: estimates of the storage capacity of hazardous waste, steps to be taken to remove or decontaminate all waste residues, and estimate of the expected date for closure.

C6.3.4 USE AND MANAGEMENT OF CONTAINERS

The following requirements, and C5.3.13 (Packaging of Hazardous Materials) of Chapter 5, Hazardous Materials, are applicable to the use and management of containers.

C6.3.4.1 Container Handling and Storage. To protect human health and the environment, the following guidelines will apply when handling and storing hazardous waste containers.

C6.3.4.1.1 Management of Containers.

C6.3.4.1.1.1 A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

C6.3.4.1.1.2 A container holding hazardous waste must not be opened, handled, or stored in a manner, which may rupture the container or cause it to leak.

C6.3.4.1.1.3 Containers of flammable liquids must be grounded when transferring flammable liquids from one container to the other.

C6.3.4.1.2 Packaging Hazardous Waste

C6.3.4.1.2.1 Packaging for Storage or Collection of Hazardous Waste

C6.3.4.1.2.1.1 The labeling requirements for packaging associated with the collection or storage of hazardous materials as presented in C5.3.7.1, C5.3.7.2 and C5.3.7.4 of Chapter 5, Hazardous Materials, are applicable to packaging associated with the collection and storage of hazardous waste with the following exception:

- Instead of the internationally recognized name of the substance and the data on manufacturer, importer or distributor/seller, the label must bear the identification number according to the European Waste Catalogue, to which the waste type has been classified as (see Table C6.T3 and Table C7.T1 of Chapter 7, Solid Waste).

C6.3.4.1.2.1.2 The packaging of hazardous waste containing carcinogenic or mutagenic substances, or substances that are toxic to reproduction, must bear information on the substance or preparation.

C6.3.4.1.2.1.3 Packaging of hazardous wastes must be done so that the packaging cannot be mistaken for foodstuffs or beverages and that the associated risks are clearly recognizable.

C6.3.4.1.2.2 Transport Packaging of Hazardous Waste. Packaging for the transport of hazardous wastes must bear the appropriate hazard labels (see Chapter 5, Hazardous Materials). In case the storage containers are also used for shipment, the danger label *(Gefahrzettel)* may replace the hazard label (see Chapter 5, Hazardous Materials).

C6.3.4.2 Containment. Rainwater captured in secondary containment areas of container storage areas should be inspected and/or tested prior to release. The inspection or testing must be reasonably capable of detecting contamination by the hazardous waste in the containers. Contaminated water shall be treated as hazardous waste until determined otherwise.

C6.3.4.3 Special Requirements for Ignitable or Reactive Waste. Areas that store containers of ignitable or reactive waste must be located at least 15 meters (50 feet) inside the installation's boundary. For storage facilities of flammable liquids that require a permit or a notification, it must be determined by the appropriate German authority whether a surrounding safety corridor is required.

C6.3.4.4 Special Requirements for Incompatible Wastes.

C6.3.4.4.1 Incompatible wastes and materials must not be placed in the same container and must be stored and disposed of separately. Hazardous wastes to be

transported must be allocated a waste category (see Table C6.T2). Mixing waste categories *(Abfallgruppen)* is not permitted.

C6.3.4.4.2 Hazardous waste must not be placed for storage purposes in an unwashed container that previously held an incompatible waste or material. All packaging, including containers, that are to be used for shipment of hazardous wastes must be free from contamination, regardless whether the contaminant is hazardous or non-hazardous.

C6.3.4.4.3 A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

C6.3.5 RECORDKEEPING REQUIREMENTS

C6.3.5.1 Internal turn-in documents, e.g., DD 1348-1A or manifests, must be maintained for 3 years.

C6.3.5.2 Hazardous Waste Log. A written log will be maintained at locations where a hazardous waste is picked up for off-site shipment to record all hazardous waste handled. The hazardous waste log should consist of the following:

C6.3.5.2.1 Name/address of the generating activity;

C6.3.5.2.2 Description and hazard class of the hazardous waste;

C6.3.5.2.3 Number and types of containers;

C6.3.5.2.4 Quantity of hazardous waste;

C6.3.5.2.5 Date stored;

C6.3.5.2.6 Storage location; and

C6.3.5.2.7 Disposition data, to include: dates received, sealed, and transported, and transporter used.

C6.3.5.3 The Hazardous Waste Log will be available to emergency personnel in the event of a fire or spill. Logs will be maintained until closure of the installation.

C6.3.5.4 Inspection Logs. Records of internal inspections should be maintained for a period of 3 years.

C6.3.5.5 Manifests. Manifests of hazardous wastes that are transported off-site will be retained for a minimum period of 3 years following the last entry. The installation must prepare a logbook *(Nachweisbuch)* for all outgoing hazardous waste with the following contents: accompanying documentation *(Begleitscheine)*,

acceptance slips *(Übernahmescheine)*, disposal manifests *(Entsorgungsnachweise)* and simplified proof *(vereinfachter Nachweis)* with the corresponding waste characterization *(Deklarationsanalyse).*

C6.3.5.6 The installation will maintain records, identified in C6.3.5.1 to C6.3.5.5 in accordance with the following:

C6.3.5.6.1 The waste generating activity and the DoD authority accepting hazardous waste from the waste generating activity for off-site transport will file internal turn-in documents, e.g., DD 1348-1A, manifests.

C6.3.5.6.2 The hazardous waste generator will maintain the logbook *(Nachweisbuch),* including disposal documentation, as described in C6.3.5.5.

C6.3.6 CONTINGENCY PLAN

C6.3.6.1 Each installation will have a contingency plan that describes actions to be taken to contain and clean up spills and releases of hazardous waste in accordance with the provisions of Chapter 18, Spill Prevention and Response Planning.

C6.3.6.2 Copies of Contingency Plan. A current copy of the installation contingency plan must be:

C6.3.6.2.1 Maintained at each HWSA and HWAP, (HWAPs need maintain only portions of the contingency plan which are pertinent to their facilities and operation); and

C6.3.6.2.2 Submitted to on-site fire departments, on-site hospitals, and on-site emergency response teams identified in the plan, and which the plan relies upon to provide emergency services. Local German fire departments should be contacted and provided with a copy of the plan in order to improve their emergency response. Plans should be available in both English and German.

C6.3.7 TANK SYSTEMS

The following criteria apply to all storage tanks containing hazardous wastes. In Germany, no distinction is made between tank systems storing hazardous waste and tank systems storing hazardous materials. As a result, the requirements for tank systems storing hazardous materials as contained in C5.3.14 (Requirements for Facilities that Store, Distribute, and Handle Hazardous Substances) and C5.3.15 (Above-ground Storage Tanks) of Chapter 5, Hazardous Materials, are also applicable.

C6.3.7.1 The installation must inspect and log at least once each operating day:

C6.3.7.1.1 The above-ground portions of the tank system, if any, to detect corrosion or releases of waste;

C6.3.7.1.2 Data gathered from monitoring and leak detection equipment (e.g., pressure or temperature gauges, monitoring wells) to ensure that the tank system is being operated according to its design; and

C6.3.7.1.3 The construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system (e.g., dikes) to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation).

C6.3.7.2 Response to Leaks or Spills and Disposition of Leaking or Unfit-For-Use Tank Systems. A tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, must be removed from service immediately and repaired or closed in accordance with Chapter 5, Hazardous Materials. In addition, installations must satisfy the following requirements:

C6.3.7.2.1 The operation of the tank system must be ceased and the DoD installation must inspect the system to determine the cause of the release.

C6.3.7.2.2 Containment of visible releases to the environment. The installation must immediately conduct an inspection of the release and, based upon that inspection:

C6.3.7.2.2.1 Remove free product to the maximum extent possible.

C6.3.7.2.2.2 Continue monitoring and mitigating for any additional fire and safety hazards posed by vapors or free products in subsurface structures.

C6.3.7.3 Make required internal and external notifications and reports in accordance with criteria C18.3.3.5 and C18.3.4.4 of Chapter 18, Spill Prevention and Response Planning.

C6.3.7.4 Closure.

C6.3.7.4.1 At closure of a tank system, the storage tank must be emptied and cleaned by a certified company *(Fachbetrieb)* prior to it being inspected by a certified expert *(zugelassener Sachverständiger*). The installation must dispose of hazardous waste residues, contaminated containment system components (liners, etc.), contaminated soils to the extent practicable, and structures and equipment.

C6.3.7.4.2 Additional requirements in **Hessen**

C6.3.7.4.2.1 Closed tank systems must be checked to ensure that the filling nozzle has been removed so that the tank can no longer be used *(Schutz gegen irrtümliche Benutzung).*

C6.3.7.4.2.2 Storage tanks do not need to be removed if conditions warrant (e.g., stability concerns).

C6.3.8 MANAGEMENT OF USED OIL AND BATTERIES

C6.3.8.1 Used Oil Burned for Energy Recovery. Used oil may be burned only in facilities that have a permit issued by the German authorities.

C6.3.8.2 Used Oil for Dust Suppression or Road Treatment. Used oil, hazardous waste, or used oil that is contaminated with hazardous waste is prohibited to be used for dust suppression or road treatment.

C6.3.8.3 Used Oil Analysis for PCBs and Halogens. Prior to reprocessing, used oil must be sampled and analyzed for PCBs and halogens. This sampling and analysis is generally conducted by the contractor responsible for collecting and transporting the used oil to the reprocessing facility. Used oil with a PCB concentration of greater than 20 ppm or a total halogen concentration of 2,000 ppm or greater is prohibited from being recycled.

C6.3.8.4 Prohibition of Mixing of Used Oil.

C6.3.8.4.1 Used oils that can be reprocessed may not be mixed with other wastes or used oils.

C6.3.8.4.2 Synthetic oils that contain PCBs or halogen-containing substitutes must be collected, stored, transported, and disposed of separately from other used oils.

C6.3.8.5 Used Oil Declaration. When used oil is collected by a waste contractor from a DoD installation for reprocessing, the installation must furnish the contractor a written statement (e.g., a HWPS) that states the oil is not contaminated with additives, such as PCB-containing synthetic oils or their substitutes, or other substances that would prohibit reprocessing.

C6.3.8.6 Used Oil Return System and Obligatory Labeling.

C6.3.8.6.1 Sellers or distributors of combustion oil or lubricant oil must take the used oil back from the end user.

C6.3.8.6.2 Sellers or distributors must provide clearly labeled used oil collection facilities near the point of sale or distribution.

C6.3.8.6.3 Sellers or distributors of new oil must inform the user that the used oil must be returned to the point of sale or distribution, or a designated collection facility, and that it is not permitted to mix used oil with other substances, such as solvents, brake fluids, or coolant.

C6.3.8.7 Lead-Acid Batteries. Used lead-acid batteries must be managed as hazardous wastes regardless of whether they are to be recycled or permanently disposed.

C6.3.8.8 Alkaline Manganese Batteries. It is prohibited to sell or distribute the batteries identified in C6.3.8.8.1 and C6.3.8.8.2. Alkaline manganese round cells *(Alkali-Mangan-Knopfzellen)* or batteries composed of alkaline manganese round cells are not subject to this prohibition.

C6.3.8.8.1 Alkaline manganese batteries that are designed for long-term use under extreme environmental conditions containing more than 0.05% of mercury by weight; and

C6.3.8.8.2 Alkaline manganese batteries that do not meet the criteria of C6.3.8.8.1 and have a mercury content of more than 0.025% of mercury by weight.

C6.3.8.9 Batteries that Contain Harmful Substances.

C6.3.8.9.1 It is prohibited to sell or distribute appliances equipped with batteries that contain harmful substances *(schadstoffhaltige Batterien)*, that cannot be easily removed by the user when the lifetime of the appliance ends. Batteries containing harmful substances (i.e., substances that are harmful to human health or the environment) include the following:

- batteries containing more than 25 milligrams (mg) of mercury per cell, with the exception of alkaline manganese batteries;
- alkaline manganese batteries containing more than 0.025% of mercury by weight;
- batteries containing more than 0.025% of cadmium by weight; and
- batteries containing more than 0.4% of lead by weight.

C6.3.8.9.2 The distributor or seller of batteries containing harmful substances must inform the user of potential hazards through the posting of clearly visible and intelligible signs. The signs must be placed where the batteries are handed over to the user and address the following:

- the available return system (either at the store or at a designated location near the store where the batteries were purchased);
- that the user must return waste batteries for reuse, recycling, or safe disposal; and
- the meaning of the warning sign and chemical symbol on the battery.

C6.3.9 HAZARDOUS WASTE TRAINING

C6.3.9.1 Application. Personnel and their supervisors that are assigned duties involving actual or potential exposure to hazardous waste must successfully complete an appropriate training program prior to assuming those duties. All employees that work with hazardous waste must receive oral operating instructions prior to initiating work. Additional guidance is contained in DoDI 6050.5, "DoD Hazard Communication Program."

C6.3.9.2 Refresher Training. All personnel performing HW duties must successfully complete annual refresher hazardous waste training.

C6.3.9.3 Training Contents and Requirements. The training program must:

C6.3.9.3.1 Include sufficient information to enable personnel to perform their assigned duties and fully comply with pertinent HW requirements;

C6.3.9.3.2 Be conducted by qualified trainers who have completed an instructor training program in the subject, have comparable academic credentials, or experience;

C6.3.9.3.3 Be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems;

C6.3.9.3.4 Address the following areas in particular for personnel whose duties include hazardous waste handling and management:

C6.3.9.3.4.1 Emergency Procedures. Response to fire/explosion/ spills; use of communications/alarm systems; body and equipment clean up;

C6.3.9.3.4.2 Drum/Container Handling/Storage. Safe use of HW equipment; proper sampling procedures;

C6.3.9.3.4.3 Employee Protection. Personal Protective Equipment (PPE), safety and health hazards, hazard communication, worker exposure;

C6.3.9.3.4.4 Recordkeeping. Recordkeeping, security, inspections, contingency plans, storage requirements, transportation requirements.

C6.3.9.4 Documentation of Training. Installations must document all hazardous waste training for each individual assigned duties involving actual or potential exposure to hazardous waste. Updated training records on personnel assigned duties involving actual or potential exposure to hazardous waste must be kept by the HWSA manager or the responsible installation office and retained for at least three years after termination of duty of these personnel.

C6.3.10 HAZARDOUS WASTE DISPOSAL

C6.3.10.1 All DoD hazardous waste should normally be disposed of through the Defense Reutilization and Marketing Service (DRMS). A decision not to use the DRMS for hazardous waste disposal may be made in accordance with DoD Directive 4001.1 for best accomplishment of the installation mission, but should be concurred in by the component chain of command to ensure that installation contracts and disposal criteria are at least as protective as criteria used by DRMS.

C6.3.10.2 To the maximum extent possible, hazardous waste that is generated in Germany, must be treated, recycled, or permanently disposed of within Germany. An export of hazardous waste is only permitted if no appropriate German treatment or disposal facility exists. If exported, disposal in a European Community member country has priority over disposal in another country.

C6.3.10.2.1 If hazardous wastes are exported, appropriate notification procedures must be followed. The authorities of the Country or State of origin must be notified for waste transportation measures.

C6.3.10.3 German facilities that store, treat, or dispose of DoD-generated waste must be evaluated and approved by the appropriate German authorities as complying with their regulatory requirements. This evaluation and approval may consist of having a valid German permit, license, or other form of official approval for the hazardous waste which will be handled.

C6.3.10.4 Hazardous waste will be recycled or reused to the maximum extent practical. To minimize risks to health and the environment, safe and environmentally acceptable methods will be used to identify, store, prevent leakage, and dispose of hazardous waste.

C6.3.10.5 Land Disposal Requirements. Hazardous waste may only be land disposed in landfill facilities that are permitted by the appropriate German authorities.

C6.3.10.5.1 The operation of a hazardous waste landfill requires a plan approval *(Planfeststellung)* or a license.

C6.3.10.6 Incinerator Standards. The operation of a hazardous waste incinerator or a hazardous waste-fueled incinerator requires a permit.

C6.3.10.7 Treatment Technologies. The following treatment technologies may be used to reduce the volume or hazardous characteristics of wastes. Wastes, which are categorized as hazardous and which, after treatment as described herein, no longer exhibit any hazardous characteristic, may be disposed of as solid waste. Treatment residues of wastes categorized as hazardous will continue to be managed as hazardous wastes under the criteria of these FGS, including those for disposal. The treatment technologies listed below are provided as baseline treatment/disposal technologies for determining the suitability of disposal alternatives for hazardous wastes generated on DoD installations in Germany.

C6.3.10.7.1 Organics.

C6.3.10.7.1.1 Incineration in accordance with the requirements of C6.3.10.6.

C6.3.10.7.1.2 The operation of a recycling facility or an incineration facility that use hazardous waste as a fuel source requires a permit.

C6.3.10.7.1.3 Biodegradation. Wastes are degraded by microbial action. Such units will be operated under aerobic or anaerobic conditions so that the concentrations of a representative compound or indicator parameter (e.g., total organic carbon) has been substantially reduced in concentration. The level to which biodegradation must occur and the process time vary depending on the hazardous waste being biodegraded. The operation of a facility for the biodegradation of hazardous waste requires a permit.

C6.3.10.7.1.4 Recovery. Wastes are treated to recover organic compounds. This will be done using, but not limited to, one or more of the following technologies: distillation; thin film evaporation; steam stripping; carbon adsorption; critical fluid extraction; liquid extraction; precipitation/crystallization or phase separation techniques, such as decantation, filtration and centrifugation when used in conjunction with one of the above techniques. The operation of a recovery facility for the treatment of hazardous waste requires a permit.

C6.3.10.7.1.5 Chemical Degradation. The wastes are chemically degraded in such a manner so as to destroy hazardous constituents and control harmful emissions. The operation of a chemical degradation facility for the treatment of hazardous waste requires a permit.

C6.3.10.7.2 Heavy Metals.

C6.3.10.7.2.1 Stabilization or Fixation. Wastes are treated so that soluble heavy metals are fixed by oxidation/reduction, or by some other means which renders the metals immobile in a landfill environment. The operation of a facility for the treatment of hazardous waste via stabilization or fixation requires a permit.

C6.3.10.7.2.2 Recovery. Wastes are treated to recover the metal fraction by thermal processing, precipitation, exchange, carbon absorption, or other techniques that yield non-hazardous levels of heavy metals in the residuals. The operation of a recovery facility for the treatment of hazardous waste requires a permit.

C6.3.10.7.3 Reactives. Any treatment which changes the chemical or physical composition of a material so that it no longer exhibits hazardous properties. The operation of a facility for the treatment of hazardous waste requires a permit.

C6.3.10.7.4 Corrosives. Corrosive wastes will be neutralized to a pH value between 6.0 and 9.0. Other acceptable treatments include recovery, incineration, chemical or electrolytic oxidation, chemical reduction, or stabilization. The operation of a facility for the treatment of hazardous waste requires a permit.

C6.3.10.7.5 Batteries. DoD, as a seller or distributor of batteries in Germany, must accept waste batteries back from the user *(Rücknahmepflicht)* and is responsible for ultimately recycling the batteries or ensuring their safe disposal. This requirement is applicable to batteries of U.S. origin.

C6.3.10.8 DoD hazardous waste generating activities shall not treat hazardous waste at the point of generation except for elementary neutralization.

C6.3.11 TENDERING OF WASTE REQUIRING SPECIAL SUPERVISION

C6.3.11.1 Baden-Württemberg

C6.3.11.1.1 The generator *(Andienungspflichtige)* of waste requiring special supervision that is to be permanently disposed of *(beseitigen),* must tender *(andienen)* this waste to the central state agency *(Zentrale Stelle für Sonderabfälle),* if this waste is generated, treated, stored, or disposed of in *Baden-Württemberg.* In Baden-Württemberg, the *Sonderabfallagentur Baden-Württemberg GmbH* (SAA) is the central agency for tendering waste.

C6.3.11.1.2 If waste that is to be permanently disposed of is exported outside the European Community, the associated notification *(Notifizierung)* is equivalent to a tendering *(Andienung).* The central state agency *(Zentrale Stelle für Sonderabfälle)* may require additional information about methodologies of disposal and operation of facilities as well as samples from the waste being disposed.

C6.3.11.1.3 The generator of waste requiring a special supervision that is to be disposed is exempt from the obligation to tender the waste to the SAA in the following cases:

C6.3.11.1.3.1 If the total quantity of waste requiring special supervision that is to be disposed of does not exceed 2,000 kg (2 metric tons) or the total quantity of each individual waste type does not exceed 1,000 kg (1 metric ton); however, it must be ensured that the waste contractor responsible for collection or final disposal fulfills the declaration requirements to the SAA.

C6.3.11.1.3.2 If the waste requiring special supervision is collected and disposed of via collective disposal declaration *(Sammelentsorgungsnachweis)* by a waste contractor; the notification to the SAA must be made by the waste generator and the appropriate declaration must be provided to the central state agency *(andienungspflichtig)* by the waste contractor.

C6.3.11.1.3.3 If waste requiring special supervision is disposed of in a certified facility operated by the waste generator that was in operation prior to 1 January 1996.

C6.3.11.1.3.4 If waste requiring special supervision is collected by certified third parties or private waste contractors.

C6.3.11.1.4 The generator of waste requiring special supervision must supply the waste to the facility that is approved by the SAA. This applies if the generator has tendered the wastes to the SAA. If waste must be subjected to physical, chemical, or biological treatment prior to disposal, the generator may propose an appropriate facility to the SAA.

C6.3.11.2 **Bayern**

C6.3.11.2.1 Hazardous wastes requiring special supervision that are to be permanently disposed of must be tendered to a central state agency *(entsorgungspflichtige Körperschaft).* In Bayern, these agencies are the *Gesellschaft zur Beseitigung von Sondermüll GmbH* and the *SEF-Sonderabfall-Entsorgung Franken GmbH.*

C6.3.11.3 **Hessen**

C6.3.11.3.1 The generator of waste requiring special supervision *(Andienungspflichtige)* must provide a written declaration to the central state agency *(Zentraler Träger)* that is responsible for ensuring the proper disposal of this type of waste.

C6.3.11.3.2 The declaration must state the type, quantity, and origin of the waste and include the analysis of declaration *(Deklarationsanalyse)* and the declaration of the waste generator *(Verantwortliche Erklärung). The central state agency (Zentraler Träger)* may require additional information. If the waste is delivered to a contracted waste collector, this requirement applies to the contracted waste collector; however, any necessary analyses must be conducted at the expense of the waste generator *(Andienungspflichtige).*

C6.3.11.4 **Rheinland-Pfalz**

C6.3.11.4.1 The generator of waste requiring special supervision *(Andienungspflichtige)* must provide a written declaration to the central state agency *(Zentraler Stelle für Sonderabfälle)* that is responsible for ensuring the proper disposal of the waste. In Rheinland-Pfalz, the *Sonderabfall-Management-Gesellschaft Rheinland-Pfalz* mbH (SAM) is the central agency.

C6.3.11.4.2 If the generator proposes a contractor for the disposal of waste requiring special supervision, the generator must provide a statement of acceptance *(Annahmeerklärung)* of this contractor to the SAM in addition to the declaration.

C6.3.11.4.3 The official Rheinland-Pfalz template must be used for the declaration. The template can be obtained from SAM.

C6.3.11.4.4 If waste requiring special supervision is collected and disposed of via collective disposal declaration *(Sammelentsorgungsnachweis)*, the waste carrier is responsible for providing the appropriate declaration to the SAM *(andienungspflichtig).*

C6.3.12 ADDITIONAL REQUIREMENTS FOR THE TRANSPORT OF HAZARDOUS WASTE ON PUBLIC ROADS

C6.3.12.1 Hazardous wastes must be transported in such a manner so as to prevent a dangerous reaction among different hazardous waste streams.

C6.3.12.2 Classification

C6.3.12.2.1 Hazardous waste must be assigned a waste category (see Table C6.T2) prior to transport. The mixing of waste categories is specifically prohibited.

C6.3.12.2.2 The subcategory within a waste category (see Table C6.T2) must be determined prior to transport to ensure compatibility of the waste to be transported with the anticipated packaging material.

C6.3.12.3 Labeling

C6.3.12.3.1 Hazardous waste to be transported must be labeled in accordance with the ADR and USAREUR Regulation 55-4 / USAFE Instruction 24-203.

C6.3.12.3.2 After the determination of a UN number and name of the substance, the primary and secondary danger signs (as applicable) must be selected and used for labeling the transportation unit, container, tank or packaging (see C5.3.7.1, C5.3.7.2, and C5.3.13.2.2 of Chapter 5, Hazardous Materials). Packaging only requires an orange plate; with regard to the transportation unit, container, and tank, the plates must show the UN number in the lower half and the hazard identification number in the upper half.

C6.3.12.3.3 Depending on the type of dangerous good and quantity to be transported, the type of packaging must be selected. It must be distinguished between packaging and bulk goods transport.

C6.3.12.3.4 If goods cannot be identified by their name, they must be assigned to a class according to their physical, chemical, or other properties. Testing of goods may be required to assign the class. Using the collective name “not otherwise mentioned,” all possible wastes can be addressed that are not assigned a UN number and a substance name.

C6.3.12.4 Labeling of Transportation Vehicles for Hazardous Wastes

C6.3.12.4.1 Vehicles for transporting hazardous waste must be labeled according to the ADR or USAREUR Regulation 55-4 / USAFE Instruction 24-203.

C6.3.12.4.2 Vehicles for transporting hazardous waste on public roads must be labeled with two rectangular reflective white warning signs that have a baseline of 40 cm and are at least 30 cm high. During transportation, the warning signs must be clearly visible on the front and rear of the vehicle and must also be perpendicular to the axle. If the vehicle transports wastes for permanent disposal, the warning signs must bear the letter "A."

C6.3.12.5 See Chapter 5, Hazardous Materials, C5.3.3, for documentation requirements associated with the transport of hazardous waste.

C6.3.13 PERMITTED TRANSPORTATION AND DISPOSAL COMPANIES

C6.3.13.1 Wastes requiring special supervision and wastes for permanent disposal *(beseitigen)* must be transported by a company that has obtained a transportation permit.

C6.3.13.2 An approved disposal company does not require a transportation permit for the transport of wastes requiring special supervision and wastes for permanent disposal. Requirements applicable to approved disposal companies *(Entsorgungsfachbetriebe)* are addressed in C7.3.19.1 of Chapter 7, Solid Waste.

C6.3.14 WASTE MANAGEMENT OFFICER

C6.3.14.1 A Waste Management Officer *(Betriebsbeauftragter für Abfall)* must be appointed for the following activities: hazardous waste storage and disposal facilities, hazardous waste landfills, incinerators, hospitals and clinics, and plants for chemical or physical treatment of hazardous waste with a throughput of more than 0.5 metric tons (500 kg) per hour.

C6.3.14.2 The tasks of the Waste Management Officer are described in C7.3.19.3 of Chapter 7, Solid Waste.

C6.3.15 DANGEROUS GOODS ADVISOR AND RESPONSIBLE INDIVIDUAL

C6.3.15.1 Each DoD installation that is involved in transporting hazardous wastes that are considered dangerous goods, must appoint at least one Dangerous Goods Advisor *(Gefahrgutbeauftragter).* The responsibilities of the Dangerous Goods Advisor are addressed of Chapter 5, Hazardous Materials, C5.3.22.

C6.3.15.2 Responsible individuals *(beauftragte Personen)* who oversee the transport of dangerous goods and who are authorized to provide instructions, must be identified and trained by the DoD installation. Personnel handling dangerous goods must be instructed by the responsible individuals regarding the safe handling, loading, and unloading of the respective dangerous goods. Additional requirements regarding responsible individuals are addressed of Chapter 5, Hazardous Materials, C5.3.22.3.

C6.3.16 PROVISION OF STATISTICAL INFORMATION

DoD installations that operate hazardous waste facilities requiring a permit must provide statistical data on recycled waste types to the competent German authorities every 2 years. Additionally, upon request, the competent German authorities must be provided with, statistical data with respect to wastes requiring special supervision and border-crossing transport of hazardous wastes. Typically, individual State Agencies for Statistics *(Statistische Landesamt)* distributes standard forms to collect requested information.

C6.3.17 DAILY REMOVAL OF HAZARDOUS WASTE TO HWAP OR HWSA

Hazardous wastes generated at multiple areas within a HWAP, e.g., within shops or motor pools, shall be removed on a daily basis to a designated HWAP or HWSA.

Table C6.T1 Acceptable Disposal Documentation

Waste Category	Waste Type	Disposal Method	Generator Type	Method of Disposal Control	Transaction Control
Wastes requiring supervision *(überwachungs-bedürftiger Abfall)*	Hazardous (non-hazardous wastes belonging to this category are discussed in Chapter 7, Solid Waste)	Recycling or permanent disposal (for example landfilling)	Private[1]	None	None
			Commercial	1. Simplified proof *(vereinfachter Nachweis)* or	1. Acceptance slip *(Übernahmeschein)*
				2. Simplified collective proof *(vereinfachter Sammelnachweis).*	2. Acceptance slip *(Übernahmeschein)*
				3. None, if a public disposal entity is commissioned for disposal.	3 General good management requirement to file documentation concerning these wastes (for example, invoices)
Wastes requiring special supervision *(besonders überwachungsbedürftiger Abfall)*	Hazardous	Recycling or permanent disposal (for example, landfilling)	Private[1]	None	None
			Commercial	1. Disposal manifest *(Entsorgungs-nachweis)* or	1. Accompanying documentation *(Begleitschein)*
				2. Notification *(formlose Anzeige)* to the competent authorities by the waste generator based on the privileged proof procedure *(priviligiertes Nachweisverfahren).* Disposal may occur via collective proof *(Sammetentsorgung)..*	2.1 Copy of the collective disposal manifest issued by the waste collector or transporter; and 2.2 Acceptance slip *(Übernahmeschein)*
				3. None, if the amounts do not exceed 2,000 kg (2 metric tons) of waste requiring special supervision and the waste is transported to the disposal company by DoD owned vehicles.	3.1 Acceptance slip *(Übernahmeschein); and* 3.2 Copy of the collective disposal manifest issued by the waste collector or transporter

1. e.g., residential housing at housing areas or other DoD leased or owned private housing.

Table C6.T2 Classification of Waste into Waste Categories and Subcategories

Waste Category and Sub-Category	ADR Class	ADR Item Number and Letter	ADR Name	Information in Transport Document (Beförderungspapier)		ADR Danger Label (Gefahrzettel)	Plastic Packaging must be Chemically Resistant for the Following Standard Liquids
				Class	Item Number and Letter		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.1	2	5A, 5F and 5O	Compressed gas packages and containers, small, with gas (gas cartridges) with the following properties:				acetic acid, hydrocarbons
			Suffocating	2	5A	2	
			Inflammable	2	5F	3	
			Oxidizing	2	5O	2+05	
			i.e., spray cans containing color removing substances, body care substances, paint, anti-freezing substances, car care substances, leather sprays, portable fire extinguisher (also without protection cap). Note: Items allowed according to ADR may be added to this group (i.e., carbon dioxide cartridges)				
1.2	2	5T, 5TF, 5TC, 5TO, 5TFC and 5TOC	Compressed gas packages and containers, small, with gas (gas cartridges) with the following properties:				
			Poisonous,	2	5T	6.1	
			Poisonous, inflammable,	2	5TF	6.1+3	

Waste Category and Sub-Category	ADR Class	ADR Item Number and Letter	ADR Name	Information in Transport Document (Beförderungspapier)		ADR Danger Label (Gefahrzettel)	Plastic Packaging must be Chemically Resistant for the Following Standard Liquids
				Class	Item Number and Letter		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			Poisonous, corrosive,	2	5TC	6.1+8	
			Poisonous, oxidizing,	2	5TO	6.1+05	
			Poisonous, inflammable, corrosive or	2	5TFC	6.1+3+8	
			Poisonous, oxidizing, corrosive	2	5TOC	6.1+05+8	
			i.e., spray cans containing insecticides, pesticides, herbicides, disinfectants, leather sprays, anti freezing substances (also without protection cap)				
2.1	3	3b)	Inflammable, liquid, non poisonous, non corrosive waste with a flash point below 23°C, i.e., gasoline, ethyl alcohol, petroleum, alcohols except methanol, paint-, adhesive- and lacquer waste with the additional hazard "poisonous" as in group 3.	3	3b)	3	acetic acid, hydrocarbons
2.2	3	4a) and b)	Paint- and lacquer waste containing nitro cellulose	3	4a)	3	
2.3	3	5a) to c)	Paint-, adhesive- and lacquer waste Note: for hardening paste see waste group 8	3	5a)	3	

Waste Category and Sub-Category	ADR Class	ADR Item Number and Letter	ADR Name	Information in Transport Document (Beförderungspapier)		ADR Danger Label (Gefahrzettel)	Plastic Packaging must be Chemically Resistant for the Following Standard Liquids
				Class	Item Number and Letter		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
3.1	3	16a) and b), 17a) and b), 19a) and b)	Inflammable, liquid, poisonous waste with a flash point below 23°C, i.e., waste oil, also containing small chlorine content (i.e., polychlorinated aromatic hydrocarbons) and waste containing methanol	3	19a)	3+6.1	acetic acid, hydrocarbons
3.2	6.1	15 to 17a) to c), 31a)	Waste containing halogenated hydrocarbons, i.e., trichlorethane, trichlorethylene, perchlorethylene, methylene chloride, carbon tetrachloride, chloroform, filter cartridges from chemical cleaning units, antiknock compounds	6.1	15a)	6.1+3	
3.3	9	2b) and 3	Polychlorinated biphenyls (PCBs) and terphenyls, also in packed small devices such as small capacitors* * - regarding PCBs in unpacked tools and machines see class 9, item 3 and devices with PCB, containing polychlorinated dibenzofurane (PCDF) of class 6.1, item 25.	9	b)	9	
3.4	3	41a) and b)	Waste containing liquid, inflammable, poisonous pesticides and herbicides	3	a)	3+6.1	
3.5	6.1	71 to 73	Waste containing liquid, poisonous, inflammable pesticides and herbicides	6.1	a)	6.1+3	
4.1	3	26a) and b)	Inflammable, liquid, corrosive waste with a flash point below 23°C	3	26a)	3+8	acetic acid,

Waste Category and Sub-Category	ADR Class	ADR Item Number and Letter	ADR Name	Information in Transport Document (Beförderungspapier)		ADR Danger Label (Gefahrzettel)	Plastic Packaging must be Chemically Resistant for the Following Standard Liquids
				Class	Item Number and Letter		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
4.2	3	27a) and b)	Inflammable, liquid, poisonous, and corrosive waste with a flash point below 23°C, including items containing these liquids	3	27a)	3+6.1+8	hydrocarbons
5.1	3	31)c, 34c)	Inflammable, liquid, non poisonous, and non corrosive waste with a flash point between 23°C and 61°C	3	31c)	3	acetic acid, hydrocarbons
5.2	3	32c)	Inflammable, liquid, weak poisonous waste with a flash point between 23°C and 61°C	3	32c)	3+6.1	
5.3	3	33c)	Inflammable, liquid, weak corrosive waste with a flash point between 23°C and 61°C	3	33c)	3+8	
6.1	4.1	4c), 6b) and c), 11b) and c)	Waste consisting of solid organic or inorganic substances that can contain non poisonous and non corrosive, inflammable, liquid substances with a flash point below 61°C, i.e., wood wool, sawdust, paper waste, rags, used car oil filter, oil binders contaminated with oil or grease	4.1	b)	4.1	
6.2	4.1	13b) and c)	Waste containing metal or metal alloys in powdered or in other inflammable form	4.1	13b)	4.1	
6.3	4.1	7b) and c), 16b) and c)	Waste containing poisonous, inflammable, solid, organic or inorganic substances	4.1	b)	4.1+6.1	
6.4	4.1	8b) and c), 17b) and c)	Waste containing corrosive, inflammable, solid, organic or inorganic substances	4.1	b)	4.1+8	

Waste Category and Sub-Category	ADR Class	ADR Item Number and Letter	ADR Name	Information in Transport Document (Beförderungspapier)		ADR Danger Label (Gefahrzettel)	Plastic Packaging must be Chemically Resistant for the Following Standard Liquids
				Class	Item Number and Letter		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
6.5	4.2	3c), 5b) and c)	Used rags, cleaning wool and similar waste, non poisonous, non-corrosive, contaminated with self-ignitable substances, i.e., certain oils and greases. Solid organic substances capable of self-heating, non-poisonous, non corrosive, i.e., granular or porous, inflammable substances contaminated or soaked with self-oxidizing substances, i.e., linseed oil, linseed varnish, varnish from other analogous oils, petroleum residues	4.2	5b)	4.2	
6.6	4.2	12b) and c)	Waste containing metal or metal alloys in powdered or in another self-ignitable form	4.2	12b)	4.2	
6.7	4.2	7b) and c), 18b) and c)	Organic and inorganic solid substances capable of self heating, poisonous	4.2	7b)	4.2+6.1	
6.8	4.2	9b) and c), 20b) and c)	Organic and inorganic solid substances capable of self-heating, corrosive	4.2	9b)	4.2+8	
6.9	4.2	13b) and c), 16b) and c)	Sulfides, hydrogen sulfides, and dithionite such as sodium dithionite and mixtures, i.e., textile color remover and solid, inorganic substances capable of self-heating, non poisonous, non corrosive	4.2	13b)	4.2	
6.10	4.3	13b) and c)	Waste containing metal or metal alloys in powdered or in another form that may develop inflammable gases when in contact with water	4.3	13b)	4.3	

Waste Category and Sub-Category	ADR Class	ADR Item Number and Letter	ADR Name	Information in Transport Document (Beförderungspapier)		ADR Danger Label (Gefahrzettel)	Plastic Packaging must be Chemically Resistant for the Following Standard Liquids
				Class	Item Number and Letter		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
7.1	4.3	17a) and b)	Metal carbides and metal nitrides such as calcium carbide, aluminum carbide	4.3	17)a	4.3	
7.2	4.3	18a)	Metal phosphides, poisonous such as calcium phosphide, aluminum phosphide	4.3	18a)	4.3+6.1	
7.3	6.1	43a)	Phosphide containing solid herbicides and pesticides	6.1	43a)	6.1	
7.4	9	5	Lithium batteries, also in amounts exempted according to ADR	9	5	9	
8.1	5.1	14b), 15b) and c), 27b) and c)	Waste containing inflammable (oxidizing) working substances such as swimming pool disinfectants containing sodium chlorite, calcium chlorite or mixtures of chlorites Note: See waste group 14 for solutions of swimming pool disinfectants containing chlorine	5.1	b)	5.1	nitric acid, 55%
8.2	5.1	29b) and c)	Waste containing inflammable (oxidizing) working substances, solid, poisonous	5.1	29b)	5.1+6.1	
8.3	5.1	31b) and c)	Waste containing inflammable (oxidizing) working substances, solid, corrosive	5.1	31b)	5.1+8	
8.4	5.2	4b), 6b), 8b) and 10 b)	Paste like waste containing dibenzoyl peroxide, dicumyl peroxide in cans and tubes, i.e., hardener for polyester resins	5.2	4b)	5.2	

Waste Category and Sub-Category	ADR Class	ADR Item Number and Letter	ADR Name	Information in Transport Document (Beförderungspapier)		ADR Danger Label (Gefahrzettel)	Plastic Packaging must be Chemically Resistant for the Following Standard Liquids
				Class	Item Number and Letter		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
9.1	6.1	33a) to c), 52a) to c)	Solid and liquid waste containing organic and inorganic mercury compounds	6.1	a)	6.1	wetting agents
9.2	8	66c)	Note: Items containing mercury may be added to this group	8	66c)	8	
9.3	6.1	41a) to c)	Waste containing cyanide, i.e., gold or silver cleaning agents	6.1	41a)	6.1	
9.4	6.1	25a) to c), 65a) to c)	Solid and liquid waste containing organic or inorganic poisonous substances, non corrosive and non inflammable	6.1	a)	6.1	
9.5	6.1	27a) and b), 67a) and b)	Solid and liquid waste containing organic or inorganic poisonous substances, corrosive	6.1	a)	6.1+8	
9.6	6.1	26a) and b)	Solid and liquid waste containing organic or inorganic poisonous substances, inflammable	6.1	26a)	6.1+3	
9.7	6.1	71 to 87a) to c)	Solid and liquid herbicides and pesticides, except those listed in waste group 7	6.1	a)	6.1	
10	8	2b), 3a) and b), 4b)	Waste containing nitric acid and/ or perchloric acid, i.e., certain cleaning substances Note: perchloric acid, water-based solutions containing more than 72% pure acid must not be transported	8	3a)	8	Nitric acid, 55% wetting agents

Waste Category and Sub-Category	ADR Class	ADR Item Number and Letter	ADR Name	Information in Transport Document (Beförderungspapier)		ADR Danger Label (Gefahrzettel)	Plastic Packaging must be Chemically Resistant for the Following Standard Liquids
				Class	Item Number and Letter		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
11.1	8	1b)	Waste containing sulfuric acid, i.e., certain cleaning substances, pastes for removing Bierstein, lead sulfate	8	1b)	8	Wetting agents
11.2	8	7b)	Waste containing hydrofluoric acid, i.e., certain cleaning substances	8	7b)	8+6.1	
11.3	8	76a) to c)	Liquid waste containing corrosive, poisonous substances	8	76a)	8+6.1	
11.4	8	5b) and c), 8a) to c), 10b), 12a) to c), 17a) to c), 32a) to c), 34b) and c), 35b) and c), 40a)to c)	Other corrosive, acidic liquid waste containing i.e., hydrochloric acid, phosphoric acid, acetic acid, chlorosulfonic acid, formic acid, chloroacetic acid, propionic acid, toluene sulfonic acid, thionyl chloride	8	a)	8	
12.1	8	11b) and c), 13b), 16a) to c), 39a) to c)	Corrosive, acidic, anhydrous solid waste, i.e., waste containing anhydrous iron trichloride, anhydrous zinc chloride, anhydrous aluminium chloride, phosphorous pentachloride	8	a)	8	
12.2	8	75a) to c)	Solid waste containing corrosive, poisonous substances	8	75a)	8+6.1	
13.1	8	43c)	Waste containing water-based ammonia solutions, with a maximum of 35% ammonia	8	43c)	8	Water, wetting agents

Waste Category and Sub-Category	ADR Class	ADR Item Number and Letter	ADR Name	Information in Transport Document (Beförderungspapier)		ADR Danger Label (Gefahrzettel)	Plastic Packaging must be Chemically Resistant for the Following Standard Liquids
				Class	Item Number and Letter		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
13.2	8	41b) and c), 42b) and c), 44b), 45b) and c), 46a) to c), 47a) to c), 52a) to c), 53a) to c), 54a) and b), 55a) to c), 56a) to c), 65a) to c), 66a) to c)	Other solid and liquid basic waste, i.e., certain cleaning substances containing sodium and/ or potassium hydroxide and soda lime, burnishing substances containing sodium and/ or potassium sulfide (dish washing agents or decalcifying agents containing sodium metasilicate, lime solutions containing calcium hydroxide	8	a)	8	
13.3	8	63)	Waste containing formaldehyde, i.e., certain cleaning substances, disinfection substances	8	63c)	8	
14.1	8	61b) and c)	Waste containing hypochlorite solutions, i.e., certain chlorine bleaching substances, solutions containing chlorinated swimming pool disinfectants of waste group 8	8	61b)	8	Salpetre acid, 55% wetting agents
14.2	5.1	28b) and c)	Waste containing inflammable (oxidizing) working liquid substances	5.1	28b)	5.1	
14.3	5.1	1b) and c), 32b) and c)	Waste containing solutions of hydrogen peroxide, i.e., certain cleaning substances, hair coloring substances	5.1	1b)	5.1+8	

Waste Category and Sub-Category	ADR Class	ADR Item Number and Letter	ADR Name	Information in Transport Document (Beförderungspapier)		ADR Danger Label (Gefahrzettel)	Plastic Packaging must be Chemically Resistant for the Following Standard Liquids
				Class	Item Number and Letter		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
14.4	5.1	30b) and c)	Waste containing inflammable (oxidizing) working substances, liquid, poisonous	5.1	30b)	5.1+6.1	
15			Not identified hazardous waste. Note: special regulations apply for these wastes			11 Additionally, "hazardous material - not identified" signs must be placarded on at least 2 sides	

Table C6.T3 European Waste List – Designated Hazardous Wastes

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
01	**ABFÄLLE, DIE BEIM AUFSUCHEN, AUSBEUTEN, UND GEWINNEN SOWIE BEI DER PHYSIKALISCHEN UND CHEMISCHEN BEHANDLUNG VON BODENSCHÄTZEN ENTSTEHEN**	**WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS**
01 03	Abfälle aus der physikalischen und chemischen Verarbeitung von metallhaltigen Bodenschätzen	Wastes from physical and chemical processing of metalliferous minerals
01 03 04	Säure bildende Aufbereitungsrückstände aus der Verarbeitung von sulfideschem Erz	acid-generating tailings from processing of sulphide ore
01 03 05	andere aufbereitungsrückstände, die gefährliche Stoffe enthalten	other tailings containing dangerous substances
01 03 07	andere, gefährliche Stoffe enthaltende Abfälle aus der physikalischen und chemischen Verarbeitung von metallhaltigen Bodenschätzen	other waste containing dangerous substances from physical and chemical processing of metalliferous minerals
01 04	Abfälle aus der physikalischen und chemischen Weitverarbeitung von nichtmetallhaltigen Bodenschätzen	Wastes from physical and chemical processing of non-metalliferous minerals
01 04 07	gefärlihe Stoffe enthaltende Abfälle aus der physikalischen und chemischen Weiterverarbeitung von nichtmetallhaltigen Bodenschätzen	wastes containing dangerous substances from physical and chemical processing of non-metalliferous minerals
01 05	Bohrschlämme und andere Bohrabfälle	Drilling muds and other drilling wastes
01 05 05	ölhaltige Bohrschlämme und – abfälle	oil-containing drilling muds and wastes
01 05 06	Bohrschlämme und andere Bohrabfälle, die gefährliche Stoffe enthalten	drilling muds and other drilling wastes containing dangerous substances
02	**ABFÄLLE AUS LANDWIRTSCHAFT, GARTENBAU, TEICHWIRTSCHAFT, FORSTWIRTSCHAFT, JAGD UND FISCHEREI SOWIE DER HERSTELLUNG UND VERARBEITUNG VON NAHRUNGSMITTELN**	**WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING**
02 01	Abfälle aus Landwirtschaft, Gartenbau, Teichwirtschaft, Forstwirtschaft, Jagd und Fischerei	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
02 01 08	Abfälle von Chemikalien für die Landwirtschaft, die gefährliche Stoffe enthalten	agrochemical waste containing dangerous substances
03	**ABFÄLLE ZUS DER HOLZBEARBEITUNG UND DER HERSTELLUNG VON PLATTEN, MÖBELN, ZELLSTOFFEN, PAPIER UND PAPPE**	**WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND CARDBOARD**
03 01	Abfälle aus der der Holzbearbeitung und der Herstellung von Platten und Möbeln	Wastes from wood processing and the production of panels and furniture
03 01 04	Sägemehl, Späne, Abschnitte, Holz, Spanplatten und Furnier, die gefährliche Stoffe enthalten	sawdust, shavings, cuttings, wood, particle board and veneer containing dangerous substances
03 02	Abfälle aus der Holzkonservierung	Wastes from wood preservation
03 02 01	halogenfrei organische Holzschutzmittel	non-halogenated organic wood preservatives
03 02 02	chloroganische Holzschutzmittel	organochlorinated wood preservatives
03 02 03	metallorganische Holzschutzmittel	organometallic wood preservatives
03 02 04	anorganische Holzschutzmittel	inorganic wood preservatives
03 02 05	andere Holzschutzmittel, die gafärliche Stoffe enthalten	other wood preservatives containing dangerous substances
04	**ABFÄLLE AUS DER LEDER-, PELZ-, UND TEXTILINDUSTRIE**	**WASTES FROM THE LEATHER, FUR, AND TEXTILE INDUSTRIES**
04 01	Abfälle aus der Leder- und Pelzindustrie	Wastes from the leather and fur industry
04 01 03	Entfettungsabfälle, Lösemittelhaltig, ohne flüssige Phase	degreasing wastes containing solvents without a liquid phase
04 02	Abfälle aus der Textilindustrie	Wastes from the textile industry
04 02 14	Abfälle aus dem Finish, die organische Lösungsmittel enthalten	waste from finishing containing organic solvents
04 02 16	Farbstoffe und Pigmente, die gefährliche Stoffe enthalten	dyestuffs and pigments containing dangerous substances

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
04 02 19	Schlämme aus der betriebseigenen Abwasserbehandlung, die gefährliche Stoffe enthalten	sludges from on-site effluent treatment containing dangerous substances
05	**ABFÄLLE AUS DER ERDÖLRAFFINATION, ERDGASREINIGUNG, UND KOHLEPYROLYSE**	**WASTES FROM PETROLEUM REFINING, NATURAL GAS PURIFICATION, AND PYROLYTIC TREATMENT OF COAL**
05 01	Abfälle aus der Erdölraffination	Wastes from petroleum refining
05 01 02	Entsalzungsschlämme	desalter sludges
05 01 03	Bodenschlämme aus Tanks	tank bottom sludges
05 01 04	saure Alkylschlämme	acid alkyl sludges
05 01 05	Verschüttetes Öl	oil spills
05 01 06	ölhaltige Schlämme aus Betriebsvorgängen und Instandhaltung	oily sludges from maintenance operations of the plant or equipment
05 01 07	Säureteere	acid tars
05 01 08	andere Teere	other tars
05 01 09	Schlämme aus der etriebseigenen Abwasserbehandlung, die gefährliche Stoffe enthalten	sludges from off-site effluent treatment containing dangerous substances
05 01 11	Abfälle aus der Brennstoffreinigung mit Basen	wastes from cleaning of fuels with bases
05 01 12	säurehaltige Öle	oil containing acids
05 01 15	gebrauchte Filtertone	spent filter clays
05 06	Abfälle aus der Kohlepyrolyse	wastes from the pyrolytic treatment of coal
05 06 01	Säureteere	acid tars
05 06 03	andere Teere	other tars
05 07	Abfälle aus Ergasreinigung und -transport	wastes from natural gas purification and transportation

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
05 07 01	quecksilberhaltige Abfälle	wastes containing mercury
06	**ABFÄLLE AUS ANORGANISCH-CHEMISCHEN PROZESSEN**	**WASTES FROM INORGANIC CHEMICAL PROCESSES**
06 01	Abfälle aus Herstellung, Zubereitung, Vertrieb und Anwendung (HZVA) von Säurn	Wastes from the manufacture, formulation, supply, and use (MFSU) of acids
06 01 01	Schwefelsäure und schweflige Säure	sulphuric acid and sulphurous acid
06 01 02	Salzsäure	hydrochloric acid
06 01 03	Flusssäure	hydrofluoric acid
06 01 04	Phosphorsäure und phosphorige Säure	phosphoric and phosphorous acid
06 01 05	Salpetersäure und salpetrige Säure	nitric acid and nitrous acid
06 01 06	andere Säuren	other acids
06 02	Abfälle aus HZVA von Basen	Wastes from the MFSU of bases
06 02 01	Calciumhydroxid	calcium hydroxide
06 02 03	Ammoniumhydroxid	ammonium hydroxide
06 02 04	Natrium - und Kaliumhydroxid	sodium and potassium hydroxide
06 02 05	andere Basen	other bases
06 03	Abfälle aus HZVA von Salzen, Salzlösungen, und Metalloxiden	Wastes from the MFSU of salts and their solutions and metallic oxides
06 03 11	feste Salze und Lösungen, die Cyanid enthalten	solid salts and solutions containing cyanides
06 03 13	feste Salze und Lösungen, die Schwermetalle enthalten	solid salts and solutions containing heavy metals
06 03 15	Metalloxide, die Schwermetalle enthalten	metallic oxides containing heavy metals
06 04	Metallhaltige Abfälle mit Ausnahme derjenigen, die unter 06 03 fallen	metal containing wastes other than those mentioned in 06 03

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
06 04 03	arsenhaltige Abfälle	wastes containing arsenic
06 04 04	quecksilberhaltige Abfälle	wastes containing mercury
06 04 05	Abfälle, die andere Schwermetalle enthalten	wastes containing other heavy metals
06 05	Schlämme aus der betriebseigenen Abwasserbehandlung	wastes from on-site effluent treatment
06 05 02	Schlämme aus der betriebseigenen Abwasserbehandlung, die gefährliche Stoffe enthalten	sludges from on-site effluent treatment containing dangerous substances
06 06	Abfälle aus HZVA von schwefelhaltigen Chemikalien, aus Schwefelchemie und Entschwefelungsprozessen	wastes from the MFSU of sulphur chemicals, sulphur chemical processes, and desulphurisation processes
06 06 02	Abfälle, die gefährliche Sulfide enthalten	wastes containing dangerous sulphides
06 07	Abfälle aus HZVA von Halogenen und aus der Halogenchemie	wastes from the MFSU of halogens and halogen chemical processes
06 07 01	asbesthaltige Abfälle aus der Elektrolyse	wastes containing asbestos from electrolysis
06 07 02	Aktivkohle aus der Chlorherstellung	activated carbon from chlorine production
06 07 03	quecksilberhaltige Bariumsulfatschlämme	barium sulphate sludge containing mercury
06 07 04	Lösungen und Säuren, z.B. Kontaktsäure	solutions and acids, for example contact acid
06 08	Abfälle aus HZVA von Silizium und Siliziumverbindungen	wastes form the MFSU of silicon and silicon derivatives
06 08 02	gefährliche Chlorsilane enthaltende Abfälle	wastes containing chlorosilanes
06 09	Abfälle aus HZVA von phosphorhaltigen Chemikalien aus der Phosphorchemie	wastes from the MFSU of phosphorus chemicals and phosphorus chemical processes
06 09 03	Reaktionsabfälle auf Calciumbasis, die gefährliche Stoffe enthalten	calcium based reaction wastes containing or contaminated with dangerous substances
06 10	Abfälle aus HZVA von stickstoffhaltigen Chemikalien aus der Stickstoffeshemie und der Herstellung von Düngemitteln	wastes from the MFSU of nitrogen chemicals, nitrogen chemical processes and fertilizer manufacture

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
06 10 02	Abfälle, die gefährliche Stoffe enthalten	wastes containing dangerous substances
06 13	Abfälle aus anorganischen shemischen Prozessen a.n.g.	wastes from inorganic processes not otherwise specified
06 13 01	anorganischen Pflanzenschutzmittel, Holzschutzmittel und andere Biozide	inorganic plant protection products, wood-preserving agents and other biocides
06 13 02	gebrauchte Aktivkohle (außer 06 07 02)	spent activated carbon (except 06 07 02)
06 13 04	Abfälle aus der Asbesverarbeitung	wastes from asbestos processing
06 13 05	Ofen- und Kaminruß	soot
07	**ABFÄLLE AUS ORGANISCH-CHEMISCHEN PROZESSEN**	**WASTES FROM ORGANIC CHEMICAL PROCESSES**
07 01	Abfälle aus Herstellung, Zubereitung, Vertrieb, und Anwedung (HZVA) organischer Grundchemikalien	Wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals
07 01 01	wässrige Waschflüssigkeiten und Mutterlaugen	aqueous washing liquids and mother liquors
07 01 03	halogenorganische Lösemittel, Waschflüssigkeiten und Mutterlaugen	organic halogenated solvents, washing liquids, and mother liquors
07 01 04	andere organische Lösemittel, Waschflüssigkeiten und Mutterlaugen	other organic solvents, washing liquids, and mother liquors
07 01 07	halogenierte Reaktions - und Destillationsrückstände	halogenated still bottoms and reaction residues
07 01 08	andere Reaktions - und Destillationsrückstände	other still bottoms and reaction residues
07 10 09	halogenierte Filterkuchen, gebrauchte Aufsaugmaterialien	halogenated filter cakes and spent absorbents
07 10 10	andere Filterkuchen, gebrauchte Aufsaugmaterialien	other filter cakes and spent absorbents
07 10 11	Schlämme aus der betriebseigene Abwasserbehandlung, die gefährliche Stoffe enthalten	sludges from on-site effluent treatment containing dangerous substances
07 02	Abfälle aus HZVA von Kunststoffen, synthetischem Gummi und Kunstfasern	Wastes from the MFSU of plastics, synthetic rubber and man-made fibres

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
07 02 01	wässerige Waschflussigkeiten und Mutterlaugen	aqueous washing liquids and mother liquors
07 02 03	halogenorganische Lösemittel, Waschflussigkeiten und Mutterlaugen	organic halogenated solvents, washing liquids, and mother liquors
07 02 04	andere organische Lösemittel, Waschflussigkeiten und Mutterlaugen	other organic solvents, washing liquids, and mother liquors
07 02 07	halogenierte Reaktions - und Destillationrückstände	halogenated still bottoms and reaction residues
07 02 08	andere Reaktions - und Destillationrückstände	other still bottoms and reaction residues
07 02 09	halogenierte Filterkuchen, gebrauchte Aufsaugmaterialien	halogenated filter cakes and spent absorbents
07 02 10	andere Filterkuchen, gebrauchte Aufsaugmaterialien	other filter cakes and spent absorbents
07 02 11	Schlämme aus der betriebseigene Abwasserbehandlung, die gefährliche Stoffe enthalten	sludges from on-site effluent treatment containing dangerous substances
07 02 14	Abfälle von Zusatzstoffen, die gefährliche Stoffe enthalten	Wastes from additives containing dangerous substances
07 02 16	gefährliche Silicone enthaltende Abfälle	Wastes containing silicone
07 03	Abfälle aus HZVA von organische Farbstoffen und Pigmenten (außer 06 11)	Wastes from the MFSU of organic dyes and pigments (except 06 11)
07 03 01	wässerige Waschflussigkeiten und Mutterlaugen	aqueous washing liquids and mother liquors
07 03 03	halogenorganische Lösemittel, Waschflussigkeiten und Mutterlaugen	organic halogenated solvents, washing liquids, and mother liquors
07 03 04	andere organische Lösemittel, Waschflussigkeiten und Mutterlaugen	other organic solvents, washing liquids, and mother liquors
07 03 07	halogenierte Reaktions - und Destillationsrückstände	halogenated still bottoms and reaction residues
07 03 08	andere Reaktions - und Destillationsrückstände	other still bottoms and reaction residues
07 03 09	halogenierte Filterkuchen, gebrauchte Aufsaugmaterialien	halogenated filter cakes and spent absorbents
07 03 10	andere Filterkuchen, gebrauchte Aufsaugmaterialien	other filter cakes and spent absorbents

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
07 03 11	Schlämme aus der betriebseigene Abwasserbehandlung, die gefährliche Stoffe enthalten	sludges from on-site effluent treatment containing dangerous substances
07 04	Abfälle aus HZVA von organische Pflanzenschutzmitteln (außer 02 01 08 und 02 01 09), Holzschutzmitteln (außer 03 02) und anderen Biozide	Wastes from the MFSU of organic plant protection products (except 02 01 08 and 02 01 09), wood preserving agents (except 03 02) and other biocides
07 04 01	wässerige Waschflussigkeiten und Mutterlaugen	aqueous washing liquids and mother liquors
07 04 03	halogenorganische Lösemittel, Waschflussigkeiten und Mutterlaugen	organic halogenated solvents, washing liquids, and mother liquors
07 04 04	andere organische Lösemittel, Waschflussigkeiten und Mutterlaugen	other organic solvents, washing liquids, and mother liquors
07 04 07	halogenierte Reaktions - und Destillationsrückstände	halogenated still bottoms and reaction residues
07 04 08	andere Reaktions - und Destillationsrückstände	other still bottoms and reaction residues
07 04 09	halogenierte Filterkuchen, gebrauchte Aufsaugmaterialien	halogenated filter cakes and spent absorbents
07 04 10	andere Filterkuchen, gebrauchte Aufsaugmaterialien	other filter cakes and spent absorbents
07 04 11	Schlämme aus der betriebseigene Abwasserbehandlung, die gefährliche Stoffe enthalten	sludges from on-site effluent treatment containing dangerous substances
07 04 13	fest Abfälle, die gefährliche Stoffe enthalten	solid wastes containing dangerous substances
07 05	Abfälle aus HZVA von Pharmazeutika	Wastes from the MFSU of pharmaceuticals
07 05 01	wässerige Waschflussigkeiten und Mutterlaugen	aqueous washing liquids and mother liquors
07 05 03	halogenorganische Lösemittel, Waschflussigkeiten und Mutterlaugen	organic halogenated solvents, washing liquids, and mother liquors
07 05 04	andere organische Lösemittel, Waschflussigkeiten und Mutterlaugen	other organic solvents, washing liquids, and mother liquors
07 05 07	halogenierte Reaktions - und Destillationsrückstände	halogenated still bottoms and reaction residues
07 05 08	andere Reaktions - und Destillationsrückstände	other still bottoms and reaction residues

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
07 05 09	halogenierte Filterkuchen, gebrauchte Aufsaugmaterialien	halogenated filter cakes and spent absorbents
07 05 10	andere Filterkuchen, gebrauchte Aufsaugmaterialien	other filter cakes and spent absorbents
07 05 11	Schlämme aus der betriebs eigene Abwasserbehandlung, die gefährliche Stoffe enthalten	sludges from on-site effluent treatment containing dangerous substances
07 05 13	fest Abfälle, die gefährliche Stoffe enthalten	solid wastes containing dangerous substances
07 06	Abfälle aus HZVA von Fetter, Schmierstoffen, Seifen, Waschmitteln, Desinfektionsmitteln, und Körperpflegemitteln	Wastes from the MFSU of fats, grease, soaps, detergents, disinfectants, and cosmetics
07 06 01	wässerige Waschflussigkeiten und Mutterlaugen	aqueous washing liquids and mother liquors
07 06 03	halogenorganische Lösemittel, Waschflussigkeiten und Mutterlaugen	organic halogenated solvents, washing liquids, and mother liquors
07 06 04	andere organische Lösemittel, Waschflussigkeiten und Mutterlaugen	other organic solvents, washing liquids, and mother liquors
07 06 07	halogenierte Reaktions - und Destillationsrückstände	halogenated still bottoms and reaction residues
07 06 08	andere Reaktions - und Destillationsrückstände	other still bottoms and reaction residues
07 06 09	halogenierte Filterkuchen, gebrauchte Aufsaugmaterialien	halogenated filter cakes and spent absorbents
07 06 10	andere Filterkuchen, gebrauchte Aufsaugmaterialien	other filter cakes and spent absorbents
07 06 11	Schlämme aus der betriebseigene Abwasserbehandlung, die gefährliche Stoffe enthalten	sludges from on-site effluent treatment containing dangerous substances
07 07	Abfälle aus HZVA von Feinchemikalien und Chemikalien a.n.g.	Wastes from the MFSU of fine chemicals and chemical products not otherwise specified
07 07 01	wässerige Waschflussigkeiten und Mutterlaugen	aqueous washing liquids and mother liquors
07 07 03	halogenorganische Lösemittel, Waschflussigkeiten und Mutterlaugen	organic halogenated solvents, washing liquids, and mother liquors
07 07 04	andere organische Lösemittel, Waschflussigkeiten und Mutterlaugen	other organic solvents, washing liquids, and mother liquors

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
07 07 07	halogenierte Reaktions - und Destillationsrückstände	halogenated still bottoms and reaction residues
07 07 08	andere Reaktions - und Destillationsrückstände	other still bottoms and reaction residues
07 07 09	halogenierte Filterkuchen, gebrauchte Aufsaugmaterialien	halogenated filter cakes and spent absorbents
07 07 10	andere Filterkuchen, gebrauchte Aufsaugmaterialien	other filter cakes and spent absorbents
07 07 11	Schlämme aus der betriebseigene Abwasserbehandlung, die gefährliche Stoffe enthalten	sludges from on-site effluent treatment containing dangerous substances
08	**ABFÄLLE AUS HZVA VON BESCHICHTUNGEN (FARBEN, LACKE, EMAIL), KLEBSTOFFEN, DICHTMASSEN UND DRUCKFARBEN**	**WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS**
08 01	Abfälle aus HZVA und Entfernung von Farben und Lacken	Wastes from MFSU and removal of paint and varnish
08 01 11	Farb- und Lackabfälle, die organische Lösemittel oder andere gefährliche Stoffe enthalten	waste paint and varnish containing organic solvents or other dangerous substances
08 01 13	Farb- oder Lackschlämme, die organische Lösemittel oder andere gefährliche Stoffe enthalten	Sludges from paint or varnish containing organic solvents of other dangerous substances
08 01 15	wässrige Schlämme, die Farben oder Lacke mit organischen Lösemitteln oder andere gefährlichen Stoffe enthalten	aqueous sludges containing paint or varnish containing organic solvents or other dangerous substances
08 01 17	Abfälle aus der Farb- oder Lackentfernung, die organische Lösemittel oder andere gefährliche Stoffe enthalten	wastes from paint or varnish removal containing organic solvents or other dangerous substances
08 01 19	wässrige Ssuspensionen, die Farben oder Lacke mit organischen Lösemitteln oder andere gefährlichen Stoffe enthalten	aqueous suspensions containing paint or varnish containing organic solvents or other dangerous substances
08 01 21	Farb- oder Lackentfernerabfälle	waste paint or varnish remover
08 03	Abfälle aus HZVA von Druckfarben	wastes from MFSU of printing inks
08 03 12	Druckfarbenabfälle die gefährliche Stoffe enthalten	waste ink containing dangerous substances

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
08 03 14	Druckfarbenschlämme, die gefährliche Stoffe enthalten	ink sludges containing dangerous substances
08 03 16	Abfälle von Ätzlösungen	waste etching solutions
08 03 17	Tonerabfälle, die gefährliche Stoffe enthalten	waste printing toner containing dangerous substances
08 03 19	Dispersionsöl	disperse oil
08 04	Abfälle aus HZVA von Klebstoffen und Dichtmassen (einschließlich wasserabweisender Materialien)	wastes from MFSU of adhesives and sealants (including water-proofing products)
08 04 09	Klebstoff- und Dichtmassenabfälle, die organische Lösemittel oder andere gefährliche Stoffe enthalten	waste adhesives and sealants containing organic solvents or other dangerous substances
08 04 11	Klebstoff- und Dichtmassenhaltige Schlämme, die organische Lösemittel oder andere gefährliche Stoffe enthalten	adhesive and sealant sludges containing organic solvents or other dangerous substances
08 04 13	wässrige Schlämme, die Klebstoffe oder Dichtmassen mit organischen Lösemitteln oder andere gefährlichen Stoffe enthalten	aqueous sludges containing adhesives or sealants containing organic solvents or other dangerous substances
08 04 15	wässrige flüssige Abfälle, die Klebstoffe oder Dichtmassen mit organischen Lösemitteln oder andere gefährlichen Stoffe enthalten	aqueous liquid waste containing adhesives or sealants containing organic solvents or other dangerous substances
08 04 17	Harzöle	rosin oil
08 05	Nicht unter 08 aufgefürte Abfälle	wastes not otherwise specified in 08
08 05 01	isocyanatabfälle	waste isocyanates
09	**ABFÄLLE AUS DER FOTOGRAFISCHEN INDUSTRIE**	*Wastes from the Photographic Industry*
09 01	Abfälle aus der fotografischen Industrie	Wastes from the photographic industry
09 01 01	Entwickler und Aktivatorenlösungen auf Wasserbasis	water-based developer and activator solutions
09 01 02	offsetdruckplatten-Entwicklerlösungen auf Wasserbasis	water-based offset plate developer solutions
09 01 03	Entwicklerlösungen auf Lösemittelbasis	solvent-based developer solutions

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
09 01 04	Fixierbäder	fixer solutions
09 01 05	Bleichlösungen und Bleich-Fixier-Bäder	bleach solutions and bleach fixer solutions
09 01 06	silberhaltige Abfälle aus der betriebseigenen Behandlung fotografischer Abfälle	wastes containing silver from on-site treatment of photographic wastes
09 01 11	Einwegkameras mit Batterien, die unter 16 06 01, 16 06 02 oder 16 06 03 fallen	single-use cameras containing batteries included in 16 06 01, 16 06 02, or 16 06 03.
09 01 13	wässrige flüssige Abfälle aus der betriebseigenen Silberrückgewinnung mit Ausnahme derjenigen, die unter 09 01 06 fallen	aqueous liquid waste from on-site reclamation of silver other than those mentioned in 09 01 06.
10	**ABFÄLLE AUS THERMISCHEN PROZESSEN**	**WASTES FROM THERMAL PROCESSES**
10 01	Abfälle Aus Kraftwerken und anderen Verbrennungsanlagen (außer 19)	wastes from power stations and other combustion plants (except 19)
10 01 04	Filterstäube und Kesselstaub aus Ölfeuerung	oily fly ash and boiler dust
10 01 09	Schwelfelsäure	sulphuric acid
10 01 13	Filterstäube aus emulgierten, als Brennstoffe verwendeten Kohlenwasserstoffen	fly ash from emulsified hydrocarbons used as fuels
10 01 14	Rost- und Kesselasche, Schlacken und Kesselstaug aus der Abfallmitverbrennung, die gefärhliche Stoffe enthalten	bottom ash, slag and boiler dust from co-incineration containing dangerous substances
10 01 16	Filterstäube aus der Abfallmitverbrennung, die gefärhliche Stoffe enthalten	fly ash from co-incineration containing dangerous substances
10 01 18	Abfälle aus der Abgasbehandlung, die gefärhliche Stoffe enthalten	wastes from gas cleaning containing dangerous substances
10 01 20	Schlämme aus der betriebseigenen Abwasserbehandlung, die gefärhliche Stoffe enthalten	sludges from on-site effluent treatment containing dangerous substances
10 01 22	wässrige Schlämme aus der Kesselreinigung, die gefärhliche Stoffe enthalten	aqueous sludges from boiler cleansing containing dangerous substances

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
10 02	Abfälle aus der Eisen- und Stahlindustrie	wastes from the iron and steel industry
10 02 07	feste Abfälle aus der Abgasbehandlung, die gefärhliche Stoffe enthalten	solid wastes from gas treatment containing dangerous substances
10 02 11	ölhaltige Abfälle aus der Kühlwasserbehandlung	wastes from cooling-water treatment containing oil
10 02 13	Schlämme und Filterkuchen aus der Abgasbehandlung, die gefärhliche Stoffe enthalten	sludges and filter cakes from gas treatment containing dangerous substances
10 03	Abfälle aus der thermischen Aluminuium-Metallurgie	wastes from aluminum thermal metallurgy
10 03 04	Schlacken aus der Erstschmelze	primary production slags
10 03 08	Salzschlacken aus der Zweitschmelze	salt slags from secondary production
10 03 09	schwarze Krätzen aus der Zweitschmelze	black drosses from secondary production
10 03 15	Abschaum, der entzündlich ist oder in Kontakt mit Wasser entzündliche Gase in gefährlicher Menge abgibt	skimmings that are flammable or emit, upon contact with water, flammable gases in dangerous quantities
10 03 17	teerhaltige Abfälle aus der Anodenherstellung	tar-containing wastes from anode manufacture
10 03 19	Filterstaub, der gefärhliche Stoffe enthält	flue-gas dust containing dangerous substances
10 03 21	ander Teilchen und Staub (einschließlich Kugelmühlenstaub), die gefärhliche Stoffe enthalten	other particulates and dust (including ball-mill dust) containing dangerous substances
10 03 23	feste Abfälle aus der Abgasbehandlung, die gefärhliche Stoffe enthalten	solid wastes from gas treatment containing dangerous substances
10 03 25	Schlämme und Filterkuchen aus der Abgasbehandlung, die gefärhliche Stoffe enthalten	sludges and filter cakes from gas treatment containing dangerous substances
10 03 27	ölhaltige Abfälle aus der Kühlwasserbehandlung	wastes from cooling-water treatment containing oil
10 03 29	gefärhliche Stoffe enthaltende Abfälle aus der Behandlung von Salzschlacken und schwarzen Krätzen	wastes from treatment of salt slags and black drosses containing dangerous substances

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
10 04	Abfälle aus der thermischen Bleimetallurgie	wastes from lead thermal metallurgy
10 04 01	Schlacken (Erst- und Zweitschmelze)	slags from primary and secondary production
10 04 02	Krätzen und Abschaum (Erst- und Zweitschmelze)	dross and skimmings from primary and secondary production
10 04 03	Calciumarsenat	calcium arsenate
10 04 04	Filterstaub	flue-gas dust
10 04 05	andere Teilchen und Staub	other particulates and dust
10 04 06	feste Abfälle aus der Abgasbehandlung	solid wastes from gas treatment
10 04 07	Schlämme und Filterkuchen aus der Abgasbehandlung	sludges and filter cakes from gas treatment
10 04 09	ölhaltige Abfälle aus der Kühlwasserbehandlung	wastes from cooling-water treatment containing oil
10 05	Abfälle aus der thermis chen Zinkmetallurgie	wastes from zinc thermal metallurgy
10 05 03	Filterstaub	flue-gas dust
10 05 05	feste Abfälle aus der Abgasbehandlung	solid wastes from gas treatment
10 05 06	Schlämme und Filterkuchen aus der Abgasbehandlung	sludges and filter cakes from gas treatment
10 05 08	ölhaltige Abfälle aus der Kühlwasserbehandlung	wastes from cooling-water treatment containing oil
10 05 10	Krätzen und Abschaum, der entzündlich ist oder in Kontakt mit Wasser entzündliche Gase in gefährlicher Menge abgeben	dross and skimmings that are flammable or emit, upon contact with water, flammable gases in dangerous quantities
10 06	Abfälle aus der thermischen Kupfermetallurgie	wastes from copper thermal metallurgy
10 06 03	Filterstaub	flue-gas dust
10 06 06	feste Abfälle aus der Abgasbehandlung	solid wastes from gas treatment
10 06 07	Schlämme und Filterkuchen aus der Abgasbehandlung	sludges and filter cakes from gas treatment

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
10 06 09	ölhaltige Abfälle aus der Kühlwasserbehandlung	wastes from cooling-water treatment containing oil
10 07	Abfälle aus der thermischen Silber-, Gold-, und Platinmetallurgie	wastes from silver, gold and platinum thermal metallurgy
10 07 07	ölhaltige Abfälle aus der Kühlwasserbehandlung	wastes from cooling-water treatment containing oil
10 08	Abfälle aus sonstiger thermischer Nichteisenmetallurgie	wastes from other non-ferrous thermal metallurgy
10 08 08	Salzschlacken (Erst- und Zweitschmelze)	salt slag from primary and secondary production
10 08 10	Krätzen und Abschaum, der entzündlich ist oder in Kontakt mit Wasser entzündliche Gase in gefährlicher Menge abgeben	dross and skimmings that are flammable or emit, upon contact with water, flammable gases in dangerous quantities
10 08 12	teerhaltige Abfälle aus der Anodenherstellung	tar-containing wastes from anode manufacture
10 08 15	Filterstaub, die gefährliche Stoffe enthält	flue-gas dust containing dangerous substances
10 08 17	Schlämme und Filterkuchen aus der Abgasbehandlung, die gefährliche Stoffe enthalten	sludges and filter cakes from gas treatment containing dangerous substances
10 08 19	ölhaltige Abfälle aus der Kühlwasserbehandlung	wastes from cooling-water treatment containing oil
10 09	Abfälle vom Gießen von Eisen und Stahl	wastes from casting of ferrous pieces
10 09 05	gefährliche Stoffe enthaltende Gießformen und –sande vor dem Gießen	casting cores and moulds which have not undergone pouring containing dangerous substances
10 09 07	gefährliche Stoffe enthaltende Gießformen und –sande nach dem Gießen	casting cores and moulds which have undergone pouring containing dangerous substances
10 09 09	Filterstaub, die gefährliche Stoffe enthält	flue-gas dust containing dangerous substances
10 09 11	andere Teilchen, die gefährliche Stoffe enthalten	other particulates containing dangerous substances
10 09 13	Abfälle von Bindemitteln, die gefährliche Stoffe enthalten	waste binders containing dangerous substances
10 09 15	Abfälle aus rissanzeigenden Substanzen, die gefährliche Stoffe enthalten	wastes crack-indicating agent containing dangerous substances

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
10 10	Abfälle vom Gießen von Nichteismetallen	wastes from casting of non-ferrous pieces
10 10 05	gefährliche Stoffe enthaltende Gießformen und –sande vor dem Gießen	casting cores and moulds which have not undergone pouring containing dangerous substances
10 10 07	gefährliche Stoffe enthaltende Gießformen und –sande nach dem Gießen	casting cores and moulds which have undergone pouring containing dangerous substances
10 10 09	Filterstaub, die gefährliche Stoffe enthält	flue-gas dust containing dangerous substances
10 10 11	andere Teilchen, die gefährliche Stoffe enthalten	other particulates containing dangerous substances
10 10 13	Abfälle von Bindemitteln, die gefährliche Stoffe enthalten	waste binders containing dangerous substances
10 10 15	Abfälle aus rissanzeigenden Substanzen, die gefährliche Stoffe enthalten	wastes crack-indicating agent containing dangerous substances
10 11	Abfälle aus der Herstellung von Glas und Glaserzeugnissen	wastes from manufacture of glass and glass products
10 11 09	Gemengeabfall mit gefährlichen Stoffen vor dem Schmelzen	waste preparation mixture before thermal processing, containing dangerous substances
10 11 11	Glasabfall in kleinen Teilchen und Glasstaub, die Schwermetalle enthalten (z.B. aus Elektronenstrahlröhren)	waste glass in small particles and glass powder containing heavy metals (for example from cathode ray tubes)
10 11 13	Glaspolier- und Glasschleifschlämme, die gefährliche Stoffe enthalten	glass-polishing and grinding sludge containing dangerous substances
10 11 15	feste Abfälle aus der Abgasbehandlung, die gefährliche Stoffe enthalten	solid wastes from flue-gas treatment containing dangerous substances
10 11 17	Schlämme und Filterkuchen aus der Abgasbehandlung, die gefährliche Stoffe enthalten	sludges and filter cakes from flue-gas treatment containing dangerous substances
10 11 19	feste Abfälle aus der betriebseigenen Abwasserbehandlung, die gefährliche Stoffe enthalten	solid wastes from on-site effluent treatment containing dangerous substances
10 12	Abfälle aus der Herstellung von Keramikerzeugnissen und keramischen Baustoffen wie Ziegeln, Fliesen, Steinzeug	wastes from manufacture of ceramic goods, bricks, tiles, and construction products

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
10 12 09	feste Abfälle aus der Abgasbehandlung, die gefärhliche Stoffe enthalten	solid wastes from flue-gas treatment containing dangerous substances
10 12 11	Glasurabfälle, die Schwermetalle enthalten	wastes from glazing containing dangerous substances
10 13	Abfälle aus der Herstellung von Zement, Branntkalk, Gips, und Erzeurgnissen aus diesen	wastes from manufacture of cement, lime, and plaster and articles and products made from them
10 13 09	asbesthaltige Abfälle aus der Herstellung von Asbestzement	wastes from asbestos-cement manufacture containing asbestos
10 13 12	feste Abfälle aus der Abgasbehandlung, die gefärhliche Stoffe enthalten	solid wastes from gas treatment containing dangerous substances
10 14	Abfälle aus Krematorien	wastes from crematoria
10 14 01	quecksilberhaltige Abfälle aus der Gasreinigung	wastes from gas cleaning containing mercury
11	**ABFÄLLE AUS DER CHEMISCHEN OBERFLÄCHENBEARBEITUNG UND BESCHICHTUNG VON METALLEN UND ANDEREN WERKSTOFFEN; NICHTEISEN-HYDROMETALLURGIE**	**WASTES FROM CHEMICAL SURFACE TREATMENT AND COATING OF METALS AND OTHER MATERIALS; NON-FERROUS HYDRO-METALLURGY**
11 01	Abfälle aus der chemischen Oberflächenbearbeitung und Beschichtung von Metallen und anderen Werkstoffen (z.B. Galvanik, Verzinkung, Beizen, Ätzen, Phosphatieren, alkalisches Entfetten und Anodisierung	wastes from chemical surface treatment and coating of metals and other materials (for example, galvanic processes, zinc coating processes, pickling processes, etching, phosphating, alkaline degreasing, anodising)
11 01 05	saure Beizlösungen	pickling acids
11 01 06	Säuren a.n.g.	acids not otherwise specified
11 01 07	alkalische Beizlösungen	pickling bases
11 01 08	Phosphatierschlämme	phosphatising sludges
11 01 09	Schlämme und Filterkuchen, die gefärhliche Stoffe enthalten	sludges and filter cakes containing dangerous substances
11 01 11	wässrige Spülflüssigkeiten, die gefärhliche Stoffe enthalten	aqueous rinsing liquids containing dangerous substances

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
11 01 13	Abfälle aus der Entfettung, die gefärhliche Stoffe enthalten	degreasing wastes containing dangerous substances
11 01 15	Eluate und Schlämme aus Membransystemen oder Ionenaustauschsystemen, die gefärhliche Stoffe enthalten	eluate and sludges from membrane systems or ion exchange systems containing dangerous substances
11 01 16	gesättigte oder verbrauchte Ionenaustauscherharze	saturated or spent ion exchange resins
11 01 98	andere Abfälle, die gefärhliche Stoffe enthalten	other wastes containing dangerous substances
11 02	Abfälle aus Prozessen der Nichteisen-Hydrometallurgie	wastes from non-ferrous hydrometallurgical processes
11 02 02	Schlämme aus der Zink-Hydrometallurgie (einschließlich Jorosit, Goethit)	sludges from zinc hydrometallurgy (including jarosite, goethite)
11 02 05	Abfälle aus Prozessen der Kupfer-Hydrometallurgie, die gefärliche Stoffe enthalten	wastes from copper hydrometallurgical processes containing dangerous substances
11 02 07	andere Abfälle, die gefärhliche Stoffe enthalten	other wastes containing dangerous substances
11 03	Schlämme und Feststoffe aus Härteprozessen	sludges and solids from tempering processes
11 03 01	cyanidhaltige Abfälle	wastes containing cyanide
11 03 02	andere Abfälle	other wastes
11 05	Abfälle aus Prozessen der thermischen Verzinkung	wastes from hot galvanizing processes
11 05 03	fest Abfälle aus der Abgasbehandlung	solid wastes from gas treatment
11 05 04	gebrauchte Flussmittel	spent flux
12	**ABFÄLLE AUS PROZESSEN DER MECHANISCHEN FORMGEBUNG SOWIE DER PHYSIKALISCHEN UND MECHANISCHEN OBERFLÄCHENBEARBEITUNG VOM METALLEN UND KUNSTSTOFFEN**	**WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS**
12 01	Abfälle aus Prozessen der mechanischen Formgebung sowie der physikalischen und mechanischen Oberflächenbearbeitung vom	wastes from shaping and physical and mechanical surface treatment of metals and plastics

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
	Metallen und Kunststoffen	
12 01 06	halogenhaltige Bearbeitungsöle auf Mineralölbasis (außer Emulsionen und Lösungen)	mineral-based machining oils containing halogens (except emulsions and solutions)
12 01 07	halogenfreie Bearbeitungsöle auf Mineralölbasis (außer Emulsionen und Lösungen)	mineral-based machining oils free of halogens (except emulsions and solutions)
12 01 08	halogenhaltige Bearbeitungsemulsionen und -lösungen	machining emulsions and solutions containing halogens
12 01 09	halogenfreie Bearbeitungsemulsionen und -lösungen	machining emulsions and solutions free of halogens
12 01 10	synthetische Bearbeitungsöle Abfall-Abfallbezeichnung schlüssel	synthetic machining oils
12 01 12	gebrauchte Wachse und Fette	spent waxes and fats
12 01 14	Bearbeitungsschlamme, die gefärhliche Stoffe enthalten	machining sludges containing dangerous substances
12 01 16	Strahlmittelabfälle, die gefärhliche Stoffe enthalten	waste blasting material containing dangerous substances
12 01 18	ölhaltige Metallschlämme (Schleif-, Hon- und Läppschlämme)	metal sludge (grining, honing, and lapping sludge) containing oil
12 01 19	biologische leicht abbaubare Bearbeitsöle	readily biodegradable machining oil
12 01 20	gebrauchte Hon- und Schleifmittel, die gefärhliche Stoffe enthalten	spent grinding bodies and grinding materials containing dangerous substances
12 03	Abfälle aus der Wasser- und Dampfenfettung (außer 110	wastes from water and steam degreasing processes (except 11)
12 03 01	wässrige Waschflüssigkeiten	aqueous washing liquids
12 03 02	Abfälle aus der Dampfenfettung	steam degreasing wastes
13	**ÖLABFÄLLE UND ABFÄLLE AUS FLÜSSIGEN BRENNSTOFFEN (AUßER SPEISEÖLE UND ÖLABFÄLLE, DIE UNTER 05, 12 UND 19 FALLEN)**	**OIL WASTES AND WASTES OF LIQUID FUELS (EXCEPT EDIBLE OILS, AND THOSE IN CHAPTERS 05, 12 AND 19)**
13 01	Abfälle von Hydraulikölen	waste hydraulic oils

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
13 01 01	Hydrauliköle, die PCB 1) enthalten	hydraulic oils, containing PCBs ([1])
13 01 04	chlorierte Emulsionen	chlorinated emulsions
13 01 05	nichtchlorierte Emulsionen	non-chlorinated emulsions
13 01 09	chlorierte hydrauliköle auf mineralölbasis	mineral-based chlorinated hydraulic oils
13 01 10	nichtchlorierte Hydrauliköle auf Mineralölbasis	mineral-based non-chlorinated hydraulic oils
13 01 11	Synthetische Hydrauliköle	synthetic hydraulic oils
13 01 12	Biologisch leicht abbaubare Hydrauliköle	readily biodegradable hydraulic oils
13 01 13	Andere Hydrauliköle	other hydraulic oils
13 02	Abfälle von Maschinen-, Getriebe- und Schmierölen	waste engine, gear and lubricating oils
13 02 04	Chlorierte Maschinen-, Getriebe- und Schmieröle auf Mineralölbasis	mineral-based chlorinated engine, gear and lubricating oils
13 02 05	nichtclorierte Maschinen-, Getriebe- und Schmieröle auf Mineralölbasis	mineral-based non-chlorinated engine, gear and lubricating oils
13 02 06	synthetische Maschinen-, Getriebe- und Schmieröle	synthetic engine, gear and lubricating oils
13 02 07	biologisch leicht abbaubare Maschinen-, Getriebe- und Schmieröle	readily biodegradable engine, gear and lubricating oils
13 02 08	andere Maschinen-, Getriebe- und Schmieröle	other engine, gear and lubricating oils
13 03	Abfälle von Isolier- und Wärmeübertragungsölen	waste insulating and heat transmission oils
13 03 01	Isolier- und Wärmeübertragungsöle, die PCB enthalten	insulating or heat transmission oils containing PCBs
13 03 06	chlorierte Isolier- und Wärmeübertragungsöle auf Mineralölbasis mit Ausnahme derjenigen, die unter 13 03 01 fallen	mineral-based chlorinated insulating and heat transmission oils other than those mentioned in 13 03 01
13 03 07	nichtchlorierte Isolier- und Wärmeübertragungsöle auf Mineralölbasis	mineral-based non-chlorinated insulating and heat transmission oils
13 03 08	synthetische isolier- und Wärmeübertragungsöle	synthetic insulating and heat transmission oils

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
13 03 09	biologisch leicht abbaubare Isolier- und Wärmeübertragungsöle	readily biodegradable insulating and heat transmission oils
13 03 10	andere Isolier- und Wärmeübertragungsöle	other insulating and heat transmission oils
13 04	Bilgenöle	bilge oils
13 04 01	Bilgenöle aus der Binnenschifffahrt	bilge oils from inland navigation
13 04 02	Bilgenöle aus Molenablaufkanälen	bilge oils from jetty sewers
13 04 03	Bilgenöle aus der übrigen Schifffahrt	bilge oils from other navigation
13 05	Inhalte von Öl-/Wasserabscheidern	oil/water separator contents
13 05 01	Feste Abfälle aus Sandfanganglagen und Öl-/Wasserabscheidern	solids from grit chambers and oil/water separators
13 05 02	Schlämme aus Öl-/Wasserabscheidern	sludges from oil/water separators
13 05 03	Schlämme aus Einlaufschächten	interceptor sludges
13 05 06	Öle aus Öl-/ Wasserabscheidern	oil from oil/water separators
13 05 07	Öliges Wasser aus Öl-/Wasserabscheidern	oily water from oil/water separators
13 05 08	Abfallgemische aus Sandfanganlagen und Öl-/Wasserabscheidern	mixtures of wastes from grit chambers and oil/water separators
13 07	Abfälle aus flüssigen Brennstoffen	wastes of liquid fuels
13 07 01	Heizöl und Diesel	fuel oil and diesel
13 07 02	Benzin	petrol
13 07 03	Andere Brennstoffe (einschließlich Gemische)	other fuels (including mixtures)
13 08	Ölabfälle a. n. g.	oil wastes not otherwise specified
13 08 01	Schlämme oder Emulsionen aus Entsalzern	desalter sludges or emulsions

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
13 08 02	Andere Emulsionen	other emulsions
13 08 99	Abfälle a. n. g.	wastes not otherwise specified
14	**ABFÄLLE AUS ORGANISCHEN LÖSEMITTELN, KÜHLMITTELN UND TREIBGASEN (AUßER 07 UND 08)**	**WASTE ORGANIC SOLVENTS, REFRIGERANTS AND PROPELLANTS (EXCEPT 07 AND 08)**
14 06	Abfälle aus organischen Lösemitteln, Kühlmitteln sowie Schaum - und Aerosoltreibgasen	waste organic solvents, refrigerants and foam/aerosol propellants
14 06 01	Fluorchlorkohlenwasserstoffe, H-FCKW, H-FKW	chlorofluorocarbons, HCFC, HFC
14 06 02	Andere halogenierte Lösemittel und Lösemittelgemische	other halogenated solvents and solvent mixtures
14 06 03	Andere Lösemittel und Lösemittelgemische	other solvents and solvent mixtures
14 06 04	Schlämme oder feste Abfälle, die halogenierte Lösemittel enthalten	sludges or solid wastes containing halogenated solvents
14 06 05	Schlämme oder feste Abfälle, die andere Lösemittel enthalten	sludges or solid wastes containing other solvents
15	**VERPACKUNGSABFALL, AUFSAUGMASSEN, WISCHTÜCHER, FILTERMATERIALIEN UND SCHUTZKLEIDUN (A. N. G.)**	**WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED**
15 01	Verpackungen (einschließlich getrennt gessamelter kommunaler Verpackungsabfälle)	packaging (including separately collected municipal packaging waste)
15 01 10	Verpackungen, die Rückstände gefährlicher Stoffe enthalten oder durch gefährliche Stoffe verunreinight sind	packaging containing residues of or contaminated by dangerous substances
15 01 11	Verpackungen aus Metall, die eine gefährliche feste poröse Matrix (z.B. Asbest) enthalten, einschließlich geleerter Druckbehältnisse	metallic packaging containing a dangerous solid porous matrix (for example asbestos), including empty pressure containers
15 02	Aufsaug- und Filtermaterialien, Wischtücher und Schutzkleidung	absorbents, filter materials, wiping cloths and protective clothing
15 02 02	Aufsaug- und Filtermaterialien (einschließlich, Ölfilter a. n. g.), Wischtücher und Schutzkleidung, die durch gefährliche Stoffe verunreinigt sind	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
16	**ABFÄLLE, DIE NICHT ANDERSWO IM VERZEICHNIS AUFGEFÜHRT SIND**	**WASTES NOT OTHERWISE SPECIFIED IN THE LIST**
16 01	Altfahrzeuge verschiedener Verkehrsträger (einschließlich mobiler Maschinen) und Abfälle aus der Demontage von Altfahrzeugen sowie der Fahrzeugwartung (außer 13, 14, 16 06 und 16 08)	end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)
16 01 04	Altfahrzeuge	end-of-life vehicles
16 01 07	Ölfilter	oil filters
16 01 08	Quecksilberhaltige Bestandteile	components containing mercury
16 01 09	Bestandteile, die PCB enthalten	components containing PCBs
16 01 10	Explosive Bauteile (z.B. aus Airbags)	explosive components (for example air bags)
16 01 11	Asbesthaltige Bremsbeläge	brake pads containing asbestos
16 01 13	Bremsflüssigkeiten	brake fluids
16 01 14	Frostschutzmittel, die gefährliche Stoffe enthalten	antifreeze fluids containing dangerous substances
16 01 21	Gefährliche Bauteile mit Ausnahme derjenigen, die unter 16 01 07 bis 16 01 11, 16 01 13 und 16 01 14 fallen	hazardous components other than those mentioned in 16 01 07 to 16 01 11 and 16 01 13 and 16 01 14
16 02	Afälle aus elektrischen und elektronischen Geräten	wastes from electrical and electronic equipment
16 02 09	Transformatoren und Kondensatoren, die PCB enthalten	transformers and capacitors containing PCBs
16 02 10	Gebrauchte Geräte, die PCB enthalten oder damit verunreinigt sind, mit Ausnahme derjenigen, die unter 16 02 09 fallen	discarded equipment containing or contaminated by PCBs other than those mentioned in 16 02 09
16 02 11	Gebrauchte Geräte, die teil-und vollhalogenierte Fluorchlorkohlenwasserstoffe enthalten	discarded equipment containing chlorofluorocarbons, HCFC, HFC
16 02 12	Gebrauchte Geräte, die freies Asbest enthalten	discarded equipment containing free asbestos

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
16 02 13	Gefährliche Bestandteile 2) enthaltende gebrauchte Geräte mit Ausnahme derjenigen, die unter 16 02 09 bis 16 02 12 fallen	discarded equipment containing hazardous components ([2]) other than those mentioned in 16 02 09 to 16 02 12
16 02 15	Aus gebrauchten Geräten entfernte gefährliche Bestandteile	hazardous components removed from discarded equipment
16 03	Fehlchargen und ungebrauchte Erzeugnisse	off-specification batches and unused products
16 03 03	Anorganische Abfälle, die gefährliche Stoffe enthalten	inorganic wastes containing dangerous substances
16 03 05	Organische Abfälle, die gefährliche Stoffe enthalten	organic wastes containing dangerous substances
16 04	Explosivabfälle	waste explosives
16 04 01	Munition	waste ammunition
16 04 02	Feuerwerkskörperabfälle	fireworks wastes
16 04 03	Andere Explosivabfälle	other waste explosives
16 05	Gase in Druckbehältern und gebrauchte Chemikalien	gases in pressure containers and discarded chemicals
16 05 04	Gefährliche Stoffe enthaltende Gase in Druckbehältern (einschließlich Halonen)	gases in pressure containers (including halons) containing dangerous substances
16 05 06	Laborchemikalien, die aus gefährlichen Stoffen bestehen oder solche enthalten, einschließlich Gemische von Laborchemikalien	laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals
16 05 07	Gebrauchte anorganische Chemikalien, die aus gefährlichen Stoffen bestehen oder solche enthalten	discarded inorganic chemicals consisting of or containing dangerous substances
16 05 08	Gebrauchte organische Chemikalien, die aus gefährlichen Stoffen bestehen oder solche enthalten	discarded organic chemicals consisting of or containing dangerous substances
16 06	Batterien und Akkumulatoren	batteries and accumulators
16 06 01	Bleibatterien	lead batteries
16 06 02	Ni-Cd-Batterien	Ni-Cd batteries

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
16 06 03	Quecksilber enthaltende Batterien	mercury-containing batteries
16 06 06	Getrennt gesammelte Elektrolyte aus Batterien und Akkumulatoren	separately collected electrolyte from batteries and accumulators
16 07	Abfälle aus der Reinigung von Transport-und Lagertanks und Fässern (außer 05 und 13)	wastes from transport tank, storage tank and barrel cleaning (except 05 and 13)
16 07 08	ölhaltige Abfälle	wastes containing oil
16 07 09	Abfälle, die sonstige gefährliche Stoffe enthalten	wastes containing other dangerous substances
16 08	Gebrauchte Katalysatoren	spent catalysts
16 08 02	gebrauchte Katalysatoren, die gefährliche Übergangsmettalle 3) oder deren Verbindungen enthalten	spent catalysts containing dangerous transition metals ([3]) or dangerous transition metal compounds
16 08 05	gebrauchte Katalysatoren, die Phosphorsäure enthalten	spent catalysts containing phosphoric acid
16 08 06	gebrauchte Flüssigkeiten, die als Katalysatoren verwendet wurden	spent liquids used as catalysts
16 08 07	gebrauchte Katalysatoren, die durch gefährliche Stoffe verunreinight sind	spent catalysts contaminated with dangerous substances
16 09	Oxidierende Stoffe	oxidizing substances
16 09 01	Permanganate, z.B. Kaliumpermanganat	permanganates, for example potassium permanganate
16 09 02	Chromate, z.B. Kaliumchromat, Kalium - oder Natriumdichromat	chromates, for example potassium chromate, potassium or sodium dichromate
16 09 03	Peroxide, z.B. Wasserstoffperoxid	peroxides, for example hydrogen peroxide
16 09 04	oxidierende Stoffe a. n. g.	oxidizing substances, not otherwise specified
16 10	Wässrige flüssige Abfälle zur externen Behandlung	aqueous liquid wastes destined for off-site treatment
16 10 01	wässerige flüssige Abfälle, die gefährliche Stoffe enthalten	aqueous liquid wastes containing dangerous substances

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
16 10 03	wässerige konzentrate, die gefährliche Stoffe enthalten	aqueous concentrates containing dangerous substances
16 11	Gebrauchte Auskleidungen und feuerfeste Materialien	waste linings and refractories
16 11 01	Auskleidungen und feuerfeste Materialien auf Kohlenstoffbasis aus metallurgischen Prozessen, die gefährliche Stoffe enthalten	carbon-based linings and refractories from metallurgical processes containing dangerous substances
16 11 03	Andere Auskleidungen und feuerfeste Materialien aus metallurgischen Prozessen, die gefährliche Stoffe enthalten	other linings and refractories from metallurgical processes containing dangerous substances
16 11 05	Auskleidungen und feuerfeste Materialien aus nichtmetallurgischen Prozessen, die gefährliche Stoffe enthalten	linings and refractories from non-metallurgical processes containing dangerous substances
17	**BAU- UND ABBRUCHABFÄLLE (EINSCHLIEßLICH AUSHUB VON VERUNREINIGTEN STANDORTEN)**	**CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)**
17 01	Beton, Ziegel, Fliesen, and Keramik	concrete, bricks, tiles and ceramics
17 01 06	Gemische aus oder getrennte Fraktionen von Beton, Ziegel, Fliesen, and Keramik, die gefährliche Stoffe enthalten	mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing dangerous substances
17 02	Holz, Glas, und Kunststoff	wood, glass and plastic
17 02 04	Glas, Kunststoff und Holz die gefährliche Stoffe enthalten oder durch gefährliche Stoffe verunreinigt sind	glass, plastic and wood containing or contaminated with dangerous substances
17 03	Bitumengemische, Kohlenteer und teerhaltige Produkte	bituminous mixtures, coal tar and tarred products
17 03 01	kohlenteerhaltige Bitumengemische	bituminous mixtures containing coal tar
17 03 03	Kohlenteer und teerhaltige Produkte	coal tar and tarred products
17 04	Metalle (einschließlich Legierungen)	metals (including their alloys)
17 04 09	Metallabfälle, die durch gefährliche Stoffe verunreinigt sind	metal waste contaminated with dangerous substances
17 04 10	Kabel, die Öl, kohlenteer oder andere gefährliche Stoffe enthalten	cables containing oil, coal tar and other dangerous substances

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
17 05	Boden (einschließlich Aushub von verunreinigten Standorten), Steine und Baggergut	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 03	Boden und Steine, die gefährliche Stoffe enthalten	soil and stones containing dangerous substances
17 05 05	Baggergut, das gefährliche Stoffe enthält	dredging spoil containing dangerous substances
17 05 07	Gleisschotter, das gefährliche Stoffe enthält	track ballast containing dangerous substances
17 06	Dämmaterial und asbesthaltige Baustoffe	insulation materials and asbestos -containing construction materials
17 06 01	Dämmaterial, das Asbest enthält	insulation materials containing asbestos
17 06 03	anderes Dämmaterial, das aus gefährlichen Stoffen besteht oder solche Stoffe enthält	other insulation materials consisting of or containing dangerous substances
17 06 05	asbes thaltige Baustoffe	construction materials containing asbestos
17 08	Baustoffe auf Gipsbasis	gypsum -based construction materials
17 08 01	Baustoffe auf Gipsbasis, die durch gefährliche Stoffe verunreinigt sind	gypsum -based construction materials contaminated with dangerous substances
17 09	Sonstige Bau- und Abbruchabfälle	other construction and demolition wastes
17 09 01	Bau- und Abbruchabfälle, die Quecksilber enthalten	construction and demolition wastes containing mercury
17 09 02	Bau- und Abbruchabfälle, die PCB enthalten (z. B. PCB-haltige Dichtungsmassen, PCB-haltige Bodenbeläge auf Harzbasis, PCB-haltige Isolierverglasungen, PCG-haltige Kondensatoren)	construction and demolition wastes containing PCB (for example, PCB-containing sealants, PCB-containing resin-based floorings, PCB-containing sealed glazing units, PCB-containing capacitors)
17 09 03	sonstige Bau- und Abbruchabfälle (einschließlich gemischte Abfälle), die gefährliche Stoffe enthalten	other construction and demolition wastes (including mixed wastes) containing dangerous substances
18	**ABFÄLLE AUS DER HUMANMEDIZINISCHEN ODER TIERÄRTZLICHEN VERSORGUNG UND FORSCHUNG (OHNE KÜCHEN- UND RESTAURANTABFÄLLE, DIE NICHT AUS DER UNMITTELBAREN KRANKENPFLEGE STAMMEN**	**WASTES FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH**

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
18 01	Abfälle aus der Geburtshilfe, Diagnose, Behandlung oder Vorbeugung von Krankheiten beim Menschen	wastes from natal care, diagnosis, treatment or prevention of disease in humans
18 01 03	Abfälle, an deren Sammlung und Entsorgung aus infektionspräventiver Sicht besondere Anforderungen gestellt werden	wastes whose collection and disposal is subject to special requirements in order to prevent infection
18 01 06	Chemikalien, die aus gefährlichen Stoffen bestehen oder solche enthalten	chemicals consisting of or containing dangerous substances
18 01 08	zytotoxische and zytostatische Arzneimittel	cytotoxic and cytostatic medicines
18 01 10	Amalgamabfälle aus der Zahnmedizin	amalgam waste from dental care
18 02	Abfälle aus der Geburtshilfe, Diagnose, Behandlung oder Vorbeugung von Krankheiten bei Tieren	wastes from research, diagnosis, treatment, or prevention of disease involving animals
18 02 02	Abfälle, an deren Sammlung und Entsorgung aus infektionspräventiver Sicht besondere Anforderungen gestellt werden	wastes whose collection and disposal is subject to special requirements in order to prevent infection
18 02 05	Chemikalien, die aus gefährlichen Stoffen bestehen oder solche enthalten	chemicals consisting of or containing dangerous substances
18 02 07	zytotoxische and zytostatische Arzneimittel	cytotoxic and cytostatic medicines
19	**ABFÄLLE AUS ABFALLBEHANDLUNGSANLAGEN, ÖFFENTLICHEN ABWASSERBEHANDLUNGSANLAGEN SOWIE DER AUFBEREITUNG VON WASSER FÜR DEN MENSCHLICHEN GEBRAUCH UND WASSER FÜR INDUSTRIELLE ZWECKE**	**WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE**
19 01	Abfälle aus der Verbrennung oder Pyrolyse von Abfällen	wastes from incineration or pyrolysis of waste
19 01 05	Filterkuchen aus der Abgasbehandlung	filter cake from gas treatment
19 01 06	wässrige flüssige Abfälle aus der Abgasbehandlung und andere wässrige flüssige Abfälle	aqueous liquid wastes from gas treatment and other aqueous liquid wastes
19 01 07	feste Abfälle aus der Abgasbehandlung	solid wastes from gas treatment

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
19 01 10	gebrauchte Aktivkohle aus der Abgasbehandlung	spent activated carbon from flue-gas treatment
19 01 11	Rost- und Kesselaschen sowie Schlacken, die gefährliche Stoffe enthalten	bottom ash and slag containing dangerous substances
19 01 13	Filterstaub, der gefährliche Stoffe enthält	fly ash containing dangerous substances
19 01 15	Kesselstaub, der gefährliche Stoffe enthält	boiler dust containing dangerous substances
19 01 17	Pyrolyseabfälle, die gefährliche Stoffe enthalten	pyrolysis wastes containing dangerous substances
19 02	Abfälle aus der physikalisch-chemischen Behandlung von Abfällen (einschließlich Dechromatisierung, Cyanidentfernung, Neutralisation)	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation
19 02 04	vorgemischte Abfälle, die wenigstens einen gefährlichen Abfall enthalten	premixed wastes composed of at least one hazardous waste
19 02 05	Schlämme aus der physikalisch-chemischen Behandlung, die gefährliche Stoffe enthalten	sludges from physico/chemical treatment containing dangerous substances
19 02 07	Öl und Konsentrate aus Abtrennprozessen	oil and concentrates from separation
19 02 08	flüssige brennbare Abfälle, die gefährliche Stoffe enthalten	liquid combustible wastes containing dangerous substances
19 02 09	feste brennbare Abfälle, die gefährliche Stoffe enthalten	solid combustible wastes containing dangerous substances
19 02 11	sonstige Abfälle, die gefährliche Stoffe enthalten	other wastes containing dangerous substances
19 03	Stabilisierte und verfestigte Abfälle ([4])	stabilized/solidified wastes ([4])
19 03 04	als gefährliche enigestufte teilweise stabilisierte ([5]) Abfälle	wastes marked as hazardous, partly ([5]) stabilized
19 03 06	als gefährlich eingestufte verfestigte Abfälle	wastes marked as hazardous, stabilized
19 04	Verglaste Abfälle und Abfälle aus der Verglasung	vitrified waste and wastes from vitrification
19 04 02	Filterstaub und andere Abfälle aus der Abgasbehandlung	fly ash and other flue-gas treatment wastes

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
19 04 03	nicht verglaste Festphase	non-vitrified solid phase
19 07	Deponiesickerwasser	landfill leachate
19 07 02	Deponiesickerwasser, die gefährliche Stoffe enthalten	landfill leachate containing dangerous substances
19 08	Abfälle aus Abwasserbehandlungsanlangen a. n. g.	wastes from waste water treatment plants not otherwise specified
19 08 06	gesättigte oder verbrauchte Ionenaustauscherharze	saturated or spent ion exchange resins
19 08 07	Lösungen und Schlämme aus der Regeneration von Ionenaustauschern	solutions and sludges from regeneration of ion exchangers
19 08 08	schwermetallhaltige Abfälle aus Membransystemen	membrane system waste containing heavy metals
19 08 09	Fett- und Ölmischungen aus Ölabscheidern, die ausschließlich Speisöle und –fette enthalten	grease and oil mixture from oil/water separation containing edible oil and fats
19 08 10	Fett- und Ölmischungen aus Ölabscheidern mit Ausnahme derjenigen die unter 19 08 09 fallen	grease and oil mixture from oil/water separation other than those mentioned in 19 08 09
19 08 11	Schlämme aus der biologischen Behandlung von industriellem Abwasser, die gefährliche Stoffe enthalten	sludges containing dangerous substances from biological treatment of industrial waste water
19 08 13	Schlämme, die gefährliche Stoffe aus einer anderen Behandlung Behandlung von industriellem Abwasser enthalten	sludges containing dangerous substances from other treatment of industrial waste water
19 10	Abfälle a. n. g.	wastes from shredding of metal-containing wastes
19 10 03	Schredderleichtfraktionenen und Staub, die gefährliche Stoffe enthalten	fluff-light fraction and dust containing dangerous substances
19 10 05	andere Fraktionen, die gefährliche Stoffe enthalten	other fractions containing dangerous substances
19 11	Abfälle aus der Altölaufbereitung	wastes from oil regeneration
19 11 01	gebrauchte Filtertone	spent filter clays
19 11 02	Säureteere	acid tars

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
19 11 03	wässrige flüssige Abfälle	aqueous liquid wastes
19 11 04	Abfälle aus der Brennstoffreinigung mit Basen	wastes from cleaning of fuel with bases
19 1 05	Schlämme aus der betriebseigenen Abwasserbehandlung, die gefährliche Stoffe enthalten	sludges from on-site effluent treatment containing dangerous substances
19 11 07	Abfälle aus der Abgasreinigung	wastes from flue-gas cleaning
19 12	Abfälle aus der mechanischen Behandlung von Abfällen (z.B. Sortiern, Zerkleinern, Verdicten, Pelletieren) a. n. g.	wastes from the mechanical treatment of waste (for example, sorting, crushing, compacting, pelletising) not otherwise specified
19 12 06	Holz, das die gefährliche Stoffe enthält	wood containing dangerous substances
19 12 11	sonstige Abfälle (einschließlich Materialmischungen) aus der mechanischen Behandlung von Abfällen, die gefährliche Stoffe enthalten	others wastes (including mixtures of materials) from mechanical treatment of wastes containing dangerous substances
19 13	Abfälle aus der Sanierung von Böden und Grundwasser	wastes from soil and groundwater remediation
19 13 01	feste Abfälle aus der Sanierung von Böden, die gefährliche Stoffe enthalten	solid wastes from soil remediation containing dangerous substances
19 03 03	Schlämme aus der Sanierung von Böden, die gefährliche Stoffe enthalten	sludges from soil remediation containing dangerous substances
19 03 05	Schlämme aus der Sanierung von Grundwasser, die gefährliche Stoffe enthalten	sludges from groundwater remediation containing dangerous substances
19 03 07	wässrige flüssige Abfälle und wässrige Konzentrate aus der Sanierung von Böden, die gefährliche Stoffe enthalten	aqueous liquid wastes and aqueous concentrates from groundwater remediation containing dangerous substances
20	**SIEDLUNGSABFÄLLE (HAUSHALTSABFÄLLE UND ÄNLICHE GEWERBLICHE UND INDUSTRIELLE ABFÄLLE SOWIE ÄBFALLE AUS ENRICHTUNGEN), EINSCHLIEßLICH GETRENNT GESAMMELTER FRAKTIONEN**	**MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS**
20 01	Getrennt gesammelte Fraktionen (außer 15 01)	separately collected fractions (except 15 01)

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
20 01 13	Lösemittel	solvents
20 01 14	Säuren	acids
20 01 15	Laugen	alkalines
20 01 17	Fotochemikalien	photochemicals
20 01 19	Pestizide	pesticides
20 01 21	Leuchtstoffröhren und andere quecksilverhaltige Abfälle	fluorescent tubes and other mercury-containing wastes
20 01 23	gebrauchte Geräte, die Fluorchlorkohlenwasserstoffe enthalten	discarded equipment containing chlorofluorocarbons
20 01 26	Öle und Fette mit Ausnahme derjenigen, die unter 20 01 25 fallen	oil and fat other than those mentioned in 20 01 25
20 01 27	Farben, Druckfarben, Klebstoffe und Kunstharze, die gefährliche Stoffe enthalten	paint, inks, adhesives and resins containing dangerous substances
20 01 29	Reinigungsmittel, die gefährliche Stoffe enthalten	detergents containing dangerous substances
20 01 31	zytotoxische und zytostatische Arzneimittel	cytotoxic and cytostatic medicines
20 01 33	Batterien und Akkumulatoren, die unter 16 06 01, 16 06 02, oder 16 06 03 fallen, sowie gemischte Batterien und Akkumulatoren, die solche Batterien enhalten	batteries and accumulators included in 16 06 01, 16 06 02, or 16 06 03 and unsorted batteries and accumulators containing these batteries
20 01 35	gebrauchte elektrische und elektronische Geräte, die gefährliche Bauteile ([6]) enthalten, mit Ausnahme derjenigen, die unter 20 01 21 und 20 01 23 fallen	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components ([6])
20 01 37	Holz, das gefärliche Stoffe enhält	wood containing dangerous substances
NOTES:	([1]) For the purposes of this list of wastes, PCBs will be defined in Chapter 14.	
	([2]) Hazardous components from electrical and electronic equipment may include accumulators and batteries mentioned in 16 06 and marked as hazardous; mercury switches, glass from cathode ray tubes and other activated glass, etc.	

EWC	ABFALLBEZEICHNUNG	ENGLISH WASTE DESCRIPTION
	(3) For the purpose of this entry, transition metals are: scandium, vanadium, manganese, cobalt, copper, yttrium, niobium, hafnium, tungsten, titanium, chromium, iron, nickel zinc, zirconium, molybdenum, and tantalum. These metals or their compounds are dangerous if they are classified as dangerous substances. The classification of dangerous substances shall determine which among those transition metals and which transition metal compounds are hazardous.	
	(4) Stabilisation processes change the dangerousness of the constituents in the waste and thus transform hazardous waste into non-hazardous waste. Solidification processes only change the physical state of the waste (e.g. liquid into solid) by using additives without changing the chemical properties of the waste.	
	(5) A waste is considered as partly stabilised if, after the stabilisation process, dangerous constituents which have not been changed completely into non-dangerous constituents could be released into the environment in the short, middle, or long term.	
	(6) Hazardous components from electrical and electronic equipment may include accumulators and batteries mentioned in 16 06 and marked as hazardous; mercury switches, glass from cathode ray tubes and other activated glass, etc.	

FGS CHAPTER 7

CHAPTER 7
SOLID WASTE

C7.1 SCOPE

This chapter contains criteria to ensure that solid wastes are identified, classified, collected, transported, stored, treated, and disposed of safely and in a manner protective of human health and the environment. These criteria apply to residential and commercial solid waste generated at the installation level. These criteria are part of integrated waste management. Policies concerning the recycling portion of integrated waste management are found in DoDI 4715.4, "Pollution Prevention" and service solid waste management manuals. The criteria in this chapter deal with general solid waste. Criteria for specific types of solid waste that require special precautions are located in Chapter 6 (Hazardous Waste), Chapter 8 (Medical Waste), Chapter 14 (Polychlorinated Biphenyls), Chapter 15 (Asbestos and Artificial Mineeral Fibers), and Chapter 11 (Pesticides).

C7.2 DEFINITIONS

Animal Carcasses. Perished, stillborn, or unborn animals as well as slain animals, which are not to be used for human consumption.

Animal Parts. Animal parts from slaughter including blood, bristles, feathers, pelts, skin, horns, hoofs, bones, wool, and any other animal parts arising, which are not to be used for human consumption.

Animal Products. Products originating from animals, in particular prepared meat, eggs and milk that the owner wishes to dispose of or whose disposal is necessary; animal excrements are not included in this definition.

Biodegradable Waste. Organic, degradable substances (native or derivative) associated with municipal waste. Depending on the local disposal system, it may be required for private households to separate biodegradable waste from typically generated household waste.

Bulky Waste. Solid wastes that cannot be disposed of with the common household waste storage container due to their size (for example furniture).

Carry-out Collection. Collection of solid waste from a storage area proximate to the dwelling unit(s) or establishment where generated.

Circulation. Providing products with their packaging to a customer.

Collection. The act of consolidating solid wastes (or materials which have been separated for the purpose of recycling) from various locations.

Collection Frequency. The number of times collection is provided in a given period of time.

Commercial Solid Waste. All types of solid wastes generated by stores, offices, restaurants, warehouses, and other non-manufacturing activities, excluding residential and industrial wastes.

Compactor Collection Vehicle. A vehicle with an enclosed body containing mechanical devices that conveys solid waste into the main compartment of the body and compresses it into a smaller volume of greater density.

Construction and Demolition Waste. The waste building materials, packaging and rubble resulting from construction, remodeling, repair and demolition operations on pavements, houses, commercial buildings and other structures.

Cover. A layer of soil, mature compost, or other natural material (or synthetic material with an equivalent minimum permeability) that is applied to the landfill after completion of a cell or trench, including a layer of material that will sustain native vegetation, if any.

Curb Collection. Collection of solid waste placed adjacent to a street.

Daily Cover. Soil that is spread and compacted or synthetic material that is placed on the top and side slopes of compacted solid waste at least at the end of each operating day in order to control vectors, fire, moisture, and erosion and to assure an aesthetic appearance. Mature compost or other natural material may be substituted for soil if soil is not reasonably available in the vicinity of the landfill and the substituted material will control vectors, fire, moisture, and erosion and will assure an aesthetic appearance.

DIN. *Deutsches Institut für Normung, e.V.* German Institute for Standardization, registered association.

Distributor. A business or organization (e.g., AAFES, Food Service/Business, a unit's direct support activity, and the U.S. Defense Logistics Agency) which puts into circulation packaging or goods in packaging, irrespective of the marketing stage.

Electronic Waste. Waste that is considered bulky waste or household waste powered by electricity and/or batteries and contains electronic components (i.e., wires, circuit boards, switches, conductors). It includes the following: laundry machines, dishwashing machines, computers, refrigerators, freezers, TV sets, and radios.

Generation. The act or process of producing solid waste.

Hazardous Waste. All wastes having hazardous properties, which includes all "wastes requiring special supervision" *(besonders überwachungsbedürftiger Abfall)* and some "wastes requiring supervision" *(überwachungsbedürftiger Abfall).* The requirements do not specifically define which wastes requiring supervision are considered hazardous wastes (HW); this must be decided on a case by case basis. See Chapter 6, Hazardous Waste.

Household Waste. Waste generated from residential areas (i.e., government family housing, leased housing, and barracks).

Industrial Waste/Commercial Waste. Waste generated at industrial, commercial or other facilities, which are not municipal wastes. These wastes may be disposed of with municipal wastes if the type, reactivity or concentration of pollutants can be compared with municipal waste.

A public entity or a private waste collection consortium may be responsible for waste collection and recycling or disposal. Examples of acceptable waste include scrap paper or glass from offices.

Installation. A base, camp, post, station, yard, center, or other activity under the jurisdiction of the Secretary of a Military Department that is located outside the United States and outside any territory, Commonwealth, or possession of the United States.

Institutional Solid Waste. Solid waste generated by educational, health care, correctional, and other institutional facilities.

Land Application Unit. An area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for agricultural purposes or for treatment or disposal.

Landfill, Class I *(Deponieklasse I)*. This landfill is used for disposal of inert solid wastes, which have a low organic content (up to 1% of Total Organic Carbon by weight) and which are chemically inactive.

Landfill, Class II *(Deponieklasse II)*. This landfill is used for wastes with a higher organic content (up to 3% of Total Organic Carbon by weight) and a higher chemical reactivity than the solid wastes which may be disposed of in a Class I landfill. Therefore, the criteria for the siting and construction of a Class II landfill are more stringent than those required for a Class I landfill.

Lower Explosive Limit. The lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at 25 degrees Celsius and atmospheric pressure.

Manufacturer. An institutional or commercial entity (e.g., AAFES, Burger King, DLA) who manufactures or imports packaging into Germany.

Municipal Solid Waste. Household waste, household-type waste, bulky waste, yard waste, non-contaminated sewage sludge, non-contaminated construction debris, and non-contaminated rubbish from road cleaning. Municipal solid waste does not include hazardous waste.

Municipal Solid Waste Landfill (MSWLF) Unit. A discrete area of land or an excavation, on or off the installation, that receives household waste, and that is not a land application unit, surface impoundment, injection well, or waste pile. A MSWLF unit also may receive other types of wastes, such as commercial solid waste and industrial waste.

Municipal Solid Waste. Household waste, household-type waste, bulky waste, yard waste, sewage sludge, construction debris, and rubbish from road cleaning that are not hazardous.

Open Burning. Burning of solid wastes in the open, such as in an open dump.

Open Dump. A land disposal site at which solid wastes are disposed of in a manner that does not protect the environment, is susceptible to open burning, and is exposed to the elements, vectors and scavengers.

Packaging Waste. Consists of any material that is manufactured for the purpose of accepting, protecting, handling, delivering, or presenting goods, which can range from raw materials to processed product and is passed on to the distributor or end user. Packaging material has to be collected separately. It is usually collected and recycled or disposed of by an appropriate waste consortium, such as *"Duales System Deutschland (DSD)".*

Residential Solid Waste. The wastes generated by the normal activities of households, including, but not limited to, food wastes, rubbish, ashes, and bulky wastes.

Rubbish. A general term for solid waste, excluding food wastes and ashes, taken from residences, commercial establishments and institutions.

Sanitary Landfill. A land disposal site employing an engineered method of disposing of solid wastes on land in a manner that minimizes environmental hazards by spreading the solid wastes in thin layers, compacting the solid wastes to the smallest practical volume, and applying and compacting cover material at the end of each operating day.

Satellite Vehicle. A small collection vehicle that transfers its load into a larger vehicle operating in conjunction with it.

Scavenging. The uncontrolled and unauthorized removal of materials at any point in the solid waste management system.

Scrap Vehicles. Includes all vehicles intended for permanent disposal.

Service Solid Waste Management Manual. Navy NAVFAC MO-213, Air Force AFR 91-8, Army TM 5-634 (reference (o)), or their successor documents.

Sludge. Sewage sludge produced during wastewater treatment, compost from sewage sludge and mixtures of sewage sludge with other organic substances. Sludge may be hazardous or non-hazardous waste depending on the process and the type of the incoming waste.

Solid Waste. All moveable property (see Table C7.T2) which the owner disposes or recycles, wishes to dispose or recycle, or must dispose or recycle. Disposal processes are listed in Table C7.T3 and recycling processes in Table C7.T4.

Solid Waste Storage Container. A receptacle used for the temporary storage of solid waste while awaiting collection.

Stationary Compactor. A powered machine which is designed to compact solid waste or recyclable materials, and which remains stationary when in operation.

Storage. The interim containment of solid waste after generation and prior to collection for ultimate recovery or disposal.

Street Wastes. Material picked up by manual or mechanical sweepings of alleys, streets, and sidewalks; wastes from public waste receptacles; and material removed from catch basins.

Transfer Station. A site at which solid wastes are concentrated for transport to a processing facility or land disposal site. A transfer station may be fixed or mobile.

Vector. A carrier that is capable of transmitting a pathogen from one organism to another.

Waste Meat. Meat scraps and by-products(including poultry and seafood) resulting from food preparation and food waste from humans and animals.

Yard Waste. Grass and shrubbery clippings, tree limbs, leaves, and similar organic materials commonly generated in residential yard maintenance (also known as green waste).

C7.3.1 Evaluation of Waste Facilities

DoD solid wastes will be treated, stored, and disposed of in authorized *(zugelassene)* facilities that have been assessed by DoD against subsections C7.3.12, C7.3.14, and C7.3.15 of this chapter. These DoD assessed facilities will be used to the maximum extent practical.

DoD solid wastes will be treated, stored, and disposed of in authorized facilities that have been permitted by appropriate Host Nation authorities. Waste facilities in Germany possessing valid permits meet DoD solid waste disposal standards. All German facilities that either store, treat, or dispose of DoD-generated waste must be properly licensed in accordance with C7.3.19.1 and permitted to accept the type of waste being disposed. In addition, subcontractors require a permit for the transportation of waste for disposal, which includes the public entity responsible for disposal (öffentlich-rechtlicher Entsorgungsträger) or private companies that were issued a tranportation permit. DoD does not require a transportation permit if it transports DoD-generated solid waste in its own vehicles.

C7.3.2 Cooperation with Host Nation Officials

Installations will cooperate with host nation officials, to the extent possible, in the solid waste management planning process.

C7.3.3 Reduction of Waste Disposal

Installations will develop and implement a solid waste management strategy to reduce solid waste disposal. This strategy must include, in the following order of preference, waste minimization, recycling and composting, incineration, and disposal in a landfill. Electronic waste, paper, glass and biodegradable waste will be collected and disposed of separately. Privately owned scrap vehicles designed to carry passengers and comprising no more than eight seats, in addition to the driver's seat, must be returned to the manufacturer or distributor, to a collection system organized by the auto industry, or to an appropriate recycling center (including approved DoD recycling centers). All other scrap vehicles, including military vehicles, must be disposed of in a manner that does not present a risk to public health or the environment.

C7.3.3.1 Storage and Disposal of Scrap Vehicles

The operation of a recycling center for scrap vehicles requires a permit *(Genehmigung)* or a notification *(Anzeige).* Scrap vehicle receiving shops, recycling centers and facilities for further recycling of vehicle bodies must be annually certified by an expert (Sachverständiger). If the scrap vehicle receiving center is also a vehicle repair shop, then the annual certificate must be issued by the appropriate automotive guild (Kraftfahrzeug-Innung). A permit is required for the operation of a holding yard or a facility for treatment of more than four scrap vehicles, including privately operated vehicles and military vehicles that require an operation license (Betriebserlaubnis) permit and a plate *(amtliches Kennzeichen).* Therefore, scrap vehicles may generally only be drained if the facility has an appropriate permit.

Recycling centers must document and file all information about incoming and outgoing volumes; all disposal documentation (i.e., disposal manifest *"Entsorgungsnachweis,"* accompanying documentation *"Begleitscheine",* transportation permits *"Transportgenehmigung,"* acceptance slips *"Übernahmescheine"),* recycling certificates, and volumes of all removed substances, materials and components.

By 2002, a maximum of 15 percent of the curb weight of the scrap vehicle may consist of wastes that are non-recyclable, including wastes generated during the preparation and treatment of the scrap vehicle. By 2015, the percentage will be reduced to 5 percent of the curb weight.

C7.3.3.2 Packaging Material

The distributor must provide to the end-user suitable collecting containers for the return of packaging material. These must be easily accessible and well visible to the end user at the point of sale or in the area adjoining the point of sale.

The manufacturer and distributor are obliged to accept, without payment, the packaging returned to distributors at the place of the actual handing over, to reallocate the packaging for recycling, and to document their compliance with recycling requirements (see Table C7.T9).

The manufacturer or the distributor does not have to collect returned packaging for which the manufacturer or the distributor participates in a waste collection consortium (e.g., Duales System Deutschland or DSD) that sufficiently guarantees an area-wide coverage in the catchment area of the distributor. A collection system must meet the established recycling requirements (see Table C7.T9).

Distributors who put into circulation liquid foodstuffs in non-returnable beverage packaging must levy a deposit of at least EUR 0.25, including sales tax, per packaging, from the person purchasing the container. For a filling volume of more than 1.5 L, the deposit must amount to at least EUR 0.50, including sales tax.

The requirement to levy a deposit also applies to washing liquids, cleaning fluids, and latex paints with an extender starting from 2 kilograms. In such a case the deposit must be at least EUR 1.00.

A deposit does not have to be requested if the manufacturer or distributor takes part in a collection system for packaging material (e.g.,DSD); however, the exemption does not apply if the overall portion of returnable beverage packaging is below 72 percent of all beverage packaging placed into the German market. The German government publishes annually the overall portion of returnable beverage packaging.

Packaging may only be put into circulation if the concentration of lead, cadmium, mercury and chromium VI do not cumulatively exceed 100 ppm after June 30, 2001.

In the annual average, at least the following amounts of packaging in mass percentage must be allocated for recycling by non-organized manufacturers and distributors.

Material	Percentage
Glass	75%
Tinplate	70%
Aluminum	60%
Paper, cardboard, card	70%
Composites	60%
Plastics	60%

For a proportion of at least 60 percent of the recycling rate, it must be ensured that processes are applied where a new substance consisting of the same material is replaced or the plastics remain available for a further material use (material process). The federal government will review this requirement for the recycling of plastics until 1 January 2000, taking into account recent findings.

To the extent that plastic packaging being largely manufactured from biodegradable materials on the basis of raw materials resulting from secondary growth, and being composed of parts for composting, is collected separately, at least 60 percent of such packaging must be assigned to composting facilities from July 2002.

Packaging from material for which no defined recycling rates have been specified must be allocated for recycling, as far as this is technically feasible and economically reasonable. In the case of packaging that is directly manufactured from raw materials resulting from secondary growth, no preference exists with reference to the application of energetic utilization or recycling.

The amount of packaging collected must be allocated for a particular application as far as this is technologically possible and economically reasonable. Otherwise, the packaging must be handed over to the public entity responsible for waste disposal, provided it is not disposed of in privately owned facilities or considerable public interests require such a hand over.

If manufacturers and distributors are obliged to accept returned packaging, they must provide evidence that they have met the repurchase and utilization requirements. The sales packaging

being put into circulation, taken back and recycled in a given calendar year must be documented prior to 1 May of the subsequent year. The documentation shall contain the total, classified according to the individual packaging materials. Disposable packaging must not be included in the documentation. The collaboration between several manufacturers and distributors shall also be permitted.

It must to be confirmed in writing by an independent expert that the requirements to accept and recycle returned packaging are met. The confirmation in writing must be held at the obligated manufacturers and distributors. The confirmation in writing must be submitted upon request to the competent authority. For the acceptance of returned packaging obligated distributors with a sales area of less than 200m² may refer to the confirmation in writing of the previous distribution stage. In the case of manufacturers and distributors with several branches the total area of all branch operations shall constitute the sales area.

C7.3.4 Storage of Wastes or Materials to be Recycled

All solid wastes or materials which have been separated for the purpose of recycling will be stored in such a manner that they do not constitute a fire, health or safety hazard or provide food or harborage for vectors, and will be contained or bundled so as not to result in spillage.

C7.3.5 Storage of Bulky Wastes

Storage of bulky waste will include, but will not be limited to, removing all doors from large household appliances and covering the items to reduce both the problems of an attractive nuisance, and the accumulation of solid waste and water in and around the bulky items. Bulky wastes will be screened for the presence of ozone depleting substances (ODS) as defined in Chapter 2, Air Emissions or hazardous constituents as defined in Chapter 6, Hazardous Waste. ODS contained in bulky waste may only be removed on-site prior to shipment for off-site disposal by DoD or subcontractor personnel who are properly qualified *(Sachkundiger).* Readily detachable or removable hazardous waste will be segregated and disposed of in accordance with Chapters 2, 6, 14, and 15.

C7.3.6 Storage Areas of Solid Waste

In the design of all buildings or other facilities, which are constructed, modified, or leased after the effective date of these guidelines, there will be provisions for storage in accordance with these guidelines, which will accommodate the volume of solid waste anticipated. Storage areas will be easily cleaned and maintained, and will allow for safe, efficient collection.

C7.3.7 Storage Containers

Storage containers should be leakproof, waterproof, and vermin-proof, including sides, seams and bottoms and be durable enough to withstand anticipated usage and environmental conditions without rusting, cracking or deforming in a manner that would impair serviceability. Storage containers should have functional lids.

C7.3.8 Container Storage Area

Containers should be stored on a firm, level, well-drained surface that is large enough to accommodate all of the containers and which is maintained in a clean, spillage-free condition.

C7.3.9 Recycling Programs

DoD installations will institute recycling programs that provide facilities for separate collection of packaging wastes, electronic waste, paper and cardboard, glass, scrap vehicles, and other wastes, if it is economically feasible. Recycling programs will be instituted on DoD installations that provide facilities for separate collection of packaging wastes, electronic waste, paper and cardboard, glass, scrap vechicles, and other wastes, if it is economically feasible.

C7.3.10 Initiate New or Expand Existing Waste Landfill Units

Installations will not initiate new or expand existing waste landfill units without approval of the Combatant Commander with responsibility for the area where the landfill would be located, and only after justification that unique circumstances mandate a new unit. For the operation of a new landfill or modifications to existing landfills, a plan approval *(Planfeststellung)* or a licensing procedure *(Genehmigungsverfahren)* must be conducted.

C7.3.11 New DoD MSWLF

New DoD MSWLF units will be designed and operated in a manner that incorporates the following:

C7.3.11.1 The siting of a Class I or II MSWLF landfill site is not permitted in the following areas.

- In karst areas (i.e., areas of irregular limestone in which erosion has produced fissures, sinkholes, underground streams, and caverns) and areas with a high proportion of fissures and fractures in the geologic subsurface. Local exceptions may be made for Class I sites.
- Within areas for the extraction of drinking water and mineral spring water (including planned or potentially designated).
- Within existing or planned flood plain areas.
- Within a quarry, where a discharge of free-flowing leachate to a drainage system to an area outside of the landfill area is not possible.
- Within existing and/or planned wooded areas, nature protection zones, and areas classified as recognized protected biotopes.
- The landfill site must be located at a minimum distance of 300 m to any neighboring residential area.
- The landfill site is not permitted in earthquake areas, active fault zones, areas imminent of landslide or surface lowering following former mining activities.

C7.3.11.2 Under German regulation, construction and operation of a MSWLF depend upon the approval of a plan by the competent authority. The procedure for the approval of the plan in known as the *Planfeststellungsverfahren.* Authorities will determine the types of wastes permitted for disposal for every MSWLF, as part of the plan approval process.

A separate control unit established in the MSWLF structure is responsible for registration and recording of the quantity and the type of delivered waste identified with a specific waste number (see Table C7.T1). The control unit will implement control procedures to ensure that the types of waste to be disposed of comply with the respective criteria. The control procedures will include visual and analytical results of samples from waste material. The control analysis is only required if there is evidence that waste requirements are not being met. The parameters to be analyzed depend on the type of waste sampled. Duplicate samples must be preserved for a minimum of 1 month. Results of the analysis will be recorded together with results of the control analysis (conducted as spot checks) in the operational log of the landfill.

If the allocation criteria are not met, the competent authority must be informed. Until the authority has rendered its decision, the waste must be stored at a permitted area at the landfill site.

C7.3.11.3 Cover material criteria (e.g., daily cover), disease vector control, explosive gas control, air quality criteria (e.g., no open burning), and access requirements. (For requirements regarding cover material and layers, see C7.3.13.1 to C7.3.13.4).

C7.3.11.3.1 A gas monitoring system must be installed if there is evidence that landfill gas may be generated from the landfill body.

C7.3.11.3.2 Liquids are prohibited from disposal in the MSWLF.

C7.3.11.3.3 The operator will keep an operational log *(Betriebstagebuch).*

C7.3.11.3.3.1 The log shall include: records of delivered domestic waste and received substances, declarations of acceptance, confirmations of disposal and approval record books, results of environmental investigations and chemical analyses, results of control surveys, special occurrences (especially emergency cases), times of operation and standstills, type and scale of construction and maintenance measures.

C7.3.11.3.3.2 The operational log must be inspected regularly by the manager of the control unit. It must be indelible. The operational log, including the yearly summary reports and the inventories, must be kept on file at least until the end of the post-closure period is approved by the competent authorities.

C7.3.11.4 Monitoring programs for Class I landfills are determined by local conditions. Monitoring programs must be installed and inspected regularly at Class II landfill sites for the settling of the landfill body and of the liner system, groundwater, water (to establish a water inventory), the quality of leachate and other waters, temperature at the base of the landfill body, gas generation from the landfill body (if there is evidence that gas is generated from the landfill body), and the meteorological data, including precipitation, temperature, wind and evaporation.

Certain monitoring frequencies must be maintained (see Table C7.T6). The chemical substances to be analyzed must be determined individually during the plan approval process.

Together with annual reports, a statement on the state of the landfill must be submitted to the competent authority. The statement must include a comparison of the conditions of the landfill body during the current operating period with the projected conditions as developed for the operating plan and (if applicable) as determined in the construction permit.

In **Hessen**, a specific list of chemical parameters must be analyzed at all landfill sites (see Table C7.T7). The operator of the landfill must conduct regular inspections and monitor the generation of landfill gas. All results of control procedures must be registered in the operational log. A summary of the results of last years investigations must be submitted to the waste authorities by 31 March of each calendar year. The operator of the landfill must inform the waste authority immediately on disruptions and alterations of air emissions, landfill gas, leakage water, surface and groundwater in the area of the landfill.

C7.3.11.5 Disposal sites must be equipped with a liner and leachate collection system.

C7.3.11.5.1 The bottom liner system for a Class II landfill site must have the following layers in order from top to bottom: mineral/earthen material (minimum thickness of 0.75 m), a synthetic liner layer (minimum thickness of 2.5 mm), a drainage layer (minimum thickness of 0.3 m) and, in addition, a drainage system (installed according to the technical standard DIN 19667) for the collection of leachate. Leachate must be diverted to drainage sumps located outside the final disposal area following a certain slope.

C7.3.11.5.2 Any vertical penetration of the liner system is not permitted. The installation of a liner system at the embankment area is required.

C7.3.11.5.3 For Class I landfill sites the same combination of layers shall be applied. The minimum thickness of the mineral layer is required to be 0.5 m.

C7.3.11.5.4 Settling and deformation of the liner system and the overlaying landfill body, caused by the weight of the landfill body, must be monitored, controlled and predicted during the operating period. When the liner system is penetrated

horizontally at the embankment area by the installation of pipes, the possibility of control and repair work must be ensured.

C7.3.11.5.5 A quality safety plan (Qualitätssicherungsplan) must be implemented, which includes the designation of a person responsible for quality control procedures, test results of the materials used in the liner system, quality improvement measures, documentation of the base liner system control inspections, and description or the liner system installation.

C7.3.11.5.6 Each significant construction phase of the liner system installation must be reported to the competent local authority.

C7.3.11.5.7 The discharge of leachate and residuals of leachate treatment into the landfill body, and of any kind of wastewater, including leachate, underneath the landfill body, is not permitted.

C7.3.11.6 A minimum of one monitoring well upgradient and a sufficient number of monitoring wells downgradient of the landfill site must be installed. Further details on the overall monitoring program (of which groundwater is one element) are explained in C7.3.11.4.

C7.3.12 Installations Operating MSWLF

Installations operating MSWLF units will:

C7.3.12.1 Place a daily cover over disposed solid waste at the end of each operating day.

C7.3.12.1.1 The landfill must be divided into sections that can be filled and capped individually; each section must have machinery on hand for immediate placement and compaction of waste. The filling and compacting of waste must be conducted to minimize the settling of the landfill body. Adequate disposal ways must ensure minimized air emissions. The formation of leachate must be minimized.

C7.3.12.1.2 Compacting of delivered waste is permitted, if the material is above the allocation criteria prior to incorporation (see Table C7.T5).

C7.3.12.1.3 The landfill must be mechanically stable in itself, with regards to its surroundings. Based on geotechnical data and characteristics of the waste, the stability of the landfill must be predicted and these results included in the annual summary report.

C7.3.12.1.4 As part of the operational manual, the operations plan (*Betriebsplan*) describes current operational procedures, the construction of the landfill body, the division of its disposal area into several sections with assigned types of waste, the planned type of waste to be disposed of, the location of

its disposal and method of placement, the collection system of gas and leachate, and control procedures.

C7.3.12.1.5 A disposal plan (*Ablagerungsplan*) must be prepared for each section of the landfill, if the sections contain different types of waste with varying concentration of contaminants. Each section must be subdivided into a pattern of cells (each with a maximum area of 2,500 m², maximum height of 2 m). The disposal plan must inform on the type of waste according to EAKV, its quantity, disposal location (number of cell), method of placement with layer thickness and equipment used, disposal time and changes from the operations plan.

C7.3.12.1.6 Six months after filling a section, an inventory *(Bestandsplan)* of the respective section must be prepared, including relevant information of the underlying bottom liner system and the disposal plan.

C7.3.12.2 Wastes may only be disposed of at MSWLFs when recycling is not possible and if the criteria listed in Table C7.T5 are met. Surface disposal of waste is not allowed when a hazard to the environment or to human health may be expected.

Hazardous waste (see Table C7.T1) is generally excluded from disposal at Class I and Class II landfill sites (see Chapter 6, Hazardous Wastes).

C7.3.12.3 The individual operation permit for a landfill establishes which wastes (identified through six-digit waste codes, see Table C7.T1) may generally be disposed of. The detailed documentation requirements ensure that only wastes that meet the specifications of the operation permit and the limit values set are disposed of at the MSWLF. Generally, infectious waste requires a pretreatment (see Chapter 8, Medical Waste). Depending on the individual landfill permit, pretreated medical waste may be disposed of at a MSWLF. Wastes containing friable asbestos may only be disposed of at the MSWLF after a pretreatment, which immobilized or destroyed the asbestos fibers. Additional requirements concerning asbestos and PCB-containing material or wastes are presented in Chapters 14 and 15, Polychlorinated Biphenyls, and Asbestos and Artificial Mineral Fibers, respectively.

The control unit must ensure that the various types of waste to be disposed of comply with the criteria set for Class I and Class II landfill sites. The control unit is responsible for registering and recording the quantity, type and code of the delivered waste material, and conducting control procedures (see C7.3.11.2). If there is evidence that the delivered waste does not meet the applicable allocation criteria, the competent authority must be informed. Until the authority has decided on further action, the waste must be stored in a permitted area of the landfill site.

C7.3.12.4 Composting of biodegradable waste is required when an adequate system and space are available.

C7.3.12.5 Prohibit open burning, except for infrequent burning of agricultural wastes, silvicultural wastes, land-clearing debris, diseased trees, or debris from emergency clean-up operations.

C7.3.12.6 Recycling of waste must be considered before disposal in a landfill.

C7.3.12.6.1 Biodegradable wastes (including yard waste, certain plastics, and biological waste) must be recycled (including composting), if an appropriate waste collection system exists. Recycling of composted material (for example as final cover for landfills) is to be prioritized with respect to landfilling.

C7.3.12.6.2 Recyclable construction debris must be collected separately. After treatment and preparation, it should be reused as construction material. Only contaminated construction debris should be disposed of permanently.

In **Rheinland-Pfalz**, the operator of a landfill must ensure that recyclable wastes are not accepted or permanently disposed of in a landfill.

In **Baden-Württemberg**, recycling and using reusable raw materials must be practiced to minimize waste. Construction debris generated during construction or demolition of facilities must be recycled when technically and economically feasible.

In **Bayern***,* recycling of wastes, especially glass, paper, metal, plastic, construction debris and biodegradable materials must be practiced to minimize waste.

In **Hessen***,* generated wastes should be recycled, when feasible.

C7.3.12.7 The operator of a MSWLF must employ a sufficient number of qualified personnel. Training of personnel must be conducted initially and then periodically throughout their employment tenure. The management is responsible for regularly informing personnel.

Washing facilities must be provided at the site including disinfecting, cleaning and skin care agents and the opportunity to dry damp working clothes between shifts.

The operational and organizational requirements *(Betriebsordnung)* must be developed before the start of operations, and must contain the applicable rules for safety and good order. It must be submitted to the local authority and is to be displayed in the entrance area. If applicable, requirements for the handling of certain types of waste must also be included.

Sufficient fire-fighting equipment must be available at the various landfill operation areas.

C7.3.12.8 Maintain conditions that are unfavorable for the harboring, feeding and breeding of disease vectors.

C7.3.12.9 The gas from operating and closed landfill sections shall be collected and recovered. The quantity and quality of generated gas, and the impact of degassing must be regularly controlled. At closed landfill sites *(Altdeponien)* a monitoring system for landfill gas must be installed (see C7.3.11.4).

The building of on-site structures at the landfill site body should be avoided. The design of the on-site structures must impede that landfill gas can penetrate into the buildings. Appropriate measures include: degassing equipment in the area of on-site buildings, sealing of a large area around the buildings, construction on pillars to allow for sufficient ventilation, installation of a gas collection/removal system beneath the floor of the building, and the absence of a basement.

The potential migration of landfill gas towards on-site structures should be measured.

If migration of landfill gas into the structures cannot be prevented, the ambient air must be controlled and ventilation measures installed. The ambient air should be surveyed with gas alarm devices that give a pre-alarm if the methane concentration exceeds 0.7 percent by volume, and automatically turns on ventilation systems. The gas alarm devices must be able to switch off non-explosion-proof electrical devices, if the methane concentration exceeds 1.0 percent by volume (which corresponds to 20 percent of the LEL).

If there are indications that the hydrogen sulfide concentration may exceed 0.1 percent by volume, then appropriate gas alarm devices must be installed for this gas.

C7.3.12.10 Operate in an aesthetically acceptable manner, including landscaping the landfill so that it aesthetically fits into its surroundings.

C7.3.12.11 Operate in a manner to protect aquifers and consider the applicable requirements mentioned previously concerning the following aspects:

- Location and design of the disposal site (see C7.3.11.1 and C7.3.11.5)
- Standard sanitary landfill techniques (see C7.3.12.1 and C7.3.11.2)
- Appropriate selection of waste (see C7.3.11.2)
- Inspection and monitoring program (see C7.3.11.4 and C7.3.11.6)
- Documentation and evaluation of control procedures (see C7.3.11.2 and C7.3.11.3)

C7.3.12.12 Control public access to landfill facilities.

C7.3.12.13 Prohibit the disposal of all liquids at MSWLF. All wastes landfilled must have the minimum state of consolidation as presented in Table C7.T5.

C7.3.12.14 An operational log (*Betriebstagebuch*) must be kept. For details about the content of the operational log refer to C7.3.11.3.

C7.3.12.15 An operational manual *(Betriebshandbuch)* must be prepared before the start of operations outlining the operational, control and maintenance procedures, emergency measures, responsibilities, and various duties. It must include an organizational chart describing the tasks of the respective units and assigned responsibilities to the employees. The operational manual must contain an operations plan *(Betriebsplan).*

C7.3.12.16 The operator must prepare an annual summary report which includes records of delivered domestic waste, records of delivered substances, special occurrences such as emergency cases, and times of operation and interruption of the facility. In addition, the results of environmental investigations and results of facility related control surveys must be evaluated. The annual summary report must be submitted to the local authorities within the first quarter of each calendar year.

In **Hessen***,* the operator of the landfill site is required to make available for public review the annual summary report for a period of 2 months. The location and time of public inspection must be advertised locally by the operator.

C7.3.13 Closure and Post-Closure Operations of Landfills

During closure and post-closure operations, installations will:

C7.3.13.1 Install a cover system and monitoring devices. The cover system must consist of the following layers (starting from the bottom):

- A compacted layer consisting of a homogeneous material with a thickness of at least 0.5 m. If gas generation is expected, additional requirements apply.
- An impermeable layer consisting of mineral/earthen material for a Class I landfill and a combination of mineral material and synthetic layers for a Class II landfill.
- A drainage layer with a thickness of at least 0.3 m. The draining material must be spread evenly with a permeability of at least $k = 1 \times 10^{-3}$ m/sec. In addition, a drainage system must be installed according to DIN 19667.
- Final layer with a minimum thickness of 1.0 m (vegetative layer).

C7.3.13.2 The impermeable layer (see C7.3.13.1) must have a minimum thickness of 0.5 m for a Class I landfill. Class II landfills are required to have an additional geosynthetic layer. The total permeability must be less than $k = 5 \times 10^{-9}$ m/sec. Synthetic layers must have a minimum thickness of 2.5 mm. After termination of the settling process, the surface must have a final slope equal to or greater than 5 percent.

C7.3.13.3 Ensure that the final layer consists of 100 cm of soil capable of sustaining a vegetative cover.

C7.3.13.4 The final layer (see C7.3.13.1) must be inhabited with appropriate plants and vegetation. It must be ensured that the chosen vegetation will not impact the synthetic liner, if present.

C7.3.13.5 Upon closure of the landfill the following information shall be submitted to the appropriate host nation authority in accordance with the criteria established in Chapter 1, Overview: annual summary reports and evaluations of control results, integrity of the liner system and the monitoring devices, operational plans and inventories.

During the post-closure period, long-term security measures must be established and maintained. Monitoring of the landfill site must be continued and documented (see C7.3.11.4 and Table C7.T6).

Baden-Württemberg defines closed landfills or other properties where waste was permanently disposed of as old depositions (*Altablagerungen*). Upon closure, the competent water authority shall be notified in accordance with the criteria established in Chapter 1, Overview if the site was operated prior to 1 March 1972 and closed prior to October 1996.

Rheinland-Pfalz defines closed landfills or other properties where waste was permanently disposed of as old depositions (*Altablagerungen*). Upon closure, the competent water authority shall be notified in accordance with the criteria established in Chapter 1, Overview.

C7.3.14 Open Burning

Open burning will not be the method of solid waste disposal. Where burning is the method, incinerators meeting air quality requirements in Chapter 2, Air Emissions will be used.

The open burning of yard waste is allowed in the states of **Hessen** and **Bayern** with a proper permit. Refer to Chapter 1, Overview for procedures on obtaining permits.

C7.3.15 Composting Facilities and Sewage Sludge

Composting facilities that have a throughput greater than 0.75 metric tons/hour (hr) require an operating permit.

C7.3.15.1 Documentation Requirements

C7.3.15.1.1 Sewage Sludge

The operator of a wastewater treatment plant must maintain a registry and submit it to the appropriate host nation authorities by the end of the first quarter of each calendar year. The registry must contain the quantities of sludge generated and the quantities delivered to agricultural facilities (in metric tons, dry weight); properties of the sludge (see C7.3.15.6); type of sludge treatment, name and address of recipient of sludge, ordered according to lot numbers, and results of the soil investigation, listed according to lots and ordered according to lot numbers. Refer to Chapter 1,

Overview for the proper procedures in contacting the appropriate host nation authorities.

The operators of household sewage treatment plants, public sewage treatment plants or sewage water with a similarly low level of contaminants and a capacity less than 1,000 inhabitant equivalents, are exempted from the preparation of a registry.

The operator of a sewage plant must notify the authorities responsible for the land application unit, as well as the agricultural authorities, of the intended application, before delivery of the sewage sludge.

The delivery and receipt of sewage sludge is tracked by a delivery note *(Lieferschein)*. The operator of a sewage treatment plant must record the time of delivery of the sewage sludge on the delivery note and hand it over to the transporter. The delivery note must be kept in the transporting vehicle during transport. The recipient must confirm delivery and application of the sludge.

The recipient and the transporter must each retain a copy of the delivery note. The transporter must a copy of the delivery note to each of the authorities responsible for the treatment plant and the treated land. The original note of delivery shall be submitted to the operator of the treatment plant.

C7.3.15.1.2 Composting Material

The party treating biological waste must generate, on a quarterly basis, a list of the materials used, according to type, origin and quantity.

The supplier of biological waste must submit the delivery note *(Lieferschein)* to the recipient of the waste, which must include the following details:

- assurance that requirements regarding pathogenic and phytohygienic non-objection; and regarding the limit values for heavy metals are being met;
- heavy metal levels and pH-value, salt content, annealing losses and proportion of foreign substances;
- locations and times of sampling and analysis;
- maximum permissible quantities for application;
- permissibility for application on permanently green land;
- the soil analysis for the land application unit; and
- date of delivery and signature of supplier and manager of the land application unit.

Details stipulated above in the first three bullets are not required for wastes listed in Table C7.T8).

The supplier of the compost and the manager of the land application unit must keep a copy of the delivery note, detailing boundaries, lot numbers and size in hectares, for 30 years.

Operators of compost facilities must compile and submit the following information from the preceding years to the respective State Agency for Statistics *(Statistische Landesamt):*

- The amount of biodegradable waste composted;
- The amount and intended use of the compost produced;
- The type and amount of the waste produced; and
- The capacity and serviceable life of the facility.

The information must be submitted upon request on forms provided by the respective State Agency every 2 years. The information on incoming waste and removed materials that are not composted *(Störstoffe)* must be submitted annually.

C7.3.15.2 Access to the facility must be controlled. All access points must be secured when the facility is not in operation.

C7.3.15.3 By-products, including residuals and materials that can be recycled, must be stored to prevent vector intrusion and aesthetic degradation. Materials that are not composted must be removed periodically. By-products, such as sedimentation residuals from leachate collection or residues from filtering processes, should be returned to the composting process.

C7.3.15.4 Wastewater must be collected and used for moistening of the composting material. Areas where contaminated water may occur must be impermeable.

C7.3.15.5 Records regarding the temperature curves, turning times of composting processes (aerobic), and the loading intervals for anaerobic treatment plants must be kept for 5 years.

The party treating the biological must commission independent inspectors to carry out inspections on:

- The efficiency of the treatment process by means of direct measurements,
- The maintenance of the prescribed treatment temperature by means of indirect measurements, and
- Conduct a final inspection of the treated biological waste.

The results of these inspections must be submitted to the authorities within 4 weeks.

Direct process inspections must be carried out within 12 months of a new treatment system going into operation (startup inspection). This also applies to systems that introduce new processes or significant technical modifications of existing processes or procedures.

Composting facilities may process biological waste and soil materials, peat or mineral materials (see Table C7.T8) in an unmixed state, if subsequent to treatment, pathogenic and phytohygienic non-objection is achieved, and no increased levels of further contamination are indicated.

C7.3.15.6 Periodic Analysis of Sewage Sludge and Composting Material

C7.3.15.6.1 Sewage Sludge.

The operator of a wastewater treatment plant must examine soils for the contents of lead, cadmium, chromium, copper, nickel, mercury, and zinc before the sludge is spread for the first time on either agricultural or horticultural land. The spreading on fruit or vegetable growing land is prohibited. The soil investigations must be repeated at intervals of 10 years, unless appropriate host nation authorities order soil investigations at shorter intervals.

C7.3.15.6.2 Composting Material.

At least every 6 months, treated biological waste must be analyzed for pathogenic and phytohygienic contamination in facilities with an annual treatment capacity of up to 3,000 metric tons and every 3 months in facilities with a higher treatment capacity.

Certain biodegradable wastes (see Table C7.T8) may be distributed or applied without pathogenic, phytohygienic, and heavy metal analysis.

At least every 3 months, the party treating biological waste must conduct analyses of the treated biological waste for every 2,000 metric tons (fresh weight), in the course of the treatment for the following.

- The content of the heavy metals lead, cadmium, chromium, copper, nickel, mercury and zinc.
- The pH-value, the salt content, the content of organic substances (annealing losses), the dry residue, and the proportion of foreign matter.

In addition to the above listed parameters, the composting material must be tested for the percentage of volatile solids as a percentage of total solids, and polychlorinated biphenyls (PCB).

If a party treating more than 24,000 metric tons of waste per year is a disposal company and member of an institution for regular quality control

(Gütegemeinschaft), it must conduct the analysis mentioned above every month.

Additional analysis of unmixed materials for heavy metals must be carried out, if there are indications that limit values for heavy metals are not being met. Additional analysis of unmixed materials or of treated biological waste for further contaminants must be conducted, if the composition or origin of the unmixed individual materials of treated biological waste show indications of increased levels of these contaminants. If these analyses establish increased levels of the respective contaminants, the results shall be submitted immediately to the relevant authorities. Until their decision is known, further treatment, supply and application of these materials is not permitted.

The analysis must be conducted by laboratories specified by the State Environmental Agencies. The party treating the waste must submit the results of the investigations to the appropriate host nation authorities every 6 months.

C7.3.15.7 Compost must be produced by a process that further reduces pathogens in accordance with German standards.

C7.3.16 Classification and Use of Compost from DoD Composting Facilities.

C7.3.16.1 Composting Material.

The German regulations establish different sets of limit values for compost material applied to land, according to different end uses (see C7.3.16.3.1 and C7.3.16.3.2).

In **Bayern**, any nuisance of odor to neighboring residents must be avoided when disposing of plant waste from gardens and parks (grass, leaves and moss) decomposing on their own premise.

In **Hessen**, no odor nuisance must occur if plant waste is disposed of on an owner's premise by using a decomposing process.

Composting material may be applied to land if the limit values listed in C7.T12 are not exceeded.

C7.3.16.2 Sewage Sludge.

Sewage sludge must not be applied to fruit or vegetable growing land, permanent green areas *(Dauergrünland*, for example pastures), forested land, in Class I and II water protection zones *(Wasserschutzgebiet)*, or in natural protection areas.

Only sewage sludge from domestic wastewater treatment plants or with a similar level of contamination may be applied to agricultural or horticultural land.

Sewage sludge may only be supplied to or spread on agricultural or horticultural land, if samples of the sewage sludge are investigated at intervals of no more than every 6 months, for heavy metals and total halogenated compounds (AOX), aggregate and ammonium nitrogen, phosphate, potassium, magnesium, dry residue, organic content, alkaline-effective substances, and the pH. The limit values for the application of sewage sludge or composting material to soils are listed in Table C7.T12. In addition, samples of the sewage sludge must be investigated before it is spread for the first time, and at intervals of no more than 2 years thereafter, for its content of the organically persistent contaminants: polychlorinated biphenyls, polychlorinated dibenzodioxins and dibenzofurans.

Sewage sludge may only be spread if the ground soil has been examined for its pH value and its content of phosphates, potassium, and magnesium available to the vegetation.

The limit Values for the initial ground soil investigation and application of sewage sludge to agricultural or horticultural land are as follows:

Sewage sludge resulting from the treatment of household sewage water, public sewage water or sewage water with a similarly low level of contamination and with a capacity of less than 1,000 population equivalents only requires an initial investigation of the ground soil prior to the application of sewage sludge. The regular analysis of the sewage sludge must be carried out at least every 2 years.

The Federal Agency for Agriculture and Food *(Bundesanstalt für Landwirtschaft und Ernährung)* must be informed about the annually generated amount of sewage sludge applied to agricultural land. Sludge producers are required to make an annual contribution to the fund *(Klärschlammentschädigungs-Fond)* based on the fee rate of EUR 10 per ton of sewage sludge (dry weight). When the assets of the fund reach EUR 62.5M, producers are released from payments until the level sinks to EUR 50.0M.

C7.3.16.3 Sewage Sludge and Compost Distribution and End Use

C7.3.16.3.1 Sewage Sludge

Only sewage sludge from domestic wastewater treatment plants or with a similar level of contamination may be applied to agricultural or horticultural land.

Sewage sludge must not be applied to fruit- or vegetable-growing land, permanent green areas *(Dauergrünland, for example pastures),* forested land, in Class I and II water protection zones *(Wasserschutzgebiet),* or in natural protection areas.

Sewage sludge may only be supplied to or spread on agricultural or horticultural land if samples of the sewage sludge are investigated,at

intervals of no more than every 6 months, for heavy metals and total halogenated compounds (AOX), aggregate and ammonium nitrogen, phosphate, potassium, magnesium, dry residue, organic content, alkaline-effective substances, and the pH. (See Table C7.T12). In addition, samples of the sewage sludge must be investigated before it is spread for the first time, and at intervals of no more than 2 years thereafter, for its content of the organically persistent contaminants: polychlorinated biphenyls, polychlorinated dibenzodioxins and dibenzofurans.

Sewage sludge may only be spread if the ground soil has been examined for its pH value and its content of phosphates, potassium, and magnesium available to the vegetation.

Sewage sludge resulting from the treatment of household sewage water, public sewage water or sewage water with a similarly low level of contamination and with a capacity of less than 1,000 population equivalents only requires an initial investigation of the ground soil prior to the application of sewage sludge. The regular analysis of the sewage sludge must be carried out at least every 2 years.

C7.3.16.3.2 Composting Material

Compost meeting the threshold values listed in Table C7.T12 may be applied on forested and agricultural land.

C7.3.17 Record Filing

C7.3.17.1 Documentation Requirements

Documentation is not required for the disposal of private household waste. Generally, household waste, which also includes for example separately collected glass or paper, must be disposed of through the public entity responsible for disposal *(öffentlich-rechtlicher Entsorgungsträger).*

Commercial waste, which includes household-type waste *(hausmüllähnlicher Gewerbeabfall)* and industrial waste may be disposed of by the public entity responsible for disposal or by other disposal companies. Documentation is required, depending on the disposal path and the category of waste. The documentation requirements include control of the disposal path *(Vorabkontrolle)* and control of the actual transactions *(Verbleibskontrolle).*

Documentation requirements for the different disposal paths of solid waste depend on the classification of the generated wastes, according to the categories in the following table:

Waste category	Waste type	Disposal path	Waste Generator	Control of Disposal Path *(Vorabkontrolle)*	Control of Actual Transactions *(Verbleibskontrolle)*
Wastes that do not require supervision *(überwachungsbedürftig)* or special supervision *(besonders überwachungsbedürftig)*	Non-hazardous (for example glass, paper, non-contaminated wood)	Recycling (i.e. reuse or thermal recycling)	private [3]	None [2]	None
			commercial	None	General good management requirement to file documentation concerning these wastes (for example invoices)
Wastes requiring supervision	Hazardous and non-hazardous wastes (for example household waste or household like waste)	Recycling or permanent disposal (for example landfilling)	private[3]	None [2]	None
			commercial	1. Simplified proof *(vereinfachter Nachweis)* or	1. Acceptance slip (Übernahmeschein)
				2. Simplified collective proof *(vereinfachter Sammelnachweis)*	2. Acceptance slip *(Übernahmeschein)*
				3. None, if the public disposal entity is comissioned for disposal	3. General good management requirement to file documentation concerning these wastes (for example invoices

Notes:

1. The category of waste may change depending on the disposal path. For example, waste that does not require supervision or special supervision may be reclassified as waste requiring supervision if it is permanently disposed of. As a consequence, this will change the documentation requirements.

2. Disposal must be conducted through the public disposal entity *(überlassungspflichtig an öffentlichen Entsorgungsträger)*

3. For example, residential housing at housing areas or other DoD leased or owned private housing.

The documentation requirements are applicable to waste generators or owners *(Abfallerzeuger)*, to the parties collecting or transporting wastes, and to the parties recycling *(Verwerter)* or disposing of wastes *(Beseitiger)*. Waste disposal forms are included in C7.T10.

The waste generator must complete the appropriate forms for the simplified proof *(vereinfachter Nachweis VN) i*n Table C7.T11, unless the amount of these wastes does not exceed 5 metric tons per waste code, per calendar year.

The simplified collective proof must be completed by the transportation or disposal company. The simplified collective proof consists of a declaration by the collector, and a declaration of acceptance by the waste disposal facility. These declarations must be completed and copies exchanged between the parties prior to beginning the disposal.

If disposal is conducted by a simplified proof or simplified collective proof *(vereinfachtes Sammelnachweis VS)*, acceptance slips *(Übernahmescheine)* must be used upon transferring the wastes between waste generator, collector and/or transporter.

If the waste requiring supervision is disposed of with a public disposal entity *(öffentlicher Entsorgungsträger)* or the amount of generated wastes requiring supervision is less than 5 metric tons per waste code, per calender year, the waste generator is not required to file a control of the actual transactions of waste. Additionally no requirements are set for the waste generator concerning the control path. However, as a good management practice it is recommended to file appropriate documentation about the disposal of all generated wastes (for example through invoices or weight slips *"Wiegeschein").*

Documentation requirements regarding the use and disposal of wastes include documentation concerning the permissibility of the use and disposal of wastes, as well as the actual transactions in proof logs *(Nachweisbüchern).* The filled in simplified proof forms and acceptance slips must be filed in the proof logs, which must be kept for a minimum of 3 years.

C7.3.17.2 Waste Identification

All wastes generated must be assigned a six-digit code (see Table C7.T1). When assigning the waste into the relevant types, the two-digit, branch-specific or process-specific code must come before any two-digit code denoting origin or type of waste.

C7.3.18 Shipment of Waste

C7.3.18.1 Labeling of Transportation Vehicles for non-Hazardous Wastes

Vehicles transporting waste on public roads must be labeled with two rectangular reflective white warning signs, with a baseline of 40 cm, and be at least 30 cm high. The warning signs must be marked with a black 'A' (20 cm high, 3 cm wide). The warning signs must be clearly visible on the front and rear of the vehicle, perpendicular to the axle and no more than 1.50 m above the road. For trains, the second sign must be situated on the rear of the trailer. The driver of the vehicle is responsible for ensuring that the signs are in place.

C7.3.18.2 Border-crossing Shipment of Waste

Waste generated in Germany shall be disposed of within Germany. In terms of disposal abroad, disposal in a European Community member country has priority over disposal in another country. If waste is imported among the German States for disposal, the authorities of the State where the wastes are to be recycled or disposed of are responsible for waste transportation measures. If wastes are exported outside of Germany, then the German authorities of the State of origin are responsible for waste transportation measures.

C7.3.19 Waste Management Requirements

C7.3.19.1 Approved Disposal Company

An approved disposal company must have an inspection certificate *(Überwachungszertifikat)* and inspection seal *(Überwachungszeichen)* issued by the technical inspection organization and displaying the word *„Entsorgungsfachbetrieb".*

C7.3.19.2 Waste Registry and Waste Management Plan

Generators producing annually more than 2,000 tons of waste requiring supervision, per waste type, must prepare every 5 years a waste management plan and an annual waste registry. Both waste management plan and registry must be submitted to the appropriate host nation authorities upon request. A waste management plan and a waste registry must be prepared for each individual installation (*Standort*).

If an organization disposes of its waste in its own facility, the waste management plan must include whether the disposal facility will be in operation or is planned to be closed.

C7.3.19.3 Waste Management Officer

A Waste Management Officer must be appointed at all of the following DoD facilities:

- landfills;
- stationary waste disposal facilities with a throughput of more than 0.75 metric tons per hour including incinerator and composting facilities;
- stationary waste disposal facilities for chemical or physical treatment of waste with a throughput of more than 0.5 metric tons per hour;
- stationary waste disposal facilities for incineration of medical waste;
- storage or treatment of scrap vehicles, if the sites are larger than 4000 m²; and
- hospitals and clinics.

The tasks of the Waste Management Officer include the following:

- To monitor the path of waste, from its occurrence or delivery to its recycling or disposal.

- To monitor compliance, especially by conducting inspections, at regular intervals, of the company's facilities and the type and nature of the waste produced, recycled, or disposed of in the facilities, and to provide information regarding detected deficiencies to the Installation Commander and to implement measures to correct these deficieincies.
- To inform the Installation Commander of any detrimental effect that could result from the waste generated, recycled or disposed of in the facility and measures for preventing negative impacts.
- To advocate in permitted faciltiies where wastes requiring special superivsion are reguarlry produced, the development and introduction of:

  - Environmentally compatible, low-waste-producing procedures, including procedures for the avoidance, proper and safe recycling, or environmentally compatible disposal of waste.

  - Environmentally compatible, low-waste-producing products, including procedures for reuse, recycling, and environmentally compatible disposal upon completion of use of these products.
- To cooperate in the development and introduction of standard operating procedures, especially by studying the relevant processes and products using criteria of closed substance cycle waste management and disposal.

The Waste Management Officer will submit an annual report to the Installation Commander concerning the measures taken and planned with respect to his duties.

C7.3.20 Reporting Requirements

The operators of landfills, composting facilities, incinerators, recycling centers, scrap yards *(BimSchG-anlagen)* must submit annually, with respect to the preceding year, the following information to the appropriate host nation authority:

- the type, amount, origin and whereabouts of the treated, stored or deposited waste;
- the type and location of the facility;
- the capacity of the facility and the anticipated operational time of landfills, as of 31 December of the preceding year; and
- the mechanisms established for the treatment of waste and for the protection of groundwater, the treatment of leachate, the type of landfill degassing devices and of flue gas cleaning, as of 31 December of the preceding year.

C7.3.20.1 The following facilities must submit information from the preceding year annually to the appropriate host nation authority.

- All facilities that collect waste packaging material must submit information concerning the type, amount, and whereabouts of the collected packaging.

- All facilities which recycle used packaging material must submit information about the volume of waste packaging material recycled *(stofflich verwertet)*.

C7.3.20.2 Operators of installations requiring a permit *(BimSchG-anlagen)* must provide every 2 years, information concerning recycled waste types from the preceding year bi-annually.

C7.3.21 Disposal of Animal Carcasses and Animal Parts

Only waste meat from a household may be disposed of through the common household waste collection system. Whereas waste meat generated at commercial establishments and restaurants (including military dining halls) must be disposed of either through a certified disposal company or directly to a company that recycles carcasses, if the amount of waste meat generated exceeds what is typically generated in a four-person household.

All carcasses, parts, and products of hoofed animals, dogs, cats, birds, rabbits and animals with valuable pelts owned or used by individuals must be disposed of in facilities specifically designed for this waste. This requirement does not apply to animal parts that ensue in private households or small quantities from restaurants and catering facilities; small quantities are defined by local regulations as the amount usually generated by a private four-person-household.

Carcasses of dogs, cats, young pigs, rabbits, goats and sheep under 4 weeks old, and individual carcasses of birds, can be buried in suitable areas, covered with a layer of earth at least 50 cm deep (not near public paths, water protection areas, nor burning in a waste incinerator).

If disposal of carcasses of hoofed animals is required, the owner of the carcass or animal part must immediately inform the relevant animal carcass disposal facility, or the appropriate host nation authority (i.e., *Beseitigungpflichtigerr)*, unless it is delivered immediately to the proper disposal facility or its collection point. The transportation must occur in closed, liquid-tight vehicles or sealed receptacles.).

C7.3.22 Solid Waste Incinerators

Incinerators must be constructed and operated so that a complete burning off of the input material is achieved. Waste incinerators must be designed, equipped and managed to comply with the following minimum technical requirements:

Oxygen content in wet flue gas	6% by volume
Oxygen content in wet flue gas, if input material is liquid	3% by volume
Contact time	2 seconds
Minimum temperature for flue gas and internal combustion chamber, proportion of halogenated organic compounds with input material below 1 % by mass	850 ^{o}C
Minimum temperature for flue gas and internal combustion chamber proportion of halogenated organic compounds with input material above 1 % by mass	1,100 C

A minimum oxygen content in wet flue gas of 3 percent by volume also applies to facilities incinerating waste by first pre-treating the material thermally without oxygen and then burning the generated gases and ash particles.

The design of the facility must ensure that:

- the combustion chamber is not charged before the minimum temperature is reached,
- the charging of the combustion chamber is carried out only as long as the minimum temperature is maintained; and
- the charging of the combustion chamber is interrupted automatically, if the monitored emission limits are exceeded due to a malfunction or an accident.

Auxiliary burners must maintain the minimum temperature during the closing process of incineration, until no material is left in the combustion burner.

Table C7.T1 European Waste Catalog

Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
01	**WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, PROCESSING AND FURTHER PHYSICAL AND CHEMICAL TREATMENT OF MINERALS AND QUARRY**	***ABFÄLLE AUS DER EXPLORATION, DER GEWINNUNG UND DER NACH- BZW. WEITERVERARBEITUNG VON MINERALIEN SOWIE STEINEN UND ERDEN***			
01 01	**Wastes from mineral excavation**	***Abfälle aus dem Abbau von Mineralien***			
01 01 01	Waste from metallic mineral excavation	*Abfälle aus dem Abbau von metallhaltigen Mineralien*			
01 01 02	Waste from non-metallic mineral excavation	*Abfälle aus dem Abbau von nichtmetallhaltigen Mineralien*			
01 02	**Waste from mineral processing**	***Abfälle aus der Nachbearbeitung von Mineralien***			
01 02 01	Waste from the dressing of metallic minerals	*Abfälle aus der Nachbearbeitung von metallhaltigen Mineralien*			
01 02 02	Waste from the dressing of non-metallic minerals	*Abfälle aus der Nachbearbeitung von nichtmetallhaltigen Mineralien*			
01 03	**Waste from further physical and chemical processing of metallic minerals**	***Abfälle aus der physikalischen und chemischen Weiterverarbeitung von metallhaltigen Mineralien***			
01 03 01	Tailings	*Waschberge*			
01 03 02	Dusty and powdery waste	*Grob- und Feinstäube*			
01 03 03	Red mud from aluminum production	*Rotschlamm aus der Aluminiumherstellung*			
01 03 99	Waste not otherwise specified	*Abfälle a.n.g.*			

Table C7.T1 European Waste Catalog

Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
01 04	**Waste from further physical and chemical processing of non-metallic minerals**	***Abfälle aus der physikalischen und chemischen Verarbeitung von nichtmetallischen Mineralien***			
01 04 01	Waste gravel and crushed rocks	*Abfälle von Kies und Gesteinsbruch*			
01 04 02	Waste sand and clays	*Abfälle von Sand und Ton*			
01 04 03	Dusty and powdery waste	*Grob- und Feinstäube*			
01 04 04	Waste from potash and rock salt processing	*Abfälle aus der Verarbeitung von Kali- und Steinsalz*			
01 04 05	Waste from washing and cleaning of minerals	*Abfälle aus der Wäsche und Reinigung von Mineralien*			
01 04 06	Waste from stone cutting and sawing	*Abfälle aus Steinmetz- und Sägearbeiten*			
01 04 99	Waste not otherwise specified	*Abfälle a.n.g.*			
01 05	**Drilling mud and other drilling waste**	***Bohrschlämme und andere Bohrabfälle***			
01 05 01	Oil-containing drilling mud and waste	*Ölhaltige Bohrschlämme und -abfälle*			
01 05 02	Barium sulfate-containing drilling mud and waste	*Bariumsulfathaltige Bohrschlämme und -abfälle*			
01 05 03	Chloride-containing drilling mud and waste	*Chloridhaltige Bohrschlämme und -abfälle*			
01 05 04	Freshwater drilling mud and waste	*Schlämme und Abfälle aus Frischwasserbohrungen*			
01 05 99	Waste not otherwise specified	*Abfälle a.n.g.*			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
02	**WASTE FROM AGRICULTURAL, HORTICULTURAL, HUNTING, FISHING AND AQUACULTURAL PRIMARY PRODUCTION AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING, AND FISHING, FOOD PREPARATION AND PROCESSING**	***ABFÄLLE AUS DER LANDWIRTSCHAFT, DEM GARTENBAU, DER JAGD, FISCHEREI UND TEICHWIRTSCHAFT, HERSTELLUNG UND VERARBEITUNG VON NAHRUNGSMITTELN***			
02 01	**Primary production waste**	***Abfälle aus der Herstellung von Grundstoffen***			
02 01 01	Sludge from washing and cleaning	*Schlämme von Wasch- und Reinigungsvorgängen*			
02 01 02	Animal tissue waste	*Abfälle aus Tiergewebe*			
02 01 03	Plant tissue waste	*Abfälle aus Pflanzengeweben*			
02 01 04	Waste plastics (except packaging)	*Kunststoffabfälle (ohne Verpackungen)*			
02 01 05	Agrochemical waste	*Abfälle von Chemikalien für die Landwirtschaft*	X[3]		
02 01 06	Animal feces, urine and manure (including spoiled straw), effluent, collected separately and treated off site	*Tierfäkalien, Urin und Mist (einschließlich verdorbenes Stroh) Abwässer, getrennt gesammelt und extern behandelt,*			
02 01 07	Waste from forestry exploitation	*Abfälle aus der Forstwirtschaft*			
02 01 99	Waste not otherwise specified	*Abfälle a.n.g.*			
02 02	**Waste from the preparation and processing of meat, fish and other foods of animal origin**	***Abfälle aus der Zubereitung und Verarbeitung von Fleisch, Fisch und anderen Nahrungsmitteln tierischen Ursprungs***			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
02 02 01	Sludge from washing and cleaning	*Schlämme von Wasch- und Reinigungsvorgängen Abfallschlüssel*			
02 02 02	Animal tissue waste	*Abfälle aus Tiergewebe*			
02 02 03	Materials unsuitable for consumption or processing	*Für Verzehr oder Verarbeitung ungeeignete Stoffe*			
02 02 04	Sludge from on-site effluent treatment	*Schlämme aus der betriebseigenen Abwasserbehandlung*			V[4]
02 02 99	Waste not otherwise specified	*Abfälle a.n.g.*			
02 03	**Waste from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; canned food production; tobacco processing**	***Abfälle aus der Zubereitung und Verarbeitung von Obst, Gemüse, Getreide, Speiseölen, Kakao, Kaffee und Tabak; Konservenherstellung***			
02 03 01	Sludge from washing, cleaning, peeling, centrifuging and separation	*Schlämme aus Waschen, Reinigung, Schälen, Zentrifugieren und Abtrennen*			
02 03 02	Waste from preserving agents	*Abfälle von Konservierungsstoffen*			
02 03 03	Waste from solvent extraction	*Abfälle aus der Extraktion mit Lösemitteln*			
02 03 04	Materials unsuitable for consumption or processing	*Für Verzehr oder Verarbeitung ungeeignete Stoffe*			
02 03 05	Sludge from on-site effluent treatment	*Schlämme aus der betriebseigenen Abwasserbehandlung*			
02 03 99	Waste not otherwise specified	*Abfälle a.n.g.*			
02 04	**Waste from sugar processing**	***Abfälle aus der Zuckerherstellung***			

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			Part 1	Part 2	
02 04 01	Soil from cleaning and washing sugar beets	*Erde aus der Wäsche und Reinigung von Zuckerrüben*			
02 04 02	Off-specification calcium carbonate	*Nicht spezifikationsgerechter Calciumcarbonatschlamm*			
02 04 03	Sludge from on-site effluent treatment	*Schlämme aus der betriebseigenen Abwasserbehandlung*			
02 04 99	Waste not otherwise specified	*Abfälle a.n.g.*			
02 05	**Waste from the dairy products industry**	***Abfälle aus der Milchverarbeitung***			
02 05 01	Materials unsuitable for consumption or processing	*Für Verzehr oder Verarbeitung ungeeignete Stoffe*			
02 05 02	Sludge from on-site effluent treatment	*Schlämme aus der betriebseigenen Abwasserbehandlung*			
02 05 99	Waste not otherwise specified	*Abfälle a.n.g.*			
02 06	**Waste from the baking and confectionary industry**	***Abfälle aus der Herstellung von Back- und Süßwaren***			
02 06 01	Materials unsuitable for consumption or processing	*Für Verzehr oder Verarbeitung ungeeignete Stoffe*			
02 06 02	Waste from preserving agents	*Abfälle von Konservierungsstoffen*			
02 06 03	Sludge from on-site effluent treatment	*Schlämme aus der betriebseigenen Abwasserbehandlung*			
02 06 99	Waste not otherwise specified	*Abfälle a.n.g.*			
02 07	**Waste from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)**	***Abfälle aus der Herstellung von alkoholischen und alkoholfreien Getränken (ohne Kaffee, Tee und Kakao)***			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
02 07 01	Waste from washing, cleaning and mechanical reduction of raw materials	*Abfälle aus der Wäsche, Reinigung von mechanischen Zerkleinerungen des Rohmaterials*			
02 07 02	Waste from spirits distillation	*Abfälle aus der Destillation von Spirituosen*			
02 07 03	Waste from chemical treatment	*Abfälle aus der chemischen Behandlung*			
02 07 04	Materials unsuitable for consumption or processing	*Für Verzehr oder Verarbeitung ungeeignete Stoffe*			
02 07 05	Sludge from on-site effluent treatment	*Schlämme aus der betriebseigenen Abwasserbehandlung*			
02 07 99	Waste not otherwise specified	*Abfälle a.n.g.*			
03	**WASTE FROM WOOD PROCESSING AND THE PRODUCTION OF PAPER, CARDBOARD, PULP, PANELS, AND FURNITURE**	***ABFÄLLE AUS DER HOLZVERARBEITUNG UND DER HERSTELLUNG VON ZELLSTOFFEN, PAPIER, PAPPE, PLATTEN UND MÖBELN***			
03 01	**Waste from wood processing and the production of panels and furniture**	***Abfälle aus der Holzbearbeitung und der Herstellung von Platten und Möbeln***			
03 01 01	Waste bark and cork	*Rinden und Korkabfälle*			
03 01 02	Sawdust	*Sägemehl*			
03 01 03	Shavings, cuttings, spoiled timber, particle board/veneer	*Späne, Abschnitte, Verschnitt von Holz, Spanplatten und Furnieren*			
03 01 99	Waste not otherwise specified	*Andere Abfälle a.n.g.*			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
03 02	**Wood preservation waste**	***Abfälle aus der Holzkonservierung***			
03 02 01	Non-halogenated organic wood preservatives	*Halogenfreie organische Holzkonservierungsmittel*	X		
03 02 02	Organochlorine wood preservatives	*Chlororganische Holzkonservierungsmittel*	X		
03 02 03	Organometallic wood preservatives	*Metallorganische Holzkonservierungsmittel*	X		
03 02 04	Inorganic wood preservatives	*Anorganische Holzkonservierungsmittel*	X		
03 03	**Waste from pulp, paper and cardboard production and processing**	***Abfälle aus der Herstellung und Verarbeitung von Zellstoff, Papier und Pappe***			
03 03 01	Waste bark and wood	*Rinde*			
03 03 02	Dregs and green liquor sludge (from black liquor treatment recovery of cooling liquor)	*Bodensatz und Sulfitschlämme (aus der Behandlung von Sulfidablauge)*			
03 03 03	Bleaching sludge from hypochlorite and chlorine processes	*Bleichschlämme aus Hypochlorit- und Chlorbleiche*			
03 03 04	Bleaching sludge from other bleaching processes	*Bleichschlämme aus anderen Bleichprozessen*			
03 03 05	De-inking sludges from paper recycling	*Deinkingschlämme aus dem Papierrecycling*			V[4]
03 03 06	Fiber and paper sludge	*Faser- und Papierschlämme*			
03 03 07	Rejects from paper and cardboard recycling from mechanical separation	*Abfälle aus der Aufbereitung von Altpapier und gebrauchter Pappe*			

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			Part 1	Part 2	
03 03 99	Waste not otherwise specified	*Andere Abfälle a.n.g.*			
04	**WASTE FROM THE LEATHER AND TEXTILE INDUSTRIES**	***ABFÄLLE AUS DER LEDER- UND TEXTILINDUSTRIE***			
04 01	**Waste from the leather industry**	***Abfälle aus der Lederindustrie***			
04 01 01	Flesh and lime split waste	*Fleischabschabungen und Häuteabfälle*			
04 01 02	Liming waste	*Äschereiabfälle*			
04 01 03	Degreasing waste containing solvents without a liquid phase	*Entfettungsabfälle, lösemittelhaltig, ohne flüssige Phase*	X		
04 01 04	Tanning liquor containing chromium	*Chromhaltige Gerbbrühe*			V[4]
04 01 05	Tanning liquor free of chromium	*Chromfreie Gerbbrühe*			
04 01 06	Sludge, in particular from on-site effluent treatment, containing chromium	*Chromhaltige Schlämme*			V[4]
04 01 07	Sludge, in particular from on-site effluent treatment, free of chromium	*Chromfreie Schlämme*			
04 01 08	Waste tanned leather (blue sheetings, shavings, cuttings, buffing dust) containing chromium	*Chromhaltige Abfälle aus gegerbtem Leder (Abschnitte, Polierstaub usw.)*			
04 01 09	Waste from dressing and finishing	*Abfälle aus der Zurichtung und dem Finish*			
04 01 99	Waste not otherwise specified	*Abfälle a.n.g.*			

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			Part 1	Part 2	
04 02	**Waste from the textile industry**	***Abfälle aus der Textilindustrie***			
04 02 01	Waste from unprocessed textile fibers and other natural fibrous substances mainly of vegetable origin	*Abfälle aus unbehandelten Textilfasern und anderen Naturfasern, vorwiegend pflanzlichen Ursprungs*			
04 02 02	Waste from unprocessed textile fibers mainly of animal origin	*Abfälle aus unbehandelten Textilfasern, vorwiegend tierischen Ursprungs*			
04 02 03	Waste from unprocessed textile fibers mainly of artificial or synthetic origin	*Abfälle aus unbehandelten Textilfasern, vorwiegend künstlichen oder synthetischen Ursprungs*			
04 02 04	Waste from unprocessed mixed textile fibers before spinning and weaving	*Abfälle aus unbehandelten gemischten Textilfasern vor dem Spinnen*			
04 02 05	Waste from processed textile fibers mainly of vegetable origin	*Abfälle aus verarbeiteten Textilfasern, vorwiegend pflanzlichen Ursprungs*			
04 02 06	Waste from processed textile fibers mainly of animal origin	*Abfälle aus verarbeiteten Textilfasern, vorwiegend tierischen Ursprungs*			
04 02 07	Waste from processed textile fibers mainly of artificial or synthetic origin	*Abfälle aus verarbeiteten Textilfasern, vorwiegend künstlichen oder synthetischen Ursprungs*			
04 02 08	Waste from processed mixed textile fibers	*Abfälle aus verarbeiteten gemischten Textilfasern*			
04 02 09	Waste from composite materials (impregnated textile, elastomer, plastomer)	*Abfälle aus Verbundmaterialien (imprägnierte Textilien, Elastomer, Plastomer)*			

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			Part 1	Part 2	
04 02 10	Organic matter from natural products (e.g. grease, wax)	*Organische Stoffe aus Naturstoffen (z. B. Fette, Wachse)*			
04 02 11	Halogenated waste from dressing and finishing	*Halogenierte Abfälle aus der Zurichtung und dem Finish*	X		
04 02 12	Non-halogenated waste from dressing and finishing	*Halogenfreie Abfälle aus der Zurichtung und dem Finish*			
04 02 13	Dyes and pigments	*Farbstoffe und Pigmente*			V[4]
04 02 99	Waste not otherwise specified	*Abfälle a.n.g.*			
05	**WASTE FROM PETROLEUM REFINING, NATURAL GAS PURIFICATION AND PYROLYTIC TREATMENT OF COAL**	***ABFÄLLE AUS DER ÖLRAFFINATION, ERDGASREINIGUNG UND KOHLEPYROLYSE***			
05 01	**Oily sludge and solid waste from petroleum refining**	***Ölschlämme und feste Abfälle***			
05 01 01	Sludge from on-site effluent treatment	*Schlämme aus der betriebseigenen Abwasserbehandlung*			V[4]
05 01 02	Desalter sludge	*Entsalzungsschlämme*			
05 01 03	Tank bottom sludge	*Schlammige Tankrückstände*	X		
05 01 04	Acid alkyl sludge	*Saure Alkylschlämme*	X		
05 01 05	Oil spills	*Verschüttetes Öl*	X		
05 01 06	Oily sludge from plant, equipment, and maintenance operations of the plant or the equipment	*Schlämme aus Betriebsvorgängen und Instandhaltung*	X		

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			Part 1	Part 2	
05 01 07	Acid tars	*Säureteere*	X		
05 01 08	Other bituminous tars	*Andere Teere*	X		
05 01 99	Waste not otherwise specified	*Abfälle a.n.g.*			
05 02	**Non-oily sludge and solid waste**	***Nichtölige Schlämme und feste Abfälle***			
05 02 01	Boiler feedwater sludge	*Schlämme aus der Kesselwasseraufbereitung*			
05 02 02	Waste from cooling columns	*Abfälle aus Kühlkolonnen*			
05 02 99	Waste not otherwise specified	*Abfälle a.n.g.*			
05 03	**Spent catalysts**	***Verbrauchte Katalysatoren***			
05 03 01	Spent catalysts containing precious metals	*Verbrauchte Katalysatoren, edelmetallhaltig*			
05 03 02	Other spent catalysts	*Andere verbrauchte Katalysatoren*			V[4]
05 04	**Spent filter clays**	***Verbrauchte Filtertone***			
05 04 01	Spent filter clays	*Verbrauchte Filtertone*	X		
05 05	**Oil desulphurization waste**	***Abfälle aus der Ölentschwefelung***			
05 05 01	Waste containing sulphur	*Schwefelhaltige Abfälle*			V[4]

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			Part 1	Part 2	
05 05 99	Waste not otherwise specified	*Abfälle a.n.g.*			
05 06	**Waste from the pyrolytic treatment of coal**	***Abfälle aus der Kohlepyrolyse***			
05 06 01	Acid tars	*Säureteere*	X		
05 06 02	Asphalt	*Asphalt*			
05 06 03	Other tars	*Andere Teere*	X		
05 06 04	Waste from cooling columns	*Abfälle aus Kühlkolonnen*			
05 06 99	Waste not otherwise specified	*Abfälle a.n.g.*			
05 07	**Waste from natural gas purification**	***Abfälle aus der Erdgasreinigung***			
05 07 01	Sludge and filter cakes containing mercury	*Quecksilberhaltige Schlämme*	X		
05 07 02	Waste containing sulphur	*Schwefelhaltige Abfälle 05 07 99 Abfälle a.n.g.*			V
05 08	**Waste from oil regeneration**	***Abfälle aus der Altölaufbereitung***			
05 08 01	Spent filter clays	*Verbrauchte Filtertone*	X		
05 08 02	Acid tars	*Säureteere*	X		
05 08 03	Other tars	*Sonstige Teere*	X		

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			Part 1	Part 2	
05 08 04	Aqueous liquid waste from oil regeneration	*Wäßrige Flüssigabfälle aus der Altölaufbereitung*	X		
05 08 99	Waste not otherwise specified	*Abfälle a.n.g.*			
06	**WASTE FROM INORGANIC CHEMICAL PROCESSES**	***ABFÄLLE AUS ANORGANISCHEN CHEMISCHEN PROZESSEN***			
06 01	**Waste from the manufacture, formulation, supply, and use (MFSU) of acids/acidic solutions**	***Verbrauchte säurehaltige Lösungen (Säuren)***			
06 01 01	Sulfuric acid	*Schwefelsäure und schweflige Säure*	X		
06 01 02	Hydrochloric acid	*Salzsäure*	X		
06 01 03	Hydrofluoric acid	*Flußsäure*	X		
06 01 04	Phosphoric acid	*Phosphorsäure und phosphorige Säure*	X		
06 01 05	Nitric acid	*Salpetersäure und salpetrige Säure*	X		
06 01 99	Waste not otherwise specified	*Abfälle a.n.g.*	X		
06 02	**Waste from the MFSU of bases alkaline solutions**	***Verbrauchte basische Lösungen (Laugen)***			
06 02 01	Calcium hydroxide	*Calciumhydroxid*	X		
06 02 02	Soda (sodium bicarbonate)	*Natriumcarbonat*	X		

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			Part 1	Part 2	
06 02 03	Ammonia ammonium hydroxide	*Ammoniak*	X		
06 02 99	Waste not otherwise specified	*Abfälle a.n.g.*	X		
06 03	**Waste from the MFSU of salts and their solutions and metallic oxides**	***Verbrauchte Salze und ihre Lösungen***			
06 03 01	Carbonates (except 02 04 02 and 19 10 03)	*Carbonate (außer 02 04 02 und 19 10 03)*			V[4]
06 03 02	Saline solutions containing sulfates, sulfites, or sulfides	*Salzlösungen, die Sulfate, Sulfite oder Sulfide enthalten*			V[4]
06 03 03	Solid salts containing sulfates, sulfites, or sulfides	*Feste Salze, die Sulfate, Sulfite oder Sulfide enthalten*			V[4]
06 03 04	Saline solutions containing chlorides, fluorides and halides	*Salzlösungen, die Chloride, Fluoride und Halogenide enthalten*			V[4]
06 03 05	Solid salts containing chlorides, fluorides and other halogenated solid salts	*Feste Salze, die Chloride, Fluoride und andere Halogene enthalten*			V[4]
06 03 06	Saline solutions containing phosphates and related solid salts	*Salzlösungen, die Phosphate und verwandte feste Salze enthalten*			V[4]
06 03 07	Phosphates and related solid salts	*Phosphate und verwandte feste Salze*			V[4]
06 03 08	Saline solutions containing nitrates and related compounds	*Salzlösungen, die Nitrate und verwandte Verbindungen enthalten*			V[4]
06 03 09	Solid salts containing nitrides (nitrometallic)	*Feste Salze, die Nitride (Metallnitride) enthalten*			V[4]
06 03 10	Solid salts containing ammonium	*Feste Salze, die Ammonium enthalten*			V[4]

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			Part 1	Part 2	
06 03 11	Solid salts and solutions containing cyanides	*Salze und Lösungen, cyanidhaltig*	X		
06 03 12	Salts and solutions containing organic compounds	*Salze und Lösungen, die organische Bestandteile enthalten*			V[4]
06 03 99	Waste not otherwise specified	*Abfälle a.n.g.*			
06 04	**Metal-containing wastes**	***Metallhaltige Abfälle***			
06 04 01	Metallic oxides	*Metalloxide*			
06 04 02	Metallic salts (except 0603)	*Metallsalze (außer 06 03)*	X		
06 04 03	Waste containing arsenic	*Arsenhaltige Abfälle*	X		
06 04 04	Waste containing mercury	*Quecksilberhaltige Abfälle*	X		
06 04 05	Waste containing other heay metals	*Abfälle, die andere Schwermetalle enthalten*	X		
06 04 99	Waste not otherwise specified	*Abfälle a.n.g.*			
06 05	**Sludges from on-site waste water treatment**	***Schlämme aus der betriebseigenen Abwasserbehandlung***			
06 05 01	Sludges from on-site waste water treatment	*Schlämme aus der betriebseigenen Abwasserbehandlung*			V[4]
06 06	**Wastes from sulfur industry (production and transformation) and desulfurization processes**	***Abfälle aus Prozessen der Schwefelchemie (Herstellung und Umwandlung) und aus Entschwefelungsprozessen***			
06 06 01	Waste containing sulfur	*Schwefelhaltige Abfälle*			V[4]

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			Part 1	Part 2	
06 06 99	Waste not otherwise specified	*Abfälle a.n.g.*			
06 07	**Wastes from the halogen chemical processes**	***Abfälle aus der Halogenchemie***			
06 07 01	Waste containing asbestos from the electrolysis	*Asbesthaltige Abfälle aus der Elektrolyse*	X		
06 07 02	Activated carbon from chlorine production	*Aktivkohle aus der Chlorherstellung*	X		
06 07 99	Waste not otherwise specified	*Abfälle a.n.g.*			
06 08	**Waste from the production of silicon and silicon derivatives**	***Abfälle aus der Herstellung von Silizium und Siliziumverbindungen***			
06 08 01	Waste from the production of silicon and silicon derivatives	*Abfälle aus der Herstellung von Silizium und Siliziumverbindungen*			
06 09	**Wastes from phosphorus chemical processes**	***Abfälle aus der Phosphorchemie***			
06 09 01	Phosphogypsum	*Phosphorgips*			
06 09 02	Phosphorous slag	*phosphorhaltige Schlacke*			
06 09 99	Waste not otherwise specified	*Abfälle a.n.g.*			
06 10	**Waste from nitrogen chemical processes and fertiliser manufacture**	***Abfälle aus der Stickstoffchemie und Herstellung von Düngemitteln***			

Table C7.T1 European Waste Catalog

Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
06 10 01	Waste from nitrogen chemical process and fertiliser manufacture	*Abfälle aus der Stickstoffchemie und Herstellung von Düngemitteln*			
06 11	**Waste from the manufacture of inorganic pigments and opacificiers**	***Abfälle aus der Herstellung von anorganischen Pigmenten und Farbgebern***			
06 11 01	Gypsum from titanium dioxide production	*Gips aus der Titandioxidherstellung*			
06 11 99	Waste not otherwise specified	*Abfälle a.n.g.*			
06 12	**Waste from the manufacture, use and recycling of catalysts**	***Abfälle aus der Herstellung, Anwendung und Regeneration von Katalysatoren***			
06 12 01	Spent catalysts, containing precious metal	*Verbrauchte Katalysatoren, edelmetallhaltig*			
06 12 02	Other spent catalysts	*Andere verbrauchte Katalysatoren*			V[4]
06 13	**Wastes from other inorganic chemical processes**	***Abfälle aus anderen Prozessen der anorganischen Chemie***			
06 13 01	Inorganic pesticides, biocides, and wood preserving agents	*Anorganische Pestizide, Biozide und Holzschutzmittel*	X		
06 13 02	Spent activated carbon (except 06 07 02)	*Verbrauchte Aktivkohle (außer 06 07 02)*	X		
06 13 03	Carbon black	*Ruß*			
06 13 99	Waste not otherwise specified	*Abfälle a.n.g.*			V[4]
07	**WASTE FROM ORGANIC CHEMICAL PROCESSES**	***ABFÄLLE AUS ORGANISCHEN CHEMISCHEN PROZESSEN***			

Table C7.T1 European Waste Catalog

Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
07 01	**Waste from the manufacture, formulation, supply, and use (MFSU) of basic organic chemicals**	***Abfälle aus Herstellung, Zubereitung, Vertrieb und Anwendung (HZVA) organischer Grundchemikalien***			
07 01 01	Aqueous washing liquids and mother alkalines	*Wäßrige Waschflüssigkeiten und Mutterlaugen*	X		
07 01 02	Sludge from on-site effluent treatment	*Schlämme aus der betriebseigenen Abwasserbehandlung*			V[4]
07 01 03	Organic halogenated solvents, washing liquids and mother alkalines	*Organische halogenierte Lösemittel ,Waschflüssigkeiten und Mutterlaugen*	X		
07 01 04	Other organic solvents, washing liquids and mother alkalines	*Andere organische Lösemittel, Waschflüssigkeiten und Mutterlaugen*	X		
07 01 05	Spent catalysts containing precious metals	*Verbrauchte Katalysatoren, edelmetallhaltig*			
07 01 06	Other spent catalysts	*Andere verbrauchte Katalysatoren*			V
07 01 07	Halogenated still bottoms and reaction residues	*Halogenierte Reaktions- und Destillationsrückstände*	X		
07 01 08	Other still bottoms and reaction residues	*Andere Reaktions- und Destillationsrückstände*	X		
07 01 09	Halogenated filter cakes, spent absorbents	*Halogenierte Filterkuchen, verbrauchte Aufsaugmaterialien*	X		
07 01 10	Other filter cakes, spent absorbents	*Andere Filterkuchen, verbrauchte Aufsaugmaterialien*	X		
07 01 99	Waste not otherwise specified	*Abfälle a.n.g.*			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
07 02	**Waste from the manufacture, formulation, supply, and use (MFSU) of plastics, synthetic rubber and man-made fibres**	***Abfälle aus Herstellung, Zubereitung, Vertrieb und Anwendung (HZVA) von Kunststoffen, synthetischen Gummi- und Kunstfasern***			
07 02 01	Aqueous washing liquids and mother alkalines	*Wäßrige Waschflüssigkeiten und Mutterlaugen*	X		
07 02 02	Sludge from on-site effluent treatment	*Schlämme aus der betriebseigenen Abwasserbehandlung*			V
07 02 03	Organic halogenated solvents, washing liquids and mother alkalines	*Organische halogenierte Lösemittel, Waschflüssigkeiten und Mutterlaugen*	X		
07 02 04	Other organic solvents, washing liquids and mother alkalines	*andere organische Lösemittel, Waschflüssigkeiten und Mutterlaugen*	X		
07 02 05	Spent catalysts containing precious metals	*Verbrauchte Katalysatoren, edelmetallhaltig*			
07 02 06	Other spent catalysts	*Andere verbrauchte Katalysatoren*			V
07 02 07	Halogenated still bottoms and reaction residues	*Halogenierte Reaktions- und Destillationsrückstände*	X		
07 02 08	Other still bottoms and reaction residues	*Andere Reaktions- und Destillationsrückstände*	X		
07 02 09	Halogenated filter cakes, spent absorbents	*Halogenierte Filterkuchen, verbrauchte Aufsaugmaterialien*	X		
07 02 10	Other filter cakes, spent absorbents	*Andere Filterkuchen, verbrauchte Aufsaugmaterialien*	X		
07 02 99	Waste not otherwise specified	*Abfälle a.n.g.*			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
07 03	**Waste from the manufacture, formulation, supply, and use (MFSU) of organic dyes and pigments (except 06 11)**	***Abfälle aus Herstellung, Zubereitung, Vertrieb und Anwendung (HZVA) von organischen Farbstoffen und Pigmenten (außer 06 11)***			
07 03 01	Aqueous washing liquids and mother alkalines	*Wäßrige Waschflüssigkeiten und Mutterlaugen*	X		
07 03 02	Sludge from on-site effluent treatment	*Schlämme aus der betriebseigenen Abwasserbehandlung*			V
07 03 03	Organic halogenated solvents, washing liquids and mother alkalines	*Organische halogenierte Lösemittel, Waschflüssigkeiten und Mutterlaugen*	X		
07 03 04	Other organic solvents, washing liquids and mother alkalines	*Andere organische Lösemittel, Waschflüssigkeiten und Mutterlaugen*	X		
07 03 05	Spent catalysts containing precious metals	*Verbrauchte Katalysatoren, edelmetallhaltig*			
07 03 06	Other spent catalysts	*Andere verbrauchte Katalysatoren*			V
07 03 07	Halogenated still bottoms and reaction residues	*Halogenierte Reaktions- und Destillationsrückstände*	X		
07 03 08	Other still bottoms and reaction residues	*Andere Reaktions- und Destillationsrückstände*	X		
07 03 09	Halogenated filter cakes, spent absorbents	*Halogenierte Filterkuchen, verbrauchte Aufsaugmaterialien*	X		
07 03 10	Other filter cakes, spent absorbents	*Andere Filterkuchen, verbrauchte Aufsaugmaterialien*	X		
07 03 99	Waste not otherwise specified	*Abfälle a.n.g.*			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
07 04	**Waste from the manufacture, formulation, supply, and use (MFSU) of organic pesticides (except 02 01 05)**	***Abfälle aus Herstellung, Zubereitung, Vertrieb und Anwendung (HZVA) von organischen Pestiziden (außer 02 01 05)***			
07 04 01	Aqueous washing liquids and mother alkalines	*Wäßrige Waschflüssigkeiten und Mutterlaugen*	X		
07 04 02	Sludge from on-site effluent treatment	*Schlämme aus der betriebseigenen Abwasserbehandlung*			V
07 04 03	Organic halogenated solvents, washing liquids and mother alkalines	*Organische halogenierte Lösemittel, Waschflüssigkeiten und Mutterlaugen*	X		
07 04 04	Other organic solvents, washing liquids and mother alkalines	*Andere organische Lösemittel, Waschflüssigkeiten und Mutterlaugen*	X		
07 04 05	Spent catalysts containing precious metals	*Verbrauchte Katalysatoren, edelmetallhaltig*			
07 04 06	Other spent catalysts	*Andere verbrauchte Katalysatoren*			V
07 04 07	Halogenated still bottoms and reaction residues	*Halogenierte Reaktions- und Destillationsrückstände*	X		
07 04 08	Other still bottoms and reaction residues	*Andere Reaktions- und Destillationsrückstände*	X		
07 04 09	Halogenated filter cakes, spent absorbents	*Halogenierte Filterkuchen, verbrauchte Aufsaugmaterialien*	X		
07 04 10	Other filter cakes, spent absorbents	*Andere Filterkuchen, verbrauchte Aufsaugmaterialien*	X		
07 04 99	Waste not otherwise specified	*Abfälle a.n.g.*			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
07 05	**Waste from the manufacture, formulation, supply, and use (MFSU) of pharmaceuticals**	***Abfälle aus Herstellung, Zubereitung, Vertrieb und Anwendung (HZVA) von Pharmazeutika***			
07 05 01	Aqueous washing liquids and mother alkalines	*Wäßrige Waschflüssigkeiten und Mutterlaugen*	X		
07 05 02	Sludge from on-site effluent treatment	*Schlämme aus der betriebseigenen Abwasserbehandlung*			V
07 05 03	Organic halogenated solvents, washing liquids and mother liquors	*Organische halogenierte Lösemittel, Waschflüssigkeiten und Mutterlaugen*	X		
07 05 04	Other organic solvents, washing liquids and mother alkalines	*Andere organische Lösemittel, Waschflüssigkeiten und Mutterlaugen*	X		
07 05 05	Spent catalysts containing precious metals	*Verbrauchte Katalysatoren, edelmetallhaltig*			
07 05 06	Other spent catalysts	*Verbrauchte Katalysatoren*			V
07 05 07	Halogenated still bottoms and reaction residues	*Halogenierte Reaktions- und Destillationsrückstände*	X		
07 05 08	Other still bottoms and reaction residues	*Andere Reaktions- und Destillationsrückstände*	X		
07 05 09	Halogenated filter cakes, spent absorbents	*Halogenierte Filterkuchen, verbrauchte Aufsaugmaterialien*	X		
07 05 10	Other filter cakes, spent absorbents	*Andere Filterkuchen, verbrauchte Aufsaugmaterialien*	X		
07 05 99	Waste not otherwise specified	*Abfälle a.n.g.*			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
07 06	**Waste from the manufacture, formulation, supply, and use (MFSU) of fats, grease, soaps, detergents disinfectants and cosmetics**	***Abfälle aus Herstellung, Zubereitung, Vertrieb und Anwendung (HZVA) von Fetten, Schmiermitteln, Seifen, Waschmitteln, Desinfektionsmitteln und Körperpflegemitteln***			
07 06 01	Aqueous washing liquids and mother alkalines	*Wäßrige Waschflüssigkeiten und Mutterlaugen*	X		
07 06 02	Sludge from on-site effluent treatment	*Schlämme aus der betriebseigenen Abwasserbehandlung*			V
07 06 03	Organic halogenated solvents, washing liquids and mother alkalines	*Organische halogenierte Lösemittel, Waschflüssigkeiten und Mutterlaugen*	X		
07 06 04	Other organic solvents, washing liquids and mother alkalines	*Andere organische Lösemittel, Waschflüssigkeiten und Mutterlaugen*	X		
07 06 05	Spent catalysts containing precious metals	*Verbrauchte Katalysatoren, edelmetallhaltig*			
07 06 06	Other spent catalysts	*Andere verbrauchte Katalysatoren*			V
07 06 07	Halogenated still bottoms and reaction residues	*Halogenierte Reaktions- und Destillationsrückstände*	X		
07 06 08	Other still bottoms and reaction residues	*Andere Reaktions- und Destillationsrückstände*	X		
07 06 09	Halogenated filter cakes, spent absorbents	*Halogenierte Filterkuchen, verbrauchte Aufsaugmaterialien*	X		
07 06 10	Other filter cakes, spent absorbents	*Andere Filterkuchen, verbrauchte Aufsaugmaterialien*	X		
07 06 99	Waste not otherwise specified	*Abfälle a.n.g.*			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
07 07	**Waste from the manufacture, formulation, supply, and use (MFSU) of fine chemicals and chemical products not otherwise specified**	***Abfälle aus Herstellung, Zubereitung, Vertrieb und Anwendung (HZVA) von Feinchemikalien und Chemikalien a.n.g.***			
07 07 01	Aqueous washing liquids and mother alkalines	*Wäßrige Waschflüssigkeiten und Mutterlaugen*	X		
07 07 02	Sludge from on-site effluent treatment	*Schlämme aus der betriebseigenen Abwasserbehandlung*			V
07 07 03	Organic halogenated solvents, washing liquids and mother alkalines	*Organische halogenierte Lösemittel, Waschflüssigkeiten und Mutterlaugen*	X		
07 07 04	Other organic solvents, washing liquids and mother alkalines	*Andere organische Lösemittel, Waschflüssigkeiten und Mutterlaugen*	X		
07 07 05	Spent catalysts containing precious metals	*Verbrauchte Katalysatoren, edelmetallhaltig*			
07 07 06	Other spent catalysts	*Andere verbrauchte Katalysatoren*			V
07 07 07	Halogenated still bottoms and reaction residues	*Halogenierte Reaktions- und Destillationsrückstände*	X		
07 07 08	Other still bottoms and reaction residues	*Andere Reaktions- und Destillationsrückstände*	X		
07 07 09	Halogenated filter cakes, spent absorbents	*Halogenierte Filterkuchen, verbrauchte Aufsaugmaterialien*	X		
07 07 10	Other filter cakes, spent absorbents	*Andere Filterkuchen, verbrauchte Aufsaugmaterialien*	X		
07 07 99	Waste not otherwise specified	*Abfälle a.n.g.*			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
08	**WASTE FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS**	***ABFÄLLE AUS HERSTELLUNG, ZUBEREITUNG, VERTRIEB UND ANWENDUNG (HZVA) VON ÜBERZÜGEN (FARBEN, LACKEN, EMAIL), DICHTUNGSMASSEN UND DRUCKFARBEN***			
08 01	**Waste from the manufacture, formulation, supply, use (MFSU), and removal of paint and varnish**	***Abfälle aus Herstellung, Zubereitung, Vertrieb und Anwendung (HZVA) von Farben und Lacken***			
08 01 01	Waste paints and varnish, containing halogenated solvents	*Alte Farben und Lacke, die halogenierte Lösemittel enthalten*	X		
08 01 02	Waste paints and varnish, free of halogenated solvents	*Alte Farben und Lacke, die keine halogenierten Lösemittel enthalten*	X		
08 01 03	Waste from water-based paints and varnishes	*Abfälle von Farben und Lacken auf Wasserbasis*			
08 01 04	Powder paints	*Farben in Pulverform*			
08 01 05	Hardened paints and varnishes	*Ausgehärtete Farben und Lacke*			
08 01 06	Sludge from paint or varnish removal, containing halogenated solvents	*Schlämme aus der Farb- oder Lackentfernung, die halogenierte Lösemittel enthalten*	X		
08 01 07	Sludge from paint or varnish removal, free of halogenated solvents	*Schlämme aus der Farb- oder Lackentfernung, die keine halogenierten Lösemittel enthalten*	X		
08 01 08	Aqueous sludge containing paint or varnish	*Wäßrige Schlämme, die Farbe oder Lack enthalten*			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
08 01 09	Waste from paint or varnish removal (except 08 01 05 and 08 01 06)	*Abfälle aus der Farb- oder Lackentfernung (außer 08 01 05 und 08 01 06)*			
08 01 10	Aqueous suspensions containing paint or varnish	*Wäßrige Suspensionen, die Farbe oder Lack enthalten*			
08 01 99	Waste not otherwise specified	*Abfälle a.n.g.*			
08 02	**Waste from MFSU of other coatings (including ceramic materials)**	***Abfälle aus Herstellung, Zubereitung, Vertrieb und Anwendung (HZVA) anderer Überzüge (einschließlich keramischer Werkstoffe)***			
08 02 01	Waste coating powders	*Alte Überzugspuder*			
08 02 02	Aqueous sludge containing ceramic materials	*Wäßrige Schlämme, die keramische Werkstoffe enthalten*			
08 02 03	Aqueous suspensions containing ceramic materials	*Wäßrige Suspensionen, die keramische Werkstoffe enthalten*			
08 02 99	Waste not otherwise specified	*Abfälle a.n.g.*			
08 03	**Waste from MFSU of printing inks**	***Abfälle aus Herstellung, Zubereitung, Vertrieb und Anwendung (HZVA) von Druckfarben***			
08 03 01	Waste ink containing halogenated solvents	*Alte Druckfarben, die halogenierte Lösemittel enthalten*	X		
08 03 02	Waste ink containing non-halogenated solvents	*Alte Druckfarben, die keine halogenierten Lösemittel enthalten*	X		
08 03 03	Waste from water-based ink	*Abfälle von wassermischbaren Druckfarben*			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
08 03 04	Dried ink	*getrocknete Druckfarben*			
08 03 05	Ink sludge containing halogenated solvents	*Druckfarbenschlämme, die halogenierte Lösemittel enthalten*	X		
08 03 06	Ink sludge containing non-halogenated solvents	*Druckfarbenschlämme, die keine halogenierten Lösemittel enthalten*	X		
08 03 07	Aqueous sludge containing ink	*Wäßrige Schlämme, die Druckfarben enthalten*			V
08 03 08	Aqueous liquid waste containing ink	*Wäßrige flüssige Abfälle, die Durckfarben enthalten*			V
08 03 09	Waste printing toner (including cartridges)	*Verbrauchter Toner (einschließlich Kartuschen)*			
08 03 99	Waste not otherwise specified	*Abfälle a.n.g.*			
08 04	**Waste from MFSU of adhesives and sealants (including waterproofing products)**	***Abfälle aus Herstellung, Zubereitung, Vertrieb und Anwendung (HZVA) von Klebstoffen und Dichtungsmassen (einschließlich wasserabweisendem Material)***			
08 04 01	Waste adhesives and sealants containing halogenated solvents	*Alte Klebstoffe und Dichtungsmassen, die halogenierte Lösemittel enthalten*	X		
08 04 02	Waste adhesives and sealants free of halogenated solvents	*Alte Klebstoffe und Dichtungsmassen, die keine halogenierten Lösemittel enthalten*	X		
08 04 03	Waste from water-based adhesives and sealants	*Abfälle von wasssermischbaren Klebstoffen und Dichtungsmassen*			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
08 04 04	Hardened adhesives and sealants	*Ausgehärtete Klebstoffe und Dichtungsmassen*			
08 04 05	Adhesives and sealants sludge containing halogenated solvents	*Klebstoffe und Dichtungsmassen, die halogenierte Lösemittel enthalten*	X		
08 04 06	Adhesives and sealants sludge free of halogenated solvents	*Klebstoffe und Dichtungsmassen, die keine halogenierten Lösemittel enthalten*	X		
08 04 07	Aqueous sludge containing adhesives and sealants	*Wäßrige Schlämme, die Klebstoffe und Dichtungsmassen enthalten*			
08 04 08	Aqueous liquid waste containing adhesives and sealants	*Wäßrige flüssige Abfälle, die Klebstoffe und Dichtungsmassen enthalten*			
08 04 99	Waste not otherwise specified	*Abfälle a.n.g.*			
09	**WASTE FROM THE PHOTOGRAPHIC INDUSTRY**	***ABFÄLLE AUS DER PHOTOGRAPHISCHEN INDUSTRIE***			
09 01	Waste from the photographic industry	*Abfälle aus der photographischen Industrie*			
09 01 01	Water-based developer and activator solutions	*Entwickler und Aktivatoren auf Wasserbais*	X		
09 01 02	Water-based offset plate developer solutions	*Offsetplatten-Entwickler auf Wasserbasis*	X		
09 01 03	Solvent-based developer solutions	*Entwickler auf der Basis von Lösemitteln*	X		
09 01 04	Fixer solutions	*Fixierlösungen*	X		

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
09 01 05	Bleach solutions and bleach fixer solutions	*Bleichlösungen und Bleich-Fixier-Lösungen*	X		
09 01 06	Waste containing silver from on-site treatment of photographic waste	*Silberhaltige Abfälle aus der betriebseigenen Behandlung photographischer Abfälle*	X		
09 01 07	Photographic film and paper, containing silver or silver compounds	*Filme und photographische Papiere, die Silber oder Silberverbindungen enthalten*			
09 01 08	Photographic film and paper, free of silver or silver compounds	*Filme und photographische Papiere, die kein Silber und keine Silberverbindungen enthalten*			
09 01 09	Single-use cameras with batteries	*Einwegkameras mit Batterien*			
09 01 10	Single-use cameras without batteries	*Einwegkameras ohne Batterien*			
09 01 99	Waste not otherwise specified	*Abfälle a.n.g.*			
10	**INORGANIC WASTE FROM THERMAL PROCESSES**	***ANORGANISCHE ABFÄLLE AUS THERMISCHEN PROZESSEN***			
10 01	**Waste from power stations and other combustion plants (except 19)**	***Abfälle aus Kraftwerken und anderen Verbrennungsanlagen (außer 19)***			
10 01 01	Bottom ash	*Rost- und Kesselasche*			
10 01 02	Coal fly ash	*Flugasche aus Kohlefeuerung*			
10 01 03	Peat and (untreated) wood fly ash	*Flugasche aus Torffeuerung*			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
10 01 04	Oil fly ash	*Flugasche aus Ölfeuerung*	X		
10 01 05	Calcium-based reaction waste from flue gas desulphurization in solid form	*Reaktionsabfälle auf Kalziumbasis aus der Rauchgasentschwefelung in fester Form*			
10 01 06	Other solid waste from gas treatment	*Andere feste Abfälle aus der Gasreinigung*			
10 01 07	Calcium-based reaction waste from flue gas desulphurization in sludge form	*Reaktionsabfälle auf Kalziumbasis aus der Rauchgasentschwefelung in Form von Schlämmen*			
10 01 08	Other sludge from gas treatment	*Andere Schlämme aus der Gasreinigung*			
10 01 09	Sulphuric acid	*Schwefelsäure*	X		
10 01 10	Spent catalysts e.g. from removal of Nox	*Verbrauchte Katalysatoren, z. B. aus der NOx-Entfernung*			
10 01 11	Aqueous sludges from boiler cleansing	*Wäßrige Schlämme aus der Kesselreinigung*			
10 01 12	Spent linings and refractories	*Verbrauchte Auskleidungen und feuerfeste Materialien*			V
10 02	**Waste from the iron and steel industry**	***Abfälle aus der Eisen- und Stahlindustrie***			
10 02 01	Waste from the processing of slag	*Abfälle aus der Verarbeitung von Schlacke*			
10 02 02	Unprocessed slag	*Unverarbeitete Schlacke*			
10 02 03	Solid waste from gas treatment	*Feste Abfälle aus der Gasreinigung*			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
10 02 04	Sludge from gas treatment	*Schlämme aus der Gasreinigung*			
10 02 05	Other sludge	*Andere Schlämme*			
10 02 06	Spent linings and refractories	*Verbrauchte Auskleidungen und feuerfeste Materialien*			
10 02 99	Waste not otherwise specified	*Abfälle a.n.g.*			
10 03	**Waste from aluminium thermal metallurgy**	***Abfälle aus der thermischen Aluminiummetallurgie***			
10 03 01	Tars and other carbon-containing waste from anode manufacture	*Teere und andere kohlenstoffhaltige Abfälle aus der Anodenherstellung*	X		
10 03 02	Anode scraps	*Verbrauchte Anoden*			
10 03 03	Skimmings	*Krätzen*	X		
10 03 04	Primary smelting slags/white drosses	*Schlacken aus der Erstschmelze/weiße Krätze*	X		
10 03 05	Waste alumina dust	*Aluminiumstaub*			
10 03 06	Used carbon strips and fireproof materials from electrolysis	*Verbrauchter Kohlenstoff und feuerfeste Materialien aus der Elektrolyse*			
10 03 07	Spent pot linings	*Verbrauchte Tiegelauskleidungen*	X		
10 03 08	Salt slags from secondary smelting production	*Salzschlacken aus der Zweitschmelze*	X		

Table C7.T1 European Waste Catalog

Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
10 03 09	Black drosses from secondary smelting production	*Schwarze Krätzen aus der Zweitschmelze*	X		
10 03 10	Waste from treatment of salt slags and black drosses	*Abfälle aus der Behandlung von Salzschlacken und schwarzen Krätzen*	X		
10 03 11	Flue gas dust	*Feinstaub*			
10 03 12	Other particulates and dust (including ball mill dust)	*Andere Teilchen und Staub (einschließlich Kugelmühlenstaub)*			
10 03 13	Solid waste from gas treatment	*Feste Abfälle aus der Gasreinigung*		X	
10 03 14	Sludge from gas treatment	*Schlämme aus der Gasreinigung*			
10 03 99	Waste not otherwise specified	*Abfälle a.n.g.*			
10 04	**Waste from lead thermal metallurgy**	***Abfälle aus der thermischen Bleimetallurgie***			
10 04 01	Slags (1st and 2nd smelting) from primary and secondary production	*Schlacken (Erst- und Zweitschmelze)*	X		
10 04 02	Drosses and skimmings (1st and 2nd smelting) from primary and secondary production	*Krätzen und Abschaum (Erst- und Zweitschmelze)*	X		
10 04 03	Calcium arsenate	*Calciumarsenat*	X		
10 04 04	Flue gas dust	*Feinstaub*	X		
10 04 05	Other particulates and dust	*Andere Teilchen und Staub*	X		

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
10 04 06	Solid waste from gas treatment	*Feste Abfälle aus der Gasreinigung*	X		
10 04 07	Sludge and filter cakes from gas treatment	*Schlämme aus der Gasreinigung*	X		
10 04 08	Spent linings and refractories	*Verbrauchte Auskleidungen und feuerfeste Materialien*			V
10 04 99	Waste not otherwise specified	*Abfälle a.n.g.*			
10 05	**Waste from zinc thermal metallurgy**	***Abfälle aus der thermischen Zinkmetallurgie***			
10 05 01	Slags (1st and 2nd smelting) from primary and secondary production	*Schlacken (Erst- und Zweitschmelze)*	X		
10 05 02	Drosses and skimmings (1st and 2nd smelting) from primary and secondary production	*Krätzen und Abschaum (Erst- und Zweitschmelze)*	X		
10 05 03	Flue gas dust	*Feinstaub*	X		
10 05 04	Other particulates and dust	*Andere Teilchen und Staub*			
10 05 05	Solid waste from gas treatment	*Feste Abfälle aus der Gasreinigung*	X		
10 05 06	Sludge and filter cakes from gas treatment	*Schlämme aus der Gasreinigung*	X		
10 05 07	Spent linings and refractories	*Verbrauchte Auskleidungen und feuerfeste Materialien*			V
10 05 99	Waste not otherwise specified	*Abfälle a.n.g.*			

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			Part 1	Part 2	
10 06	**Waste from copper thermal metallurgy**	***Abfälle aus der thermischen Kupfermetallurgie***			
10 06 01	Slags (1st and 2nd smelting) from primary and secondary production	*Schlacken (Erst- und Zweitschmelze)*			
10 06 02	Drosses and skimmings (1st and 2nd smelting) from primary and secondary production	*Krätzen und Abschaum (Erst- und Zweitschmelze)*			
10 06 03	Flue gas dust	*Feinstaub*	X		
10 06 04	Other particulates and dust	*Andere Teilchen und Staub*			
10 06 05	Waste from electrolytic refining	*Abfälle aus der elektrolytischen Raffination*	X		
10 06 06	Solid waste from gas treatment	*Abfall aus der nassen Gasreinigung*	X		
10 06 07	Sludge and filter cakes from gas treatment	*Abfall aus der trockenen Gasreinigung*	X		
10 06 08	Spent linings and refractories	*Verbrauchte Auskleidungen und feuerfeste Materialien*			V
10 06 99	Waste not otherwise specified	*Abfälle a.n.g.*			
10 07	**Waste from silver, gold and platinum thermal metallurgy**	***Abfälle aus der thermischen Silber-, Gold- und Platinmetallurgie***			
10 07 01	Slags (1st and 2nd smelting) from primary and secondary production	*Schlacken (Erst- und Zweitschmelze)*			

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			Part 1	Part 2	
10 07 02	Drosses and skimmings (1st and 2nd smelting) from primary and secondary production	*Krätzen und Abschaum (Erst- und Zweitschmelze)*			
10 07 03	Solid waste from gas treatment	*Feste Abfälle aus der Gasreinigung*			
10 07 04	Other particulates and dust	*Andere Teilchen und Staub*			
10 07 05	Sludge and filter cakes from gas treatment	*Schlämme aus der Gasreinigung*			
10 07 06	Spent linings and refractories	*Verbrauchte Auskleidungen und feuerfeste Materialien*			
10 07 99	Waste not otherwise specified	*Abfälle a.n.g.*			
10 08	**Waste from other non-ferrous thermal metallurgy**	***Abfälle aus sonstiger thermischer Nichteisenmetallurgie***			
10 08 01	Slags (1st and 2nd smelting)	*Schlacken (Erst- und Zweitschmelze)*			
10 08 02	Drosses and skimmings (1st and 2nd smelting)	*Krätzen und Abschaum (Erst- und Zweitschmelze)*			
10 08 03	Flue gas dust	*Feinstaub*			
10 08 04	Other particulates and dust	*Andere Teilchen und Staub*			
10 08 05	Solid waste from gas treatment	*Feste Abfälle aus der Gasreinigung*			
10 08 06	Sludge from gas treatment	*Schlämme aus der Gasreinigung*			V
10 08 07	Spent linings and refractories	*Verbrauchte Auskleidungen und feuerfeste Materialien*			V

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
10 08 99	Waste not otherwise specified	*Abfälle a.n.g.*			
10 09	**Waste from casting of ferrous pieces**	***Abfälle vom Gießen von Eisen und Stahl***			
10 09 01	Casting cores and molds containing organic binders which have not undergone pouring	*Gießformen und -sande mit organischen Bindern vor dem Gießen*			V
10 09 02	Casting cores and molds containing organic binders which have undergone pouring	*Gießformen und -sande mit organischen Bindern nach dem Gießen*			V
10 09 03	Furnace slag	*Ofenschlacke*			
10 09 04	Furnace dust	*Ofenstaub*			V
10 09 99	Waste not otherwise specified	*Abfälle a.n.g.*			
10 10	**Waste from casting of non-ferrous pieces**	***Abfälle vom Gießen von Nichteisenmetallen***			
10 10 01	Casting cores and molds containing organic binders which have not undergone pouring	*Gießformen und -sande mit organischen Bindern vor dem Gießen*			V
10 10 02	Casting cores and molds containing organic binders which have undergone pouring	*Gießformen und -sande mit organischen Bindern nach dem Gießen*			V
10 10 03	Furnace slag	*Ofenschlacke*			
10 10 04	Furnace dust	*Ofenstaub*			V

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
10 10 99	Waste not otherwise specified	*Abfälle a.n.g.*			
10 11	**Waste from manufacture of glass and glass products**	***Abfälle aus der Herstellung von Glas und Glaserzeugnissen***			
10 11 01	Waste preparation mixture before thermal processing	*Verbrauchtes Gemenge vor der thermischen Verarbeitung*			
10 11 02	Waste glass	*Altglas*			
10 11 03	Waste glass-based fibrous materials	*Alte Glasfasermaterialien*			
10 11 04	Flue gas dust	*Feinstaub*			
10 11 05	Other particulates and dust	*Andere Teilchen und Staub*			
10 11 06	Solid waste from gas treatment	*Feste Abfälle aus der Gasreinigung*			
10 11 07	Sludge from gas treatment	*Schlämme aus der Gasreinigung*			
10 11 08	Spent linings and refractories	*Verbrauchte Auskleidungen und feuerfeste Materialien*			
10 11 99	Waste not otherwise specified	*Abfälle a.n.g.*			
10 12	**Waste from manufacture of ceramic goods, bricks, tiles and construction products**	***Abfälle aus der Herstellung von Keramikerzeugnissen, Ziegeln, Fliesen und Baustoffen***			
10 12 01	Waste preparation mixture before thermal processing	*Verbrauchtes Gemenge vor der thermischen Verarbeitung*			
10 12 02	Flue gas dust	*Feinstaub*			

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			Part 1	Part 2	
10 12 03	Other particulates and dust	*Andere Teilchen und Staub*			
10 12 04	Solid waste from gas treatment	*Feste Abfälle aus der Gasreinigung*			
10 12 05	Sludge and filter cakes from gas treatment	*Schlämme aus der Gasreinigung*			
10 12 06	Discarded molds	*Verworfene Formen*			
10 12 07	Spent linings and refractories	*Verbrauchte Auskleidungen und feuerfeste Materialien*			
10 12 99	Waste not otherwise specified	*Abfälle a.n.g.*			
10 13	**Waste from manufacture of cement, lime and plaster and articles and products made from them**	***Abfälle aus der Herstellung von Zement, Branntkalk, Gips und Erzeugnissen aus diesen***			
10 13 01	Waste preparation mixture before thermal processing	*Verworfenes Gemenge vor der thermischen Verarbeitung*			
10 13 02	Waste from asbestos-cement manufacture	*Abfälle aus der Herstellung von Asbestzement*			
10 13 03	Waste from other cement-based composite materials	*Abfälle aus der Herstellung anderer Verbundstoffe auf Zementbasis*			
10 13 04	Waste from calcination and hydration of lime	*Abfälle aus der Kalzinierung und Hydratisierung von Branntkalk*			
10 13 05	Solid waste from gas treatment	*Feste Abfälle aus der Gasreinigung*			
10 13 06	Other particulates and dust	*Andere Teilchen und Staub*			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
10 13 07	Sludge and filter cakes from treatment	*Schlämme aus der Gasreinigung*			
10 13 08	Spent linings and refractories	*Verbrauchte Auskleidungen und feuerfeste Materialien*			
10 13 99	Waste not otherwise specified	*Abfälle a.n.g.*			
11	**INORGANIC METAL-CONTAINING WASTE FROM METAL CHEMICAL SURFACE TREATMENT AND THE COATING OF METALS AND OTHER MATERIALS; NON-FERROUS HYDRO-METALLURGY**	***ANORGANISCHE METALLHALTIGE ABFÄLLE AUS DER METALLBEARBEITUNG UND -BESCHICHTUNG SOWIE AUS DER NICHTEISEN-HYDROMETALLURGIE***			
11 01	**Liquid waste and sludge from metal chemical surface treatment and coating of metals and other materials (eg. galvanic processes, zinc coating processes, pickling processes, etching, phosphating, alkaline degreasing, anodizing)**	***Flüssige Abfälle und Schlämme aus der Metallbearbeitung und beschichtung (z. B. Galvanik, Verzinkung, Beizen, Ätzen, Phosphatieren und alkalisches Entfetten)***			
11 01 01	Cyanidic (alkaline) waste containing heavy metals other than chromium	*Cyanidhaltige (alkalische) Abfälle mit Schwermetallen ohne Chrom*	X		
11 01 02	Cyanidic (alkaline) waste not containing heavy metals	*Cyanidhaltige (alkalische) Abfälle ohne Schwermetalle*	X		
11 01 03	Cyanide-free waste containing chromium	*Cyanidfreie Abfälle, die Chrom enthalten*	X		
11 01 04	Cyanide-free waste not containing chromium	*Cyanidfreie Abfälle, die kein Chrom enthalten*		X	
11 01 05	Acidic pickling/acid solutions	*Saure Beizlösungen Abfallschlüssel Abfallbezeichnung (Abfallart einschließlich Eigenschaften und Inhaltsstoffe)*	X		

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
11 01 06	Acids not otherwise specified	*Säuren a.n.g.*	X		
11 01 07	Alkalis, not otherwise specified	*Laugen a.n.g.*	X		
11 01 08	Phosphatizing sludges	*Phosphatierschlämme*	X		
11 01 99	Waste not otherwise specified	*Abfälle a.n.g.*			
11 02	**Waste and sludge from non-ferrous hydrometallurgical processes**	***Abfälle und Schlämme aus Prozessen der NichteisenHydrometallurgie***			
11 02 01	Sludge from copper hydrometallurgy	*Schlämme aus der Kupfer-Hydrometallurgie*			
11 02 02	Sludge from zinc hydrometallurgy (incl. jarosite, goethite)	*Schlämme aus der Zink-Hydrometallurgie (einschließlich Jarosit-, Goethitschlamm)*	X		
11 02 03	Waste from the production of anodes for aqueous electrolytical processes	*Abfälle aus der Herstellung von Anoden für wäßrige elektrolytische Prozesse*			
11 02 04	Sludge not otherwise specified	*Schlämme a.n.g.*			V
11 02 99	Waste not otherwise specified	*Abfälle a.n.g.*			
11 03	**Sludge and solids from tempering processes**	***Schlämme und Feststoffe aus Härteprozessen***			
11 03 01	Waste containing cyanide	*Cyanidhaltige Abfälle*	X		
11 03 02	Other waste	*Andere Abfälle*	X		

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			Part 1	Part 2	
11 04	**Other inorganic metal-containing waste not otherwise specified**	***Andere anorganische Abfälle mit Metallen a.n.g.***			
11 04 01	Other inorganic metal-containing waste not otherwise specified	*Andere anorganische Abfälle mit Metallen a.n.g.*			
12	**WASTE FROM SHAPING AND SURFACE TREATMENT OF METALS AND PLASTICS**	***ABFÄLLE AUS PROZESSEN DER MECHANISCHEN FORMGEBUNG UND OBERFLÄCHENBEARBEITUNG VON METALLEN, KERAMIK, GLAS UND KUNSTSTOFFEN***			
12 01	**Waste from shaping and surface treatment of metals and plastics (including forging, welding, pressing, drawing, turning, cutting and filing)**	***Abfälle aus der mechanischen Formgebung (Schmieden, Schweißen, Pressen, Ziehen, Drehen, Bohren, Schneiden, Sägen und Feilen)***			
12 01 01	Ferrous metal filings and turnings	*Eisenhaltige Späne und Abschnitte*			
12 01 02	Other ferrous metal dust and particles	*Andere eisenhaltige Teilchen*			
12 01 03	Non-ferrous metal filings and turnings	*NE-metallhaltige Späne und Abschnitte*			
12 01 04	Other non-ferrous metal dust and particles	*Andere NE-metallhaltige Teilchen*			
12 01 05	Plastics shavings and turnings particles	*Kunststoffteile*			
12 01 06	Waste mineral based machining oils containing halogens (except emulsions and solutions)	*Verbrauchte Bearbeitungsöle, halogenhaltig (keine Emulsionen)*	X		
12 01 07	Waste mineral based machining oils free of halogens (except emulsions and solutions)	*Verbrauchte Bearbeitungsöle, halogenfrei (keine Emulsionen)*	X		

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
12 01 08	Waste machining emulsions and solutions containing halogens	*Bearbeitungsemulsionen, halogenhaltig*	X		
12 01 09	Waste machining emulsions and solutions free of halogens	*Bearbeitungsemulsionen, halogenfrei*	X		
12 01 10	Synthetic machining oils	*Synthetische Bearbeitungsöle*	X		
12 01 11	Machining sludge	*Bearbeitungsschlämme*	X		
12 01 12	Spent waxes and fats	*Verbrauchte Wachse und Fette*	X		
12 01 13	Welding waste	*Preß- und Stanzabfälle*			
12 01 99	Waste not otherwise specified	*Abfälle a.n.g.*			
12 02	**Waste from mechanical surface treatment processes (blasting, grinding, honing, lapping, polishing)**	***Abfälle aus der mechanischen Oberflächenbehandlung (Sandstrahlen, Schleifen, Honen, Läppen, Polieren)***			
12 02 01	Spent blasting grit	*Verbrauchter Strahlsand*			V
12 02 02	Sludge from grinding, honing and lapping	*Schleif-, Hon- und Läppschlämme*			V
12 02 03	Polishing sludge	*Polierschlämme*			V
12 02 99	Waste not otherwise specified	*Abfälle a.n.g.*			
12 03	**Waste from water and steam degreasing processes (except 11)**	***Abfälle aus der Wasser- und Dampfentfettung (außer 11)***			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
12 03 01	Aqueous washing liquids	*Wäßrige Waschflüssigkeiten*	X		
12 03 02	Steam degreasing waste	*Abfälle aus der Dampfentfettung*	X		
13	**OIL WASTE AND RESIDUES OF LIQUID FUELS (EXCEPT EDIBLE OILS, 05 AND 12)**	***ÖLABFÄLLE (AUßER SPEISEÖLE UND 05 UND 12)***			
13 01	**Waste hydraulic oils and brake fluids**	***Verbrauchte Hydrauliköle und Bremsflüssigkeiten***			
13 01 01	Hydraulic oils containing PCBs or PCTs	*Hydrauliköle, die PCB oder PCT enthalten*	X		
13 01 02	Other chlorinated hydraulic oils (except emulsions)	*Andere chlorierte Hydrauliköle (keine Emuslionen)*	X		
13 01 03	Non-chlorinated hydraulic oils (except emulsions)	*Nichtchlorierte Hydrauliköle (keine Emulsionen)*	**X**		
13 01 04	Chlorinated emulsions	*Chlorierte Emulsionen*	X		
13 01 05	Non-chlorinated emulsions	*Nichtchlorierte Emulsionen*	X		
13 01 06	Hydraulic oils containing only mineral oil	*Ausschließlich mineralische Hydrauliköle*	X		
13 01 07	Other hydraulic oils	*Andere Hydrauliköle*	X		
13 01 08	Brake fluids	*Bremsflüssigkeiten*	X		
13 02	**Waste engine, gear, & lubricating oils**	***Verbrauchte Maschinen-, Getriebe- und Schmieröle***			
13 02 01	Chlorinated engine, gear & lubricating oils	*Chlorierte Maschinen-, Getriebe- und Schmieröle*	X		

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
13 02 02	Non-chlorinated engine, gear & lubricating oils	*Nichtchlorierte Maschinen-, Getriebe- und Schmieröle*	X		
13 02 03	Other engine, gear & lubricating oils	*Andere Maschinen-, Getriebe- und Schmieröle*	X		
13 03	**Waste insulating and heat transmission oils and other liquids**	***Verbrauchte Isolier- und Wärmeübertragungsöle oder flüssigkeiten***			
13 03 01	Insulating or heat transmission oils and other liquids containing PCBs or PCTs	*Isolier- und Wärmeübertragungsöle oder –flüssigkeiten, die PCB oder PCT enthalten*	X		
13 03 02	Other chlorinated insulating and heat transmission oils and other liquids	*Andere chlorierte Isolier- und Wärmeübertragungsöle oder flüssigkeiten*	X		
13 03 03	Non-chlorinated insulating and heat transmission oils and other liquids	*Andere nichtchlorierte Isolier- und Wärmeübertragungsöle oder -flüssigkeiten*	X		
13 03 04	Synthetic insulating and heat transmission oils and other liquids	*Synthetische Isolier- und Wärmeübertragungsöle oder flüssigkeiten*	X		
13 03 05	Mineral insulating and heat transmission oils	*Mineralische Isolier- und Wärmeübertragungsöle*	X		
13 04	**Bilge oils**	***Bilgenöle***			
13 04 01	Bilge oils from inland navigation	*Bilgenöle aus der Binnenschiffahrt*	X		
13 04 02	Bilge oils from jetty sewers	*Bilgenöle aus Molenablaufkanälen*	X		
13 04 03	Bilge oils from other navigation	*Bilgenöle aus der übrigen Schiffahrt*	X		

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			Part 1	Part 2	
13 05	**Oil/water separator contents**	***Inhalte von Öl-/Wasserabscheidern***			
13 05 01	Solids from grit chambers and oil/water separators solids	*Feststoffe aus Öl-/Wasserabscheidern*	X		
13 05 02	Sludge from oil/water separators sludge	*Schlämme aus Öl-/Wasserabscheidern*	X		
13 05 03	Interceptor sludge	*Schlämme aus Einlaufschächten*	X		
13 05 04	Desalter sludge or emulsions	*Schlämme oder Emulsionen aus Entsalzern*	X		
13 05 05	Other emulsions	*Andere Emulsionen*	X		
13 06	**Oil waste not otherwise specified**	***Ölabfälle a.n.g.***			
13 06 01	Oil waste not otherwise specified	*Ölmischungen a.n.g.*	X		
14	**WASTE FROM ORGANIC SUBSTANCES USED AS SOLVENTS (EXCEPT 07 AND 08)**	***ABFÄLLE VON ALS LÖSEMITTEL VERWENDETEN ORGANISCHEN STOFFEN (AUßER 07 UND 08)***			
14 01	**Waste from metal degreasing and machinery maintenance**	***Abfälle aus der Metallentfettung und Maschinenwartung***			
14 01 01	Chlorofluorocarbons	*Fluorchlorkohlenwasserstoffe*	X		
14 01 02	Other halogenated solvents and solvent mixtures	*Andere halogenierte Lösemittel und Lösemittelgemische*	X		
14 01 03	Other solvents and solvent mixtures	*Andere Lösemittel und Lösemittelgemische*	X		
14 01 04	Aqueous solvent mixtures containing halogens	*Wäßrige halogenhaltige Lösemittelgemische*	X		

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
14 01 05	Aqueous solvent mixtures free of halogens	*Wäßrige halogenfreie Lösemittelgemische*	X		
14 01 06	Sludge or solid waste containing halogenated solvents	*Schlämme oder feste Abfälle, die halogenierte Lösemittel enthalten*	X		
14 01 07	Sludge or solid waste free of halogenated solvents	*Schlämme oder feste Abfälle, die keine halogenierten Lösemittel enthalten*	X		
14 02	**Waste from textile cleaning and degreasing of natural products**	***Abfälle aus der Textilreinigung und Entfettung von Naturstoffen***			
14 02 01	Halogenated solvents and solvent mixtures	*Halogenierte Lösemittel und Lösemittelgemische*	X		
14 02 02	Solvent mixtures or organic liquids free of halogenated solvents	*Lösemittelgemische oder organische Flüssigkeiten, die keine halogenierten Lösemittel enthalten*	X		
14 02 03	Sludge or solid waste containing halogenated solvents	*Schlämme oder feste Abfälle, die halogenierte Lösemittel enthalten*	X		
14 02 04	Sludge or solid waste containing other solvents	*Schlämme oder feste Abfälle, die andere Lösemittel enthalten*	X		
14 03	**Waste from the electronic industry**	***Abfälle aus der Elektronikindustrie***			
14 03 01	Chlorofluorocarbons	*Fluorchlorkohlenwasserstoffe*	X		
14 03 02	Other halogenated solvents	*Andere halogenierte Lösemittel*	X		

Table C7.T1 European Waste Catalog

Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
14 03 03	Solvents and solvent mixtures free of halogenated solvents	*Lösemittel und -gemische, die keine halogenierten Lösemittel enthalten*	X		
14 03 04	Sludge or solid waste containing halogenated solvents	*Schlämme oder feste Abfälle, die halogenierte Lösemittel enthalten*	X		
14 03 05	Sludge or solid waste containing other solvents	*Schlämme oder feste Abfälle, die andere Lösemittel enthalten*	X		
14 04	**Waste from coolants, foam/aerosol propellents**	***Abfälle von Kühlmitteln und Schaum- und Treibmitteln***			
14 04 01	Chlorofluorocarbons	*Fluorchlorkohlenwasserstoffe*	X		
14 04 02	Other halogenated solvents and solvent mixtures	*Andere halogenierte Lösemittel und -gemische*	X		
14 04 03	Other solvents and solvent mixtures	*Andere Lösemittel und -gemische*	X		
14 04 04	Sludge or solid waste containing halogenated solvents	*Schlämme oder feste Abfälle, die halogenierte Lösemittel enthalten*	X		
14 04 05	Sludge or solid waste containing other solvents	*Schlämme oder feste Abfälle, die andere Lösemittel enthalten*	X		
14 05	**Waste from solvent and coolant recovery (still bottoms)**	***Abfälle aus der Rückgewinnung von Löse- und Kühlmitteln (Destillationsrückstände)***			
14 05 01	Chlorofluorocarbons	*Fluorchlorkohlenwasserstoffe*	X		
14 05 02	Halogenated solvents and solvent mixtures	*Andere halogenierte Lösemittel und -gemische*	X		

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			Part 1	Part 2	
14 05 03	Other solvents and solvent mixtures	*Andere Lösemittel und -gemische*	X		
14 05 04	Sludge containing halogenated solvents	*Schlämme, die halogenierte Lösemittel enthalten*	X		
14 05 05	Sludge containing other solvents	*Schlämme, die andere Lösemittel enthalten*	X		
15	**WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED**	***VERPACKUNGEN, AUFSAUGMASSEN, WISCHTÜCHER, FILTERMATERIALIEN UND SCHUTZKLEIDUNG (A.N.G.)***			
15 01	**Packaging**	***Verpackungen***			
15 01 01	Paper and cardboard packaging	*Papier und Pappe*			
15 01 02	Plastic packaging	*Kunststoff*			
15 01 03	Wooden packaging	*Holz*			
15 01 04	Metallic packaging	*Metall*			
15 01 05	Composite packaging	*Verbundverpackung*			
15 01 06	Mixed packaging	*Gemischte Materialien*			
15 01 99 D1[5]	Polluted waste packaging material	*Verpackungen mit schädlichen Verunreinigungen*		X	

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
15 02	**Absorbents, filter materials, wiping cloths and protective clothing**	***Aufsaug- und Filtermaterialien, Wischtücher und Schutzkleidung***			
15 02 01	Absorbents, filter materials, wiping cloths, protective clothing	*Aufsaug- und Filtermaterialien, Wischtücher und Schutzkleidung*		X	
15 02 99 D1[5]	Polluted absorbents, filter materials, wiping cloths and protective clothing	*Aufsaug- und Filtermaterialien, Wischtücher und Schutzkleidung mit schädlichen Verunreinigungen*			
16	**WASTE NOT OTHERWISE SPECIFIED IN THE LIST**	***ABFÄLLE, DIE NICHT ANDERSWO IM KATALOG AUFGEFÜHRT SIND***			
16 01	**End-of-life vehicles and waste from dismantling of end-of-life vehicles and vehicle maintenance**	***Fahrzeugwracks***			
16 01 01	Catalysts, removed from vehicles, containing precious metals	*Aus Fahrzeugen ausgebaute Katalysatoren, die Edelmetalle enthalten*			
16 01 02	Other catalysts removed from vehicles	*Andere aus Fahrzeugen ausgebaute Katalysatoren*			
16 01 03	End-of-life tires	*Altreifen*			V
16 01 04	Discarded vehicles	*Aufgegebene Fahrzeuge*			
16 01 05	Light fraction from automobile shredding	*Schredderrückstände von Fahrzeugen*			V
16 01 99	Waste not otherwise specified	*Abfälle a. n. g.*			
16 02	**Discarded equipment and shredder residues**	***Gebrauchte Geräte und Schredderrückstände***			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
16 02 01	Transformers and capacitors containing PCBs or PCTs	*Transformatoren und Kondensatoren, die PCB oder PCT enthalten*	X		
16 02 02	Other discarded electronic equipment (e.g. printed circuit boards)	*Andere gebrauchte elektronische Geräte (z. B. gedruckte Schaltungen)*			
16 02 03	Equipment containing chlorofluorocarbons	*Geräte, die Fluorchlorkohlenwasserstoffe enthalten*			
16 02 04	Discarded equipment containing free asbestos	*Gebrauchte Geräte, freies Asbest enthaltend*			
16 02 05	Other discarded equipment	*Andere gebrauchte Geräte*			
16 02 06	Waste from the asbestos processing industry	*Abfälle aus der asbestverarbeitenden Industrie*			
16 02 07	Waste from the plastic convertor industry	*Abfälle aus der kunststoffverarbeitenden Industrie*			
16 02 08	Shredder residues	*Schredderabfälle*			V
16 03	**Off-specification batches**	***Fehlchargen***			
16 03 01	Inorganic off-specification batches	*Anorganische Fehlchargen*			
16 03 02	Organic off-specification batches	*Organische Fehlchargen*			
16 04	Waste explosives	*Verbrauchte Sprengstoffe*			
16 04 01	Waste ammunition	*Munition*	X		

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
16 04 02	Fireworks waste	*Feuerwerkskörper*	X		
16 04 03	Other waste explosives	*Andere verbrauchte Sprengstoffe*	X		
16 05	**Gases in pressure containers and discarded chemicals**	***Gase und Chemikalien in Behältern***			
16 05 01	Industrial gases in high pressure cylinders, LPG containers and industrial aerosol containers (including halons)	*Industriegase in Hochdruckgastanks, Flüssiggasbehälter und industrielle Aerosole (einschließlich Halone)*			
16 05 02	Other waste containing inorganic chemicals, e.g. lab chemicals not otherwise specified, fire extinguishing powders	*Andere Abfälle mit anorganischen Chemikalien, z. B. Laborchemikalien a. n. g., Feuerlöschpulver*		X	
16 05 03	Other waste containing organic chemicals, e.g. lab chemicals not otherwise specified	*aAndere Abfälle mit organischen Chemikalien, z. B. Laborchemikalien a. n. g.*		X	
16 06	**Batteries and accumulators**	***Batterien und Akkumulatoren***			
16 06 01	Lead batteries	*Bleibatterien*	X		
16 06 02	Ni-Cd batteries	*Ni-Cd-Batterien*	X		
16 06 03	Mercury- containing batteries	*Quecksilbertrockenzellen*	X		
16 06 04	Alkaline batteries (except 16 06 03)	*Alkalibatterien*			
16 06 05	Other batteries and accumulators	*Andere Batterien und Akkumulatoren*			
16 06 06	Electrolyte from batteries and accumulators	*Elektrolyte aus Batterien und Akkumulatoren*	X		

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
16 07	**Waste from transport and storage tank cleaning (except 05 and 12)**	***Abfälle aus der Reinigung von Transport- und Lagertanks (außer 05 und 12)***			
16 07 01	Waste from marine transport tank cleaning, containing chemicals	*Abfälle aus der Tankreinigung auf Seeschiffen, Chemikalien enthaltend*	X		
16 07 02	Waste from marine transport tank cleaning, containing oil	*Abfälle aus der Tankreinigung auf Seeschiffen, ölhaltig*	X		
16 07 03	Waste from railway and road transport tank cleaning, containing oil	*Abfälle aus der Reinigung von Eisenbahn- und Straßentransporttanks, ölhaltig*	X		
16 07 04	Waste from railway and road transport tank cleaning, containing chemicals	*Abfälle aus der Reinigung von Eisenbahn- und Straßentransporttanks, Chemikalien enthaltend*	X		
16 07 05	Waste from storage tank cleaning, containing chemicals	*Abfälle aus der Reinigung von Lagertanks, Chemikalien enthaltend*	X		
16 07 06	Waste from storage tank cleaning, containing oil	*Abfälle aus der Reinigung von Lagertanks, ölhaltig*	X		
16 07 07	Solid waste from ship cargoes	*Feste Abfälle von Schiffsladungen*			
16 07 99	Waste not otherwise specified	*Abfälle a.n.g.*		X	
17	**CONSTRUCTION AND DEMOLITION WASTE (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES ROAD CONSTRUCTION)**	***BAU- UND ABBRUCHABFÄLLE (EINSCHLIEßLICH STRAßENAUFBRUCH)***			

Table C7.T1 European Waste Catalog

Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
17 01	**Concrete, bricks, tiles and ceramics, and gypsum-based materials**	***Beton, Ziegel, Fliesen, Keramik und Materialien auf Gipsbasis***			
17 01 01	Concrete	*Beton*			V
17 01 02	Bricks	*Ziegel*			V
17 01 03	Tiles and ceramics	*Fliesen und Keramik*			V
17 01 04	Gypsum-based construction materials	*Baustoffe auf Gipsbasis*			V
17 01 05	Asbestos-based construction materials	*Baustoffe auf Asbestbasis*			
17 01 99 D1[5]	Polluted gypsum or asbestos-based concrete, bricks, tiles, ceramics, and construction materials	*Beton, Ziegel Fliesen, Keramik und Baustoffe auf Gips- oder Asbestbasis mit schädlichen Verunreinigungen*		X	
17 02	**Gypsum-based construction material**	***Holz, Glas und Kunststoff***			
17 02 01	Wood	*Holz*			
17 02 02	Glass	*Glas*			
17 02 03	Plastic	*Kunststoff*			
17 02 99 D1[5]	Polluted wood, glass and plastic	*Holz, Glas und Kunststoff mit schädlichen Verunreinigungen*		X	
17 03	**Asphalt bituminous mixtures, tar and tarred products**	***Asphalt, Teer und teerhaltige Produkte***			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
17 03 01	Asphalt bituminous mixtures containing tar	*Asphalt, teerhaltig*			V
17 03 02	Asphalt bituminous mixtures not containing tar	*Asphalt, teerfrei*			
17 03 03	Tar and tarred products	*Teer und teerhaltige Produkte*			V
17 04	**Metals (including their alloys)**	***Metalle (einschließlich Legierungen)***			
17 04 01	Copper, bronze, brass	*Kupfer, Bronze, Messing*			
17 04 02	Aluminium	*Aluminium*			
17 04 03	Lead	*Blei*			
17 04 04	Zinc	*Zink*			
17 04 05	Iron and steel	*Eisen und Stahl*			
17 04 06	Tin	*Zinn*			
17 04 07	Mixed metals	*Gemischte Metalle*			
17 04 08	Cables	*Kabel*			
17 05	**Soil and dredging spoil**	***Erde und Hafenaushub***			
17 05 01	Soil and stones	*Erde und Steine*			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
17 05 02	Dredging spoil	*Hafenaushub*			V
17 05 99 D1[5]	Soil (including excavated soil from contaminated sites), stones and dredging spoil	*Bodenaushub, Baggergut sowie Abfälle aus Bodenverunreinigungsanlagen mit schädlichen Verunreinigungen)*		X	
17 06	**Insulation material**	***Isoliermaterial***			
17 06 01	Insulation materials containing asbestos	*Isoliermaterial, das freies Asbest enthält*	X		
17 06 02	Other insulation materials	*Anderes Isoliermaterial*			
17 06 99 D1[5]	Other polluted insulation materials	*Anderes Isoliermaterial mit schädlichen Verunreinigungen*		X	
17 07	**Mixed construction and demolition waste**	***Gemischte Bau- und Abbruchabfälle***			
17 07 01	Mixed construction and demolition waste	*Gemischte Bau- und Abbruchabfälle*			V
18	**WASTE FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (EXCEPT KITCHEN AND RESTAURANT WASTES NOT ARISING FROM IMMEDIATE HEALTH CARE)**	***ABFÄLLE AUS DER ÄRZTLICHEN ODER TIERÄRZTLICHEN VERSORGUNG UND FORSCHUNG (OHNE KÜCHEN- UND RESTAURANTABFÄLLE, DIE NICHT AUS DER UNMITTELBAREN KRANKENPFLEGE STAMMEN)***			
18 01	**Waste from obstetric care, diagnosis, treatment or prevention of disease in humans**	***Abfälle aus Entbindungsstationen, Diagnose, Krankenbehandlung und Vorsorge beim Menschen***			
18 01 01	Sharps	*Spitze Gegenstände*			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
18 01 02	Body parts and organs, including blood bags and preserved blood	*Körperteile und Organe, einschließlich Blutbeutel und Blutkonserven*			
18 01 03	Waste collection and disposal which is subject to special requirements with regard to the prevention of infection	*Andere Abfälle, an deren Sammlung und Entsorgung aus infektionspräventiver Sicht besondere Anforderungen gestellt werden*	X		
18 01 04	Waste collection and disposal which is not subject to special requirements with regard to the prevention of infection (e.g. dressings, plaster casts, linen, disposable clothing, diapers)	*Abfälle, an deren Sammlung und Entsorgung aus infektionspräventiver Sicht keine besonderen Anforderungen gestellt werden (z. B. Wäsche, Gipsverbände, Einwegkleidung)*			
18 01 05	Discarded chemicals and medicines	*Gebrauchte Chemikalien und Medizinprodukte*			
18 01 05 D1[5]	Chemotheraphy drugs	*Zytostatische Mittel*		X	
18 02	**Waste from research, diagnosis, treatment or prevention of disease involving animals**	***Abfälle aus Forschung, Diagnose, Krankenbehandlung und Vorsorge bei Tieren***			
18 02 01	Sharps (except 18 02 02)	*Spitze Gegenstände*			
18 02 02	Waste collection and disposal which is subject to special requirements with regard to the prevention of infection	*Andere Abfälle, an deren Sammlung und Entsorgung aus infektionspräventiver Sicht besondere Anforderungen gestellt werden*	X		
18 02 03	Waste collection and disposal which is not subject to special requirements with regard to the prevention of infection	*Abfälle, an deren Sammlung und Entsorgung aus infektionspräventiver Sicht keine besonderen Anforderungen gestellt werden*			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
18 02 04	Discarded chemicals	*Gebrauchte Chemikalien*	X		
19	**WASTE FROM WASTE MANAGEMENT TREATMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE WATER INDUSTRY**	***ABFÄLLE AUS ABFALLBEHANDLUNGSANLAGEN, ÖFFENTLICHEN ABWASSERBEHANDLUNGSANLAGEN UND DER ÖFFENTLICHEN WASSERVERSORGUNG***			
19 01	**Waste from incineration or pyrolysis of waste**	***Abfälle aus der Verbrennung oder Pyrolyse von Siedlungs- und ähnlichen Abfällen aus Gewerbe, Industrie und Einrichtungen***			
19 01 01	Bottom ash and slag	*Rost- und Kesselaschen und Schlacken*			V
19 01 02	Ferrous materials removed from bottom ash	*Eisenhaltige Stoffe, aus der Rost- und Kesselasche ausgelesen*			
19 01 03	Fly ash	*Flugasche*	X		
19 01 04	Boiler dust	*Kesselstaub*	X		
19 01 05	Filter cake from gas treatment	*Filterkuchen aus der Gasreinigung*	X		
19 01 06	Aqueous liquid waste from gas treatment and other aqueous liquid waste	*Wäßrige flüssige Abfälle aus der Gasreinigung und andere wäßrige Abfälle*	X		
19 01 07	Solid waste from gas treatment	*Feste Abfälle aus der Gasreinigung*	X		
19 01 08	Pyrolysis waste	*Pyrolyseabfälle*		X	
19 01 09	Spent catalysts (e.g. from NOx removal)	*Verbrauchte Katalysatoren, z. B. aus der NOx-Wäsche*			V

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			Part 1	Part 2	
19 01 10	Spent activated carbon from flue gas treatment	*Verbrauchte Aktivkohle aus der Rauchgasreinigung*	X		
19 01 99	Waste not otherwise specified	*Abfälle a.n.g.*			
19 01 99 D1[5]	Fly ash from hazardous waste incinerator	*Flugasche aus der Sonderabfallverbrennung*		X	
19 01 99 D2	Slag from hazardous waste incinerator	*Schlacke aus der Sonderabfallverbrennung*		X	
19 02	**Waste from specific physical/chemical treatments of waste (e.g. dechromatation, decyanidation, neutralisation)**	***Abfälle von spezifischen physikalisch-chemischen Behandlungen industrieller Abfälle (z. B. Dechromatisierung, Cyanidentfernung, Neutralisation)***			
19 02 01	Metal hydroxide sludge and other sludge from metal insolubilization treatment	*Metallhydroxidschlämme und andere Schlämme aus der Metallfällung*	X		
19 02 02	Premixed waste for final disposal	*Vorgemischte Abfälle zur Ablagerung*			
19 02 04 D1[5]	Premixed waste for recycling or disposal, including at least one type of waste requiring special supervision	*Vorgemischte Abfälle zur Verwertung oder Beseitigung, die mindest einen besonders uberwachungsbedürftigen Abfall enthalten*			
19 03	**Stabilized/solidified waste**	***Stabilisierte und verfestigte Abfälle***			
19 03 01	Waste stabilized/solidified with hydraulic binders	*Abfälle, die mit hydraulischen Bindemitteln stabilisiert/verfestigt sind*			V

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
19 03 02	Waste stabilized/solidified with organic binders	*Abfälle, die mit organischen Bindemitteln stabilisiert/verfestigt sind*			V
19 03 03	Waste stabilized by biological treatment	*Abfälle, die durch biologische Behandlung stabilisiert sind*			V
19 04	**Vitrified waste and waste from vitrification**	***Verglaste Abfälle und Abfälle aus der Verglasung***			
19 04 01	Vitrified waste	*Verglaste Abfälle*			V
19 04 02	Fly ash and other flue gas treatment waste	*Flugasche und andere Abfälle aus der Gasreinigung*			
19 04 03	Non-vitrified solid phase	*Nicht verglaste Festphase*			
19 04 04	Aqueous liquid waste from vitrified waste tempering	*Wäßrige flüssige Abfälle aus dem Tempern*			
19 05	**Waste from aerobic treatment of solid waste**	***Abfälle aus der aerobischen Behandlung von festen Abfällen***			
19 05 01	Non-composted fraction of municipal and similar waste	*Nicht kompostierte Fraktion von Siedlungs- und ähnlichen Abfällen*			
19 05 02	Non-composted fraction of animal and vegetable waste	*Nicht kompostierte Fraktion von tierischen und pflanzlischen Abfällen*			
19 05 03	Off-specification compost	*Nicht spezifikationsgerechter Kompost*			
19 05 99	Waste not otherwise specified	*Abfälle a. n. g.*			
19 06	**Waste from anaerobic treatment of waste**	***Abfälle aus der anaeroben Behandlung von Abfällen***			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
19 06 01	Anaerobic treatment sludge of municipal and similar waste	*Schlämme aus der anaeroben Behandlung von Siedlungs- und ähnlichen Abfällen*			
19 06 02	Anaerobic treatment sludge of animal and vegetative waste	*Schlämme aus der anaeroben Behandlung von tierischen und pflanzlichen Abfällen*			
19 06 99	Waste not otherwise specified	*Abfälle a. n. g.*			
19 07	**Landfill leachate**	***Deponiesickerwasser***			
19 07 01	Landfill leachate	*Deponiesickerwasser*	X		
19 08	**Waste from wastewater treatment plants not otherwise specified**	***Abfälle aus Abwasserbehandlungsanlagen a.n.g.***			
19 08 01	Screenings	*Sieb- und Rechenrückstände*			V
19 08 02	Waste from desanding	*Abfälle aus Sandfängern*			V
19 08 03	Grease and oil mixtures from oil/water separation	*Fett- und Ölmischungen aus Ölabscheidern*	X		
19 08 04	Sludge from the treatment of industrial wastewater	*Schlämme aus der Behandlung von industriellem Abwasser*			V
19 08 05	Sludge from treatment of urban wastewater	*Schlämme aus der Behandlung von kommunalem Abwasser*			V
19 08 06	Saturated or spent ion exchange resins	*Gesättigte oder verbrauchte Ionenaustauscherharze*	X		

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
19 08 07	Solutions and sludge from regeneration of ion exchangers	*Lösungen und Schlämme aus der Regeneration von Ionenaustauschern*	X		
19 08 99	Waste not otherwise specified	*Abfälle a. n. g.*			
19 09	**Waste from the preparation of drinking water or water for industrial use**	***Abfälle aus der Zubereitung von Trinkwasser oder industriellem Brauchwasser***			
19 09 01	Solid waste from primary filtration and screenings	*Feste Abfälle aus der Erstfiltration und Siebgut*			
19 09 02	Sludge from water clarification	*Schlämme aus der Wasserklärung*			
19 09 03	Sludge from decarbonation	*Schlämme aus der Dekarbonatisierung*			
19 09 04	Spent activated carbon	*Verbrauchte Aktivkohle*			
19 09 05	Saturated or spent ion exchange resins	*Gesättigte oder verbrauchte Ionenaustauscherharze*			
19 09 06	Solutions and sludge from regeneration of ion exchangers	*Lösungen und Schlämme aus der Regeneration von Ionenaustauschern*			
19 09 99	Waste not otherwise specified	*Abfälle a. n. g.*			
20	**MUNICIPAL WASTE (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTE) INCLUDING SEPARATELY COLLECTED FRACTIONS**	***SIEDLUNGSABFÄLLE UND ÄHNLICHE GEWERBLICHE UND INDUSTRIELLE ABFÄLLE SOWIE ABFÄLLE AUS EINRICHTUNGEN, EINSCHLIEßLICH GETRENNT GESAMMELTER FRAKTIONEN***			

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Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
20 01	**Separately collected fractions (except 15 01)**	***Getrennt gesammelte Fraktionen***			
20 01 01	Paper and cardboard	*Papier und Pappe*			
20 01 02	Glass	*Glas*			
20 01 03	Small plastics	*Kunststoffkleinteile*			
20 01 04	Other plastics	*Andere Metalle*			
20 01 05	Small metals (cans, etc.)	*Kleinmetall (Getränkedosen usw.)*			
20 01 06	Other metals	*Andere Kunststoffe*			
20 01 07	Wood	*Holz*			
20 01 08	Organic, biodegradable kitchen waste	*Organische, kompostierbare Küchenabfälle, getrennt eingesammelte Fraktionen (einschließlich Frittieröl und Küchenabfällen aus Kantinen)*			
20 01 09	Oil and fat	*Öle und Fette*			
20 01 10	Clothes	*Bekleidung*			
20 01 11	Textiles	*Textilien*			
20 01 12	Paints, inks, adhesives and resins	*Farben, Druckfarben, Klebstoffe und Kunstharze*	X		

Table C7.T1 European Waste Catalog

Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
20 01 13	Solvents	*Lösemittel*	X		
20 01 14	Acids	*Säuren*		X	
20 01 15	Alkalines	*Laugen*		X	
20 01 16	Detergents	*Waschmittel*			
20 01 17	Photochemicals	*Photochemikalien*	X		
20 01 18	Medicines	*Medikamente*			
20 01 19	Pesticides	*Pestizide*	X		
20 01 20	Batteries	*Batterien*			V
20 01 21	Fluorescent tubes and other mercury-containing waste	*Leuchtstoffröhren und andere quecksilberhaltige Abfälle*	X		
20 01 22	Aerosols	*Aerosole*			
20 01 23	Discarded equipment containing chlorofluorocarbons	*Geräte, die Fluorchlorkohlenwasserstoffe enthalten*			
20 01 24	Electronic equipment (e.g. printed circuit boards)	*Elektronische Geräte (z. B. gedruckte Schaltungen)*			
20 02	**Garden and park waste (including cemetery waste)**	***Garten- und Parkabfälle (einschließlich Friedhofsabfällen)***			
20 02 01	Compostable biodegradable waste	*Kompostierbare Abfälle*			

Table C7.T1 European Waste Catalog

Waste Key #	Waste Name Type of waste including characteristics and composition	*Abfallbezeichnung* *Abfallart einschließlich Eigenschaften und Inhaltsstoffe*	Waste, requiring special supervision[1]		Waste, requiring supervision[2]
			Part 1	Part 2	
20 02 02	Soil and stones	*Erde und Steine*			
20 02 03	Other non-compostable non-biodegradable waste	*Andere nicht kompostierbare Abfälle*			
20 03	**Other municipal waste**	***Andere Siedlungsabfälle***			
20 03 01	Other mixed municipal waste including mixed municipal waste	*Gemischte Siedlungsabfälle*			V
20 03 02	Waste from markets	*Marktabfälle*			
20 03 03	Street cleaning residues	*Straßenreinigungsabfälle*			
20 03 04	Septic tank sludge	*Versitzgrubenschlamm*			
20 03 05	End of life vehicles	*Fahrzeugwracks*			

Notes:

1. Based on the attachment of the Ordinance for waste requiring special supervision *(Bestimmungsverordnung besonders überwachungsbedürftiger Abfälle zur Verwertung, BestbüAbfV)*
2. Based on the attachment of the Ordinance for waste requiring supervision *(Bestimmungsverordnung überwachungsbedürftiger Abfälle zur Verwertung, BestüAbfV)*
3. An X indicates that the waste type is listed in the appendix Part 1 or 2 of the *BestbüAbfV* and is waste requiring special supervision
4. An V indicates that the waste type is listed in the appendix of the *BestüAbfV* and is waste requiring supervision
5. An D1 indicates that these are waste types added to the European waste catalogue by German legislation *(EAKV)*

Table C7.T2 Categories of Waste

Q1 Production or consumption residues not otherwise specified below
Q2 Off-specification products
Q3 Products whose date for appropriate use has expired
Q4 Materials spilled, lost or having undergone other mishap, including any materials, equipment, etc., contaminated as a result of the mishap
Q5 Materials contaminated or soiled as a result of planned actions (e.g. residues from cleaning operations, packing materials, containers, etc.)
Q6 Unusable parts (e.g. rejected batteries, exhausted catalysts, etc.)
Q7 Substances which no longer perform satisfactorily (e.g. contaminated acids, contaminated solvents, exhausted tempering salts, etc.)
Q8 Residues of industrial processes (e.g. slags, still bottoms, etc.)
Q9 Residues from pollution abatement processes (e.g. scrubber sludges, baghouse dusts, spent filters, etc.)
Q10 Machining/finishing residues (e.g. lathe turnings, mill scales, etc.)
Q11 Residues from raw materials extraction and processing (e.g. mining residues, oil field slops, etc.)
Q12 Adulterated materials (e.g. oils contaminated with PCBs, etc.)
Q13 Any materials, substances or products whose use has been banned by law
Q14 Products for which the holder has no further use (e.g. agricultural, household, office, commercial and shop discards, etc.)
Q15 Contaminated materials, substances or products resulting from remedial action with respect to land
Q16 Any materials, substances or products which are not contained in the above categories.

Table C7.T3 Recycling Operations [1]

R 1 Use principally as a fuel or other means to generate energy
R 2 Solvent reclamation/regeneration
R 3 Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)
R 4 Recycling/reclamation of metals and metal compounds
R 5 Recycling/reclamation of other inorganic materials
R 6 Regeneration of acids or bases
R 7 Recovery of components used for pollution abatement
R 8 Recovery of components from catalysts
R 9 Oil re-refining or other reuses of oil
R 10 Land treatment resulting in benefit to agriculture or ecological improvement
R 11 Use of wastes obtained from any of the operations numbered R 1 to R 10
R 12 Exchange of wastes for submission to any of the operations numbered R 1 to R 11
R 13 Storage of wastes pending any of the operations numbered R 1 to R 12 (excluding temporary storage, pending collection, and on the site where it is produced)
Notes:
1. List of recovery operations as they occur in practice. Waste must be recycled without endangering human health and without the use of processes or methods likely to harm the environment.

Table C7.T4 Disposal Operations [1]

D 1 Deposit into or onto land (e.g. landfill, etc.)
D 2 Land treatment (e.g. biodegradation of liquid or sludgy discards in soils, etc.)
D 3 Deep injection (e.g. injection of pumpable discards into wells, salt domes or naturally occurring repositories, etc.)
D 4 Surface impoundment (e.g. placement of liquid or sludgy discards into pits, ponds or lagoons, etc.)
D 5 Specially engineered landfill (e.g. placement into lined discrete cells, which are capped and isolated from one another and the environment, etc.)
D 6 Release into a water body, except seas/oceans
D 7 Release into seas/oceans, including sea-bed insertion
D 8 Biological treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12
D 9 Physical and/or chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)
D 10 Incineration on land
D 11 Incineration at sea
D 12 Permanent storage (e.g. emplacement of containers in a mine, etc.)
D 13 Blending or mixing prior to application of any of the operations numbered D 1 to D 12
D 14 Reconditioning prior to application of any of the operations numbered D 1 to D 13
D 15 Storage pending any of the operations numbered D 1 to D 14 (excluding temporary storage pending collection at the site of origin)
Notes:
1. This Annex is intended to list disposal operations such as they occur in practice. Waste must be disposed of without endangering human health and without the use of processes or methods likely to harm the environment.

Table C7.T5 Allocation Criteria for Class I and II Landfill Sites

No. (Nr.)	Parameter (Parameter)	Allocation Criteria *(Zuordnungskriterien)*	
		Disposal Site Class I (Klasse I)	Disposal Site Class II (Klasse II)
1	**Stability *(Festigkeit)*** [1]		
1.01	Vane sheer strength (Flügelscherfestigkeit)	≥ 25 kN/m^2	≥ 25 kN/m^2
1.02	Axial deformation *(Axiale Verfromung)*	≤ 20%	≤ 20%
1.03	One-axial crushing strength *(Einaxiale Druckfestigkeit)*	≥ 50 kN/m^2	≥ 50 kN/m^2
2	**Organic share of the dry weight residual of the original substance *(Organischer Anteil des Trockenrückstandes der Originalsubstanz)*** [2]		
2.01	Detected as ignition loss *(bestimmt als Glühverlust)*	≤ 3 mass-%	≤ 5 mass-%[3)]
2.02	Detected as TOC *(bestimmt als TOC)*	≤ 1 mass-%	≤ 3 mass-%
3	**Extractable lipophilic original substance *(Extrahierbare lipophile Stoffe der Originalsubstanz)***	≤ 0,4 mass-%	≤ 0,8 mass-%
4	**Leachate criteria *(Eluatkriterien)***		
4.01	pH Value (*pH-Wert)*	5,5 - 13,0	5,5 – 13,0
4.02	Electrical Conductivity *(Elektrische Leitfähigkeit)*	≤ 10000 µS/cm	≤ 50000 µS/cm
4.03	TOC *(TOC)*	≤ 20 mg/l	≤ 100 mg/l
4.04	Phenol *(Phenol)*	≤ 0,2 mg/l	≤ 50 mg/l
4.05	Arsenic *(Arsen)*	≤ 0,2 mg/l	≤ 0,5 mg/l
4.06	Lead *(Blei)*	≤ 0,2 mg/l	≤ 1 mg/l
4.07	Cadmium *(Cadmium)*	≤ 0,05 mg/l	≤ 0,1 mg/l

Table C7.T5 Allocation Criteria for Class I and II Landfill Sites

No. (Nr.)	Parameter (Parameter)	Allocation Criteria *(Zuordnungskriterien)*	
4.08	Chromium-VI *(Chrom-VI)*	≤ 0,05 mg/l	≤ 0,1 mg/l
4.09	Copper *(Kupfer)*	≤ 1 mg/l	≤ 5 mg/l
4.10	Nickel *(Nickel)*	≤ 0,2 mg/l	≤ 1 mg/l
4.11	Mercury *(Quecksilber)*	≤ 0,005 mg/l	≤ 0,02 mg/l
4.12	Zinc *(Zink)*	≤ 2 mg/l	≤ 5 mg/l
4.13	Fluoride *(Fluorid)*	≤ 5 mg/l	≤ 25 mg/l
4.14	Ammonium-N *(Ammonium-N)*	≤ 4 mg/l	≤ 200 mg/l
4.15	Cyanide, easily released *(Cyanide, leicht freisetzbar)*	≤ 0,1 mg/l	≤ 0,5 mg/l
4.16	AOX *(AOX)*	≤ 0,3 mg/l	≤ 1,5 mg/l
4.17	Water soluble portion, solid residue from evaporation *(wasserlöslicher Anteil, Abdampfrückstand)*	≤ 3 mass-%	≤ 6 mass-%[3)]

Notes:

1. The stability has to be determined individually according to the static conditions of the landfill body.
2. 2.01 and 2.02 can be applied equally.
3. The criteria does not apply to ashes and dust from coal incineration plants not requiring a permit according to BImSchG.

Table C7.T6 Frequency of Measurements

	Frequency of measurement		
	TA Abfall	DEKVO	TA Abfall
	Operating phase	Operating phase	Post-closure phase
1. Meteorological data			
Quantity of precipitation	Daily		Regularly
Intensity of precipitation	Daily		Regularly
Temperature (Min, Max, 2.00 MET p.m.)	Daily		Regularly
Direction and speed of wind	Daily		
Evaporation (measurement directly via Lysimeter or indirectly via humidity of air and calculation according to HAUDE)	Daily		Regularly
2. Emission records			
Quantity of leachate	Daily	Continuously	Regularly
Composition of leachate	Regularly		Every 6 months
Quantity of surface waters at roofed or covered areas	Daily	Continuously	Regularly
Composition of surface waters	Regularly		
Gas emissions	Regularly (if required)	Every 6 months	
Control of gas facility		Every 6 months (if required)	
Gas migration		Every 6 months (if required)	
Gas migration and uncontrolled gas emission		Every 6 months (if required)	
Odor emissions	Regularly		If necessary the state of the gas drainage layer

			has to be monitored
3. Data describing the state of the landfill body			
Construction and composition of the landfill body	Daily		
Settling conditions of the landfill body	Yearly		Yearly
State of the liner system		Yearly	
State of the cover system		Yearly	
4. Groundwater records			
Groundwater level	Monthly		Every 6 months
Groundwater quality	At least every 6 months		Every 6 months

Tabe C7.T7.1 Data Detection at Landfill Sites During Operation and After Closure

Measurements in-situ			
Parameter	**Groundwater**	**Leachate**	**Surface Water**
Visual appearance (color/clarity) *(Aussehen, Trübung/Farbe)*	S	S	S
Odor *(Geruch)*	S	S	S
Water temperature *(Wassertemperatur)*	S	S	S
Weather conditions on sampling day *(Wetterbedingungen)*	S	S	S
pH value *(pH Wert)*	S	S	S
Redox *(Redox Spannung)*	S		
Conductivity (25°) *(Leitfähigkeit)*	S	S	S
Oxygen, dissolved *(gelöster Sauerstoff)*	S		S
Still waterlevel [m] *(Ruhewasserspiegel)*	S		
Duration of pumping [min] *(Abpumpdauer)*	S		
Groundwater pumping rate [l/s] *(Grundwasserförderstrom)*	S		
Leachate [l/s] *(Sickerwasseremenge)*		S	
Runoff [l/s] *(Abflußmenge)*			S
pH value	S	S	S
Total residual dry weight *(Trockenrückstand)*	C	S	
Sodium	C	C	

Tabe C7.T7.1 Data Detection at Landfill Sites During Operation and After Closure

Measurements in-situ			
Parameter	**Groundwater**	**Leachate**	**Surface Water**
Potassium	C	C	
Ammonium-N	S	S	S
Calcium	C	C	
Magnesium	C	C	
Iron	C	C	
Manganese	C	C	
Sum of cations (Na, K, NH_4, Ca, Mg, Fe2+, Fe3+, Mn)		A	
Arsenic	S	S	
Cadmium	C	C	
Zinc	C	C	
Lead	C	C	
Chromium, total	C	C	
Copper	C	C	
Nickel	C	C	
Mercury	A	A	
Chromium VI	A		
Metal screening	A		
Bicarbonate (HCO_3)	C		
Chloride	S	S	S
Nitrite	C	C	
Nitrate	C	C	

Tabe C7.T7.1 Data Detection at Landfill Sites During Operation and After Closure

Measurements in-situ			
Parameter	**Groundwater**	**Leachate**	**Surface Water**
Sulfate	S	S	
Phosphate	A		
Total sum of anions (HCO_3, Cl, NO_2, NO_3, SO_4, PO_4)	C		
Fluoride		C	
Boron	S	S	
Cyanide	C	C	
Acid capacity until pH = 4.3	C	C	
Acid capacity until pH = 8.2	C	C	
BOD_5 (biochemical oxygen demand in 5 days)		A	
DOC (dissolved organic carbon)	A		
TOC (total organic carbon)	S	S	S
AOX	S	S	
TPH		C	
Phenol index	C	C	
N, total	C	C	
BTEX	A	A	
Total of selected halogenated hydrocarbons	C	C	
Phosphorus, total		C	
PCBs (selection)	A		
PAH according to EPA	A		

Tabe C7.T7.1 Data Detection at Landfill Sites During Operation and After Closure

Measurements in-situ			
Parameter	**Groundwater**	**Leachate**	**Surface Water**
Lipophilic substances with a low volatility		A	
Notes:			
S = standard program, (samples should be taken three times per year in March/April, July/August and November/December)			
C = complementary program, one sample taken in March/April			
A = additional program, one sample taken the first operating year in March/April and then once every 5 years thereafter			

Table C7.T7.2 Data Detection at Landfill Sites During Operation and After Closure

Parameter	Raw gas	Condensate
Quantity	Continuously	Monthly
Methane (volume-%)	Continuously	
Carbon dioxide	Continuously	
Oxygen	Continuously	
Chlorine	Yearly	
Fluoride	Yearly	
Sulphur	Yearly	
Benzene	Yearly	
Chloroethene (Vinyl chloride)	Yearly	
Quantity of established chemical substances (mg/l)		Yearly

Table C7.T8 Waste with High Organic Content, Suitable for Basic Area Recycling and Basic Mineral Aggregates

1. Waste with high organic content		
Waste classification (in brackets: waste code)	**Recyclable types of waste as per waste classification described in column 1**	**Additional notes (the area of origin of the waste is given in brackets at the beginning, as required)**
Waste from plant tissue (02 01 03)	- husk, husk and cereal pollen - feeding stuff waste	Materials may be applied to permanent areas of green land (*Dauergrünfläche*), also part of a mixture.
Animal feces, urine and muck (including rotting straw), sewage, collected separately and externally treated (02 01 06)	- poultry excrement - swine and liquid cattle manure - muck - used straw	Only subject to the established conditions when not dealing with industrial manure according to manure regulations. Infectious muck (LAGA waste code 137 05) is generally excluded from recycling. Materials and mixes thereof may be applied to permanent areas of green land.
Waste from forestry (02 01 07)	- bark - wood, wood residues	Untreated bark and unmixed processing products from bark are excluded from treatment and examination obligations. Untreated bark, wood or wood residues and organic waste thereof may, after the relevant crushing for composting, be admitted as aggregates and applied to permanent areas of green land.
Waste from animal tissue (02 02 02)	- bristles and horn waste	Including cattle hair from incineration process. Recycling only as long as there is no conflict with the conditions laid down in the TierKBG or the Animal Epidemic Act (*Tierseuchengesetz*).

Table C7.T8 Waste with High Organic Content, Suitable for Basic Area Recycling and Basic Mineral Aggregates

1. Waste with high organic content		
Waste classification (in brackets: waste code)	**Recyclable types of waste as per waste classification described in column 1**	**Additional notes (the area of origin of the waste is given in brackets at the beginning, as required)**
For consumption or processing of ineligible substances (02 02 03)	- fat waste	(Meat and fish processing) Recycling Fat waste may only be used in plants for anaerobic treatment. Materials and mixes thereof may only be applied to permanent areas of green land when they have undergone a process of pasteurization (70°C; for at least 1 hour).
Sludge from on-site industrial sewage treatment (02 02 04)	- content of fat separators and flotate Example of origins: butchers and meat processing; not mixed with any form of sewage.	(Meat and fish processing) Recycling. Contents of fat separators and flotate may only be used in plants for anaerobic treatment. Materials and mixes thereof may only be applied to permanent areas of green land when they have undergone a process of pasteurization (70°C; for at least 1 hour).
Waste not otherwise classified (02 02 99)	- sludge resulting from the manufacture of gelatin - gelatin chad - feathers - stomach and intestine contents	Recycling; sludge only when not mixed with sewage or sludge of a different origin.
Sludge resulting from washing, cleaning, paring, centrifugation and detachment (02 03 04)	- any other foodstuff waste in the form of sludge - thick sludge	(Foodstuff processing) Sludge only when not mixed with sewage or sludge of a different origin. Materials and mixtures thereof may be applied to permanent areas of green land.

Table C7.T8 Waste with High Organic Content, Suitable for Basic Area Recycling and Basic Mineral Aggregates

1. Waste with high organic content		
Waste classification (in brackets: waste code)	**Recyclable types of waste as per waste classification described in column 1**	**Additional notes (the area of origin of the waste is given in brackets at the beginning, as required)**
For consumption or processing of ineligible waste (02 03 04)	- out of date foodstuffs - residue from canning - out of date semi-luxury foods and tobacco - tobacco particles, slack, ribs, sludge - faulty cigarette batches - residue from the manufacture of coffee, tea and cocoa - oil seed residue	(Foodstuff processing) Recycling
Waste not otherwise classified (02 03 99)	- sludge from the manufacture of cooking fat - sludge from the manufacture of cooking oil - Fuller's earth, oil extracted - spice residue - molasses residue - residue from the manufacture of potato starch, corn starch and rice starch	(Foodstuff processing) Sludge from the manufacture of cooking fat and cooking oil, residue from molasses and from potato starch, corn starch or rice starch production and mixes thereof may be applied to permanent areas of green land. Sludge from the manufacture of cooking fat and cooking oil should only be used in plants for anaerobic treatment. (Milk processing) Recycling) Materials and mixes thereof may be applied to permanent areas of green land.
Waste not otherwise classified (02 05 99)	- whey	(Waste from the processing of milk) Recycling. Materials and mixtures thereof may be applied to permanent areas of green land.
For consumption or processing of ineligible substances (02 05 99)	- food with expired consumption date - dough waste	(Sweet (*Süßwaren)* and baked goods manufacturing) Recycling.

Table C7.T8 Waste with High Organic Content, Suitable for Basic Area Recycling and Basic Mineral Aggregates

1. Waste with high organic content		
Waste classification (in brackets: waste code)	**Recyclable types of waste as per waste classification described in column 1**	**Additional notes (the area of origin of the waste is given in brackets at the beginning, as required)**
Waste from the washing and cleaning of mechanical crushing of raw materials (02 07 02)	- used filtered and absorbed mass (kieselguhr), activated earth, activated carbon	(Alcoholic and non-alcoholic drinks manufacturing) Kielseguhr may not be applied in a dried state. It must be incorporated into the soil immediately after its production.
Waste from the distillation of spirits (02 07 02)	- fruit, cereal and potato waste - sludge from distilleries	(Alcohol distilleries) Materials and mixes thereof may be applied to permanent areas of green land.
For consumption or processing of ineligible substances (02 07 04)	- out of date fruit juice	(Drinks manufacturing) (e.g.). Materials and mixes thereof may be applied to permanent areas of green land.
Sludge from on-site wastewater treatment *(betriebseigene Abwasserbehandlung)* (02 03 05, 02 04 03, 02 05 02, 02 06 03, 02 07 05)		(Foodstuffs and semi-luxury foods and tobacco manufacture (*Nahrungs- und Genußmittel*)) Recycling only as long as not mixed with sewage or sludge not arising specifically from production a. Materials and mixes thereof may be applied to permanent areas of green land.
Waste not otherwise classified (02 07 99)	- spent malt, malt seeds, malt particles - spent hops - sediment and sludge from breweries - sludge from wine preparation - pressed grape skins and wine sediment - yeast and yeast related residue	(Alcoholic and non-alcoholic beverage manufacturing) With the exception of pressed grape skins, materials and mixes thereof may be applied to permanent areas of green land.

Table C7.T8 Waste with High Organic Content, Suitable for Basic Area Recycling and Basic Mineral Aggregates

1. Waste with high organic content		
Waste classification (in brackets: waste code)	**Recyclable types of waste as per waste classification described in column 1**	**Additional notes (the area of origin of the waste is given in brackets at the beginning, as required)**
Bark and cork waste (03 01 01, 03 03 01)	- bark	(Wood processing and treatment) Bark collected separately, except bark from trees and bushes from roadsides, are excluded from treatment and test obligations (Articles 3 and 4) according to Article 10. Bark from trees and bushes from roadsides may only be submitted for recycling when test prove that levels of heavy metal content do not exceed those laid down in the BioAbfV. Untreated materials and mixtures thereof may be applied to permanent areas of green land.
Sawdust (03 01 02)	- sawdust and sawdust chips	(Wood processing and treatment, cellulose and furniture manufacturing) Sawdust and sawdust chips from untreated wood from wood processing and organic waste thereof may be admitted for composting and applied to permanent areas of green land.
Chips, wood sections and clippings, chipboard and veneer (03 01 03)	- sawdust and sawdust chips - wood wool	(Wood processing and treatment, cellulose and furniture manufacturing) Sawdust, sawdust chips and wood wool only from untreated wood.
Waste from untreated textile fibers and other natural fibers, predominately of plant origin (04 02 01)	- cellulose fiber waste - plant fiber waste	(Textile industry)
Waste from untreated textile fibers, predominately of animal origin (04 02 02)	- wool waste	Wool particles, wool fibers. Recycling.

Table C7.T8 Waste with High Organic Content, Suitable for Basic Area Recycling and Basic Mineral Aggregates

1. Waste with high organic content		
Waste classification (in brackets: waste code)	**Recyclable types of waste as per waste classification described in column 1**	**Additional notes (the area of origin of the waste is given in brackets at the beginning, as required)**
Waste not otherwise classified (07 05 99)	- pressed vegetative waste from medicinal plants - mushroom spawn - fungus substrate waste	Mushroom spawn from drug manufacturing may only be recycled after individual examination and no evidence of drugs is found.
Solid waste	- waste resulting from reaping, mowing and raking - protein waste	(Drinking water treatment, surface water sustaining *(Gewässerunterhaltung)*). Only mowed waste is suitable for recycling.
Paper and cardboard (20 01 01)	- recycling paper	Submission to separately collected organic waste or for composting only acceptable in small amounts (around 10%). Submission of glossy paper and recycled wallpaper to organic waste collected separately or for treatment is not permitted.
Organic, compostable kitchen waste, fractions collected separately (20 01 08)	- kitchen and canteen waste	Recycling of waste from canteens and large kitchens . Materials and mixtures thereof may only be applied to permanent areas of green land when they have undergone a process of pasteurization (70°C; for at least 1 hour).
Compostable waste (20 02 01)	- waste from gardens and parks	Material collected separately, with the exception of greenery and bushes from roadsides or from industrial areas and excluded from the treatment and testing obligation. Greenery and bushes from roadsides and from industrial areas, as well as plant flotsam, may only be submitted for recycling when examination has proved that established heavy metal contents are not exceeded. Materials and mixes thereof may be applied to permanent areas of green land.

Table C7.T8 Waste with High Organic Content, Suitable for Basic Area Recycling and Basic Mineral Aggregates

1. Waste with high organic content		
Waste classification (in brackets: waste code)	**Recyclable types of waste as per waste classification described in column 1**	**Additional notes (the area of origin of the waste is given in brackets at the beginning, as required)**
Mixed residential waste (20 03 01)	- household garbage (organic waste collected separately)	(Residential waste) In particular, organic waste collected separately from private household and small businesses.
Market waste (20 03 02)	- market waste	Recycling is suitable only for biodegradable fractions, collected separately. Recycling. Materials of plant origin, separately collected, may be applied to permanent areas of green land.
*	- fen sludge and earth with medicinal properties	Materials may be applied to permanent areas of green land.
*	- bio-degradable products from re-growing raw materials, as well as waste from their treatment and processing	Degradability must be verified due to technical norms.
*	- egg shells	Recycling
2. Mineral aggregates (where waste is issued with a waste code)		
Non-specified calcium carbonate sludge (02 04 02)	- carbonation sludge	(Sugar beet processing) Materials and organic waste thereof may be applied to permanent areas of green land.
Sludge from de-carbonization (19 09 03)	- sludge from water softening	(Water preparation) Materials and organic waste thereof may be applied to permanent areas of green land.
	- limestone - stone particles, sand - clay	Materials and organic waste thereof may be applied to permanent areas of green land.
Notes: Factual basis: European Union Waste Catalog with additions from the State Work Group on Waste.		

Table C7.T9 Requirements for the Recycling of Sales Packaging and of Persons Obligated

If manufacturers and distributors are obliged to accept returned packaging being put into circulation by themselves within the calendar year, they must meet the recycling requirements presented below. In case a collection system has been set up by the manufacturer or distributor, it must also meet the recycling requirements for the packaging.

At a minimum, the following average quantities of packaging in mass percentage must be allocated annually for recycling:

Material	From January 1, 1996	From January 1, 1999
Glass	70%	75%
Tinplate	70%	70%
Aluminium	50%	60%
Paper, cardboard, card	60%	70%
Composite materials	50%	60%
Plastic	50%	60%

Table C7.T10 Forms for Waste Registry

Formblatt Deckblatt Abfallwirtschaftskonzept/Abfallbilanz (KB)

☐ Abfallwirtschaftskonzept für die Jahre ____ bis ____ zu Nr.

☐ Abfallbilanz für das Jahr ____

Zutreffendes bitte ankreuzen ☒ oder ausfüllen

1 Angaben zum Konzept-/Bilanzpflichtigen

1.1 Firma/Körperschaft

1.2 Straße Hausnr.

1.3 PLZ Ort

1.4 Ansprechpartner

1.5 Telefon Telefax

2 Betriebsbeauftragte(r) für Abfall

2.1 Lfd.Nr.* Name

BA

Telefon Telefax

2.2 Lfd.Nr.* Name

BA

Telefon Telefax

2.3 Lfd.Nr.* Name

BA

Telefon Telefax

☐ Fortsetzung weiterer Betriebsbeauftragter auf formlosem Einlegeblatt

3 Anlagen

Das Abfallwirtschaftskonzept / Die Abfallbilanz besteht aus:

3.1 ☐ Formblättern Verantwortliche Erklärung (VE)

3.2 ☐ Formblättern Annahmeerklärung (AE)

3.3 ☐ Formblättern Eigenentsorgung (EE)

3.4 ☐ Formblättern Beiblatt Eigenentsorgung (BE)

3.5 ☐ Formblättern Entsorgungswege / Verbleib (EV)

3.6 ☐ Einlegeblättern (formlos)

3.7 Wir versichern, das Abfallwirtschaftskonzept / die Abfallbilanz entsprechend der Verordnung über Abfallwirtschaftskonzepte / Abfallbilanzen aufgestellt zu haben.

3.8 Ort Datum Tag, Monat, Jahr Rechtsverbindliche Unterschrift des Konzept-/Bilanzpflichtigen

Bitte verwenden Sie diese Schreibweise:

A B C D E F G H I J K L M N O P Q R
S T U V W X Y Z 1 2 3 4 5 6 7 8 9 0

BARCODEFELD 75x15mm

* Bitte fortlaufend numerieren

Table C7.T10 Forms for Waste Registry

Seite ① von ②

Formblatt Verantwortliche Erklärung (VE)

Verantwortliche Erklärung für Nachweise

Abfallbeschreibung für Abfallwirtschaftskonzept

Abfallbeschreibung für Abfallbilanz

Abfallbeschreibung für Anzeige nach § 11 Nachw.

zu Nr.

zu lfd. Nr. VE

Folgeblatt ist beigefügt

1 Abfallerzeuger

1.1 Bezeichnung der Anlagestelle

1.2 Anlage ist nach BImSchG Nr. Spalte der Anlage zur 4. BImSchV genehmigt

Anlagenkennzeichen nach BImSchG-Genehmigung

Zuständiger Betriebsbeauftragter für Abfall lfd. Nr. BA (siehe Deckblatt für Konzept/Bilanz)

1.3 Straße oder Koordinaten

Hausnummer

1.4 PLZ Ort

1.5 Ansprechpartner

1.6 Telefon Telefax

1.7 Die Anzeige gemäß § 11 Nachw. für die Anlagestelle liegt der zuständigen Behörde vor: Ja Nein

wenn ja, Anzeigenummer

Für interne Vermerke

2 Abfallerzeuger

2.1 Bundesland/Bundesländer in dem/denen der Abfall eingesammelt wird

2.2 Betriebsnummer

Name

Straße oder Koordinaten

PLZ Ort

Ansprechpartner

Telefon Telefax

BARCODEFELD 75x15mm

Table C7.T10 Forms for Waste Registry

Seite 2 von 2 Formblatt Verantwortliche Erklärung (VE)

3 Abfallbeschreibung

3.1 Betriebsinterne Bezeichnung

Abfallschlüssel Code

(Nur bei Konzept/Bilanz bei Verbringung außerhalb der Bundesrepublik Deutschland)

Abfallbezeichnung

3.2 Abfallvorbehandelt? Ja Nein

Abfallbeschreibung (Fortsetzung)

3.3 Konsistenz fest stichfest pastöse/schlammig/breiig staubförmig flüssig

3.4 Geruch Farbe

3.5 Deklarationsanalysen ist/sind beigefügt (nur für Konzept/Bilanz) Ja Nein

4 Anfall und Abgabe des Abfalles

4.1 Menge des Anfalls Bilanzjahr Konzeptjahr 1. Konzeptjahr 2. Konzeptjahr 3. Konzeptjahr 4. Konzeptjahr 5. Konzeptjahr

4.2 Abgabehäufigkeit einmalig mehrmalig

5 Verantwortliche Erklärung

5.1 Wir versichern, daß die in dieser Verantwortlichen Erklärung gemachten Angaben zutreffen. Wir werden nur Abfälle zur Entsorgung bereitstellen, die den Angaben in der Verantwortlichen Erklärung entsprechen.

5.2 Ort Datum Tag, Monat, Jahr Rechtsverbindliche Unterschrift des Abfallerzeugers

BARCODEFELD 75x15mm

Table C7.T10 Forms for Waste Registry

Passer Nr. 1 DV

Seite ① von ②

Formblatt Anteilmeerklärung (AE)

☐ Annahmeerklärung für Nachweise

☐ Angaben zur Entsorgung für Abfallwirtschaftskonzept

☐ Angaben zur Entsorgung für Abfallbilanz

☐ Angaben zur Entsorgung für Antrag auf Freistellung nach § 13 NachwV

(auszufüllen durch den Abfallentsorger/Konzeptpflichtigen/Bilanzpflichtigen)

zu Nr.: (nicht vom Antragsteller auszufüllen, bei Konzept/Bilanz vom Deutschland für Übertragung)

zu lfd. Nr. ____ AE

Folgeblatt ist beigefügt ☐

Zutreffendes bitte ankreuzen ☒ oder ausfüllen

1 Angaben zum Abfallentsorger

Für interne Vermerke

1.1* Firma

1.2* Straße Hausnr.

1.3* PLZ Ort

2 Entsorgungsanlage (gewerbliche Anlage für Klärschlamm und Abfallanlage)

2.1* Entsorgungsverfahren* R ____ oder D ____

2.2 Eigenentsorgung i.S. des § 19 Abs. 1 Nr. 4 KrW-/AbfG (Falls zutreffend, Formblatt Eigenentsorgung ausfüllen)

2.3 Bezeichnung der Entsorgungsanlage

Entsorgernummer*

2.4* Straße Hausnr.

2.5* Staat* PLZ Ort

2.6* Ansprechpartner

2.7 Telefon Telefax

2.8* Die Anlage ist gemäß § 13 NachwV freigestellt: Ja ☐ Nein ☐

wenn ja, Freistellungsnummer

2.9* Auflistung und Beschreibung der Abfälle nach Art, Beschaffenheit und Menge bei Anträgen nach § 13 NachwV auf gesondertem Blatt nach Maßgabe der zuständigen Behörde

Bitte verwenden Sie diese Schreibweise

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
S	T	U	V	W	X	Y	Z	1	2	3	4	5	6	7	8	9	0

BARCODEFELD 75x15mm

* Verfahrensangabe nach Anhang IIA oder IIB des KrW-/AbfG

* Lannercode nach der Entscheidung 94/774/EU der Kommission vom 24. November 1994 über den europäischen Beglaubigungsschein gemäß der Entscheidung des Rates EWG Nr. 219/R1

Table C7.T10 Forms for Waste Registry

Formblatt Eigenentsorgung (EE)

Anlage zu den Angaben zur Entsorgung für Eigenentsorger

zu Nr.

1 Anlagenplanung

2 Anlagenplanung (Fortsetzung)

BARCODEFELD 75x15mm

Table C7.T10 Forms for Waste Registry

Formblatt Beiblatt Eigenentsorgung (BE)

Beiblatt zur Eigenentsorgung

Anlage zu den Angaben zur Entsorgung für Eigenentsorger

zu Nr.

zu Ucc.Nr. AE

Beiblatt Nr.

Anlagenplanung (Fortbertzung):

1. Kennziffer 2. Kennziffer 3. Kennziffer 4. Kennziffer 5. Kennziffer

Übertrag aus Beiblatt Nr.

Abfallschlüssel t/a

Summe t/a

Folgeblatt ist beigefügt

BARCODEFELD 75x15mm

Table C7.T10 Forms for Waste Registry

Formblatt Entsorgungswege/Verbleib (EV)

Zuordnung der Abfälle zu Entsorgungsanlagen zu Nr.

Entsorgungswege für Abfallwirtschaftskonzept: Im Inland[1]

Verbleib für Abfallbilanz: außerhalb der Bundesrepublik Deutschland[2]

Blatt-Nr.

Abfallschlüssel Lfd. Nr. AE

BARCODEFELD 75x15mm

Folgeblatt ist beigefügt

Table C7.T11 Forms for Waste Disposal

Seite (1) von (2) Formblatt Verantwortliche Erklärung (VE)

Verantwortliche Erklärung für Nachweise

Abfallbeschreibung für Abfallwirtschaftskonzept

Abfallbeschreibung für Abfallbilanz

Abfallbeschreibung für Anzeige nach § 11 NachwV
(auszufüllen durch den Abfallerzeuger)

zu Nr.
(nicht vom Antragsteller auszufüllen, bei Konzept/Bilanz alle Deckblätter zu übertragen)

zu lfd. Nr. VE[1]

Folgeblatt ist beigefügt

Zutreffendes bitte ankreuzen ☒ oder ausfüllen.
Für jede Anlagestelle und für jeden Abfallschlüssel gesonderten ausfüllen.

1 Abfallherkunft (nicht ausfüllen bei Sammelentsorgung)

1.1 Bezeichnung der Anfallstelle[1]

1.2 Anlage ist nach BImSchG, Nr. Spalte 1 der Anlage zur 4. BImSchV genehmigt.

Anlagennummer nach BImSchG-Genehmigung

Zuständiger Betriebsbeauftragter für Abfall lfd. Nr. DA (aus Deckblatt für Konzept/Bilanz)

1.3 Straße oder Koordinaten Erzeugernummer

1.4 PLZ Ort

1.5 Ansprechpartner

1.6 Telefon Telefax

1.7 Die Anzeige gemäß § 11 NachwV für die Anfallstelle liegt der zuständigen Behörde vor: Ja ☐ Nein ☐

wenn ja, Anzeigenummer

2 Abfallherkunft (nur ausfüllen bei Sammelentsorgung)

2.1 Bundesland/Bundesländer in dem/denen der Abfall eingesammelt wird

2.2 Beförderernummer

Name

Straße oder Koordinaten

PLZ Ort

Ansprechpartner

Telefon Telefax

BARCODEFELD 75x15mm

[1] Bitte vollständig ausfüllen

Table C7.T11 Forms for Waste Disposal

Seite ① von ②

Formblatt Deklarationsanalyse (DA)

Deklarationsanalyse zum Entsorgungsnachweis/SN

zu den Nachweiserklärungen

(auszufüllen durch den Abfallerzeuger/-einsammler in Abstimmung mit dem Abfallentsorger)

☐ Ersterstellung

☐ Änderung / Ergänzung

zu Nr. (nicht vom Antragsteller auszufüllen)

zu Nr. ... VE

Zutreffendes bitte ankreuzen ☒ oder ausfüllen.

☐ Chemisch-/physikalische Behandlung ☐ oberirdische Deponie ☐ sonstige Behandlungsverfahren

☐ Verbrennung ☐ Untertagedeponie ☐ Verwertungsverfahren

Anzugeben sind die Parameter, die im Hinblick auf die Abfallart und den Entsorgungsvorgang erforderlich sind; ggf. sind diese zwischen Abfallerzeuger und Abfallentsorger festzulegen.

1.	Arsen		mg/l	21.	TOC		mg/l
2.	Blei		mg/l	22.	AOX		mg/l
3.	Cadmium		mg/l	23.	EOX		mg/l
4.	Chrom-VI		mg/l	24.	pH-Wert		
5.	Kupfer		mg/l	25.	Leitfähigkeit		µS/cm
6.	Nickel		mg/l	26.	schwerflüchtige lipophile Stoffe		mg/l
7.	Quecksilber		mg/l	27.	extrahierbarer Anteil der Originalsubstanz		Gew. %
8.	Zink		mg/l	28.	extrahierbare lipophile Stoffe		Gew. %
9.	Fluorid		mg/l	29.	Glühverlust des Trockenrückstandes		Gew. %
10.	Chlorid		mg/l	30.	wasserlöslicher Anteil		Gew. %
11.	Cyanide (nicht-Fixierbarer)		mg/l	31.	Wassergehalt		%
12.	Ammonium		mg/l	32.	Flügelscherfestigkeit		kN/m²
13.	Sulfat		mg/l	33.	axiale Verformung		%
14.	Nitrit		mg/l	34.	einaxiale Druckfestigkeit		kN/m²
15.	Phenole		mg/l	35.	Schmelzpunkt		°C
16.	Fluor		Gew. %	36.	Flammpunkt		°C
17.	Chlor		Gew. %	37.	Siedepunkt/Siedebereich		°C
18.	Brom		Gew. %	38.	Heizwert		kJ/kg
19.	Jod		Gew. %	39.	Dampfdruck bei 30°C		hPa
20.	Schwefel		Gew. %				

Bitte vorhandene Bauteile Schreibweise

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
S	T	U	V	W	X	Y	Z	1	2	3	4	5	6	7	8	9	0

BARCODEFELD 75x15mm

* Bitte fortsetzend numerieren

Table C7.T11 Forms for Waste Disposal

Seite ② von ②

Formblatt Deklarationsanalyse (DA)

40. Gasentwicklung durch Nachreaktionenen

40.1 a) in der Verpackung

40.2 b) unter Luftkontakt

40.3 c) bei Kontakt mit dem Salzgestein

40.4 d) bei Temperaturen ab ____ °C

41. Angabe der gefährlichen Bestandteile

41.1 a) des Ablaufs

41.2 b) der Zersetzungsprodukte

weitere Parameter[2]	Wert	Dimension	weitere Parameter[2]	Wert	Dimension
42.			47.		
43.			48.		
44.			49.		
45.			50.		
46.			51.		

52. weitere Angaben

BARCODEFELD 75x15mm

[2] Begrenzung auf Bestand Qualität verwenden

Table C7.T11 Forms for Waste Disposal

Seite (1) von (2)

Formblatt Annahmeerklärung (AE)

zu Nr.

zu lfd. Nr. AE

Folgeblatt ist beigefügt ☐

☐ **Annahmeerklärung für Nachweise**

☐ **Angaben zur Entsorgung für Abfallwirtschaftskonzept**

☐ **Angaben zur Entsorgung für Abfallbilanz**

☐ **Angaben zur Entsorgung für Antrag auf Freistellung nach § 13 NachwV**

(auszufüllen durch den Abfallerzeuger/Kennzeichnungspflichtigen/Bilanzpflichtigen)

Zutreffendes bitte ankreuzen ☒ oder ausfüllen.

1 Angaben zum Abfallentsorger

1.1 Firma

1.2 Straße Hausnr.

1.3 PLZ Ort

2 Entsorgungsanlage (bestehende Anlage, für Konzept auch geplante Anlage)

2.1 Entsorgungsverfahren[1] R ☐ oder D ☐

2.2 Eigenentsorgung i.S. des § 19 Abs. 1 Nr. 4 KrW-/AbfG ☐ (Falls zutreffend, Formblatt Eigenentsorgung ausfüllen)

2.3 Bezeichnung der Entsorgungsanlage

Entsorgernummer

2.4 Straße Hausnr.

2.5 Staat[2] PLZ Ort

2.6 Ansprechpartner

2.7 Telefon Telefax

2.8 Die Anlage ist gemäß § 13 NachwV freigestellt: Ja ☐ Nein ☐

Wenn ja, Freistellungsnummer

2.9 Auflistung und Beschreibung der Abfälle nach Art, Beschaffenheit und Menge bei Anträgen nach §13 NachwV auf gesondertem Blatt nach Maßgabe der zuständigen Behörde

Bitte verwenden Sie diese Schreibweise: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 1 2 3 4 5 6 7 8 9 0

BARCODEFELD 75x15mm

[1] Verfahrensangaben nach Anhang IIA oder IIB des KrW-/AbfG

[2] Landeskennziffer Bundesrepublik Deutschland gemäß Anlage 1 zur Verordnung über das Verfahren bei Entsorgungsnachweis EVZ-N, 2000

Table C7.T11 Forms for Waste Disposal

Seite ② von ②

Formblatt Annahmeerklärung (AE)

3 Entsorgungsverfahren (nur für Konzepte verfüllen)

Die in die Anlage eingebrachten Abfälle werden zu

3.1 ___ v.H. stofflich verwertet | ___ v.H. energetisch verwertet | ___ v.H. beseitigt | ___ v.H. weder verwertet noch beseitigt

3.2 Der weder verwertete noch beseitigte Anteil soll in einem Verfahren nach ___ [2] entsorgt werden

3.3 Anlagentyp oder Branche gemäß § 3 Abs. 4 AbfKoPbV (soweit noch keine konkrete Anlage benannt werden kann)

4 Annahmeerklärung (nur zusätzlich bei DE für Nachweise)

4.1 Wir versichern, daß die Angaben zutreffen. Die Anlage ist für die Entsorgung des deklarierten Abfalls gemäß

Verantwortlicher Erklärung Id.-Nr ___ VE bis ___ VE

zugelassen. Wir versichern, daß die Abfälle in unserer Anlage ordnungsgemäß und schadlos verwertet oder gemein wohlverträglich beseitigt werden. Wir sind bereit, den deklarierten Abfall anzuliefern.

4.2 Ort | Datum Tag, Monat, Jahr | Rechtsverbindliche Unterschrift des Abfallentsorgers

Erste verwenden Sie diese Schreibweise

BARCODEFELD 75x15mm

[2] Verfahrensangabe nach Anhang IIA oder IIB der Abfallrahmenrichtung

Table C7.T11 Forms for Waste Disposal

Formblatt Behördenbestätigung (BB)

Behördliche Bestätigung

der Zulässigkeit der Entsorgung ☐

der Freistellung nach § 13 NachwV ☐

zu Nr. ____ (nicht vom Antragsteller auszufüllen)

(auszufüllen durch die für die Entsorgungsanlage zuständigen Behörde)

Zutreffendes bitte ankreuzen (☒) oder ausfüllen.

1 Bestätigung der Zulässigkeit der Entsorgung / der Freistellung nach § 13 NachwV

1.1 Die Zulässigkeit der vorgesehenen Entsorgung des/in der/in Verantwortlichen Erklärung/en.

lfd.-Nr. ____ VE bis ____ VE beschriebenen Abfalls/Abfälle

in der in der Annahmeerklärung beschriebenen Entsorgungsanlage wird bestätigt: Ja ☐ Nein ☐

1.2 Die in den Annahmeerklärungen

lfd.-Nr. ____ AE bis ____ AE beschriebenen Entsorgungsanlagen werden hiermit freigestellt (nur für Freistellungen nach §13).

☐ Die Freistellung wird unter dem Vorbehalt des Widerrufs erteilt

1.3 Die Bestätigung/Freistellung ergeht mit folgender/n Nebenbestimmung/en:

1.4 Der Entsorgungsnachweis/Die Freistellung ist gültig bis: ____

1.5 Begründung, wenn nicht bestätigt, unter 3 Jahre befristet, unter Vorbehalt des Widerrufs erteilt oder mit Nebenbestimmungen ergangen:

1.6 Dieser Bescheid ist gebührenpflichtig. Es ergeht ein gesonderter Gebührenbescheid

1.7 Die beigefügte Rechtsbehelfsbelehrung ist Bestandteil dieses Bescheides.

1.8 Aktenzeichen

1.9 Ort: Datum: Tag, Monat, Jahr Unterschrift

Bitte verwenden Sie diese Schreibweise: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 1 2 3 4 5 6 7 8 9 0

BARCODEFELD 75x15mm

Table C7.T11 Forms for Waste Disposal

Formblatt Deckblatt Anzeige/Antrag (AA)

Anzeige gemäß § 11 der Nachweisverordnung

Nr. (nicht vom Antragsteller auszufüllen)

Zutreffendes bitte ankreuzen ☒ oder ausfüllen

1 Angaben zum Abfallerzeuger

1.1 Firma / Körperschaft

1.2 Straße Hausnr.

1.3 PLZ Ort

1.4 Wir beabsichtigen, für die in den beigefügten Verantwortlichen Erklärungen

lfd. Nr. ____ VE bis ____ VE

deklarierten besonders überwachungsbedürftigen Abfälle die privilegierte Nachweisführung gemäß NachwVerordnung in Anspruch zu nehmen.

In einem separaten Beiblatt sind die für die Abfälle vorgesehenen Entsorgungsverfahren aufgeführt.

1.5 Wir versichern, die in den Verantwortlichen Erklärungen deklarierten Abfälle ausschließlich in Anlagen, die gemäß § 13 NachwV freigestellt sind, zu entsorgen.

1.6 Ort Datum Tag, Monat, Jahr Rechtsverbindliche Unterschrift des Abfallerzeugers

Antrag auf Freistellung gemäß § 13 der Nachweisverordnung

Nr. (nicht vom Antragsteller auszufüllen)

Zutreffendes bitte ankreuzen ☒ oder ausfüllen

1 Angaben zum Abfallentsorger

1.1 Firma

1.2 Straße Hausnr.

1.3 PLZ Ort

1.4 Wir beantragen, für die in den beigefügten Annahmeerklärungen

lfd. Nr. ____ AE bis ____ AE

beschriebenen Anlagen von der Pflicht, besonders überwachungsbedürftige Abfälle nur nach vorhergehender Bestätigung des Entsorgungsnachweises im Sinne des § 5 NachwV anzunehmen, freigestellt zu werden. In einem separaten Beiblatt sind die den Anlagen zugeordneten Abfallschlüssel aufgeführt.

1.5 Wir versichern, nur Abfälle von Abfallerzeugern anzunehmen, die ihrer Anzeigepflicht gemäß § 11 NachwV nachgekommen sind.

1.6 Ort Datum Tag, Monat, Jahr Rechtsverbindliche Unterschrift des Abfallentsorgers

BARCODEFELD 75x15mm

Table C7.T11 Forms for Waste Disposal

Begleitschein

Beleg zum Nachweis der Entsorgung von Abfällen

Blatt ① Nr.

Diese Ausfertigung (weiß) ist mit der Unterschrift des Beförderers im Nachweisbuch des Erzeugers abzuheften

Barcodefeld 75x15mm

Abfallbezeichnung[1]

Abfallschlüssel[1] | Entsorgungsnachweis-Nummer | Menge in t

Erzeugernummer | Befördererernummer | Entsorgernummer

Datum der Übergabe (Tag, Monat, Jahr) | Datum der Übernahme (Tag, Monat, Jahr) | Datum der Annahme (Tag, Monat, Jahr)

Firmenname, Anschrift | Firmenname, Anschrift | Firmenname, Anschrift

Unterschrift (als Versicherung der richtigen Deklaration) | Unterschrift (als Versicherung der ordnungsgemäßen Beförderung) | Unterschrift (als Versicherung der Annahme zur ordnungsgemäßen Entsorgung)

Frei für Vermerke / Übernahmeschein-Nummern bei Nutzung eines Sammelentsorgungsnachweis

Bitte verwenden Sie bei Zahlen diese Schreibweise:

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
S	T	U	V	W	X	Y	Z	1	2	3	4	5	6	7	8	9	0

Weitere an der Beförderung beteiligte Firmen:

Befördererernummer (1. Transportwechsel) | Befördererernummer (2. Transportwechsel) | Zwischenlager

Datum der Übernahme (Tag, Monat, Jahr) | Datum der Übernahme (Tag, Monat, Jahr) | Datum der Übernahme (Tag, Monat, Jahr)

Beförderer (nur Name, Anschrift) | Beförderer (nur Name, Anschrift) | Beförderer (nur Name, Anschrift)

Unterschrift (als Versicherung der ordnungsgemäßen weiteren Beförderung) | Unterschrift (als Versicherung der ordnungsgemäßen weiteren Beförderung) | Datum der Übergabe (Tag, Monat, Jahr)

Unterschrift (als Versicherung der ordnungsgemäßen Zwischenlagerung)

1) Nach EAK-Verordnung, Bestimmungsverordnung bei Anlaß überwachungsbedürftige Abfälle, Bestimmungsverordnung überwachungsbedürftige Abfälle zur Verwertung.

Table C7.T11 Forms for Waste Disposal

Begleitschein

Beleg zum Nachweis der Entsorgung von Abfällen

Blatt ② Nr.

Diese Ausfertigung (rosa) ist vom Entsorger mit seiner Unterschrift und der des Beförderers zusammen mit der Ausfertigung 3 (blau) an die für ihn zuständige Behörde zu senden.

Barcodefeld 75x15mm

Abfallbezeichnung[1]

Abfallschlüssel[1] | Entsorgungsnachweis-Nummer | Menge in t

Erzeugernummer | Beförderernummer | Entsorgernummer

Datum der Übergabe (Tag, Monat, Jahr) | Datum der Übernahme (Tag, Monat, Jahr) | Datum der Annahme (Tag, Monat, Jahr)

Firmenname, Anschrift | Firmenname, Anschrift | Firmenname, Anschrift

Unterschrift (als Versicherung der richtigen Deklaration) | Unterschrift (als Versicherung der ordnungsgemäßen Beförderung) | Unterschrift (als Versicherung der Annahme zur ordnungsgemäßen Entsorgung)

Frei für Vermerke / Übernahmeschein-Nummern bei Nutzung eines Sammelentsorgungsnachweis

Weitere an der Beförderung beteiligte Firmen:

Befördererunummer (1. Transportwechsel) | Befördererunummer (2. Transportwechsel) | Zwischenlager

Datum der Übernahme (Tag, Monat, Jahr) | Datum der Übernahme (Tag, Monat, Jahr) | Datum der Übernahme (Tag, Monat, Jahr)

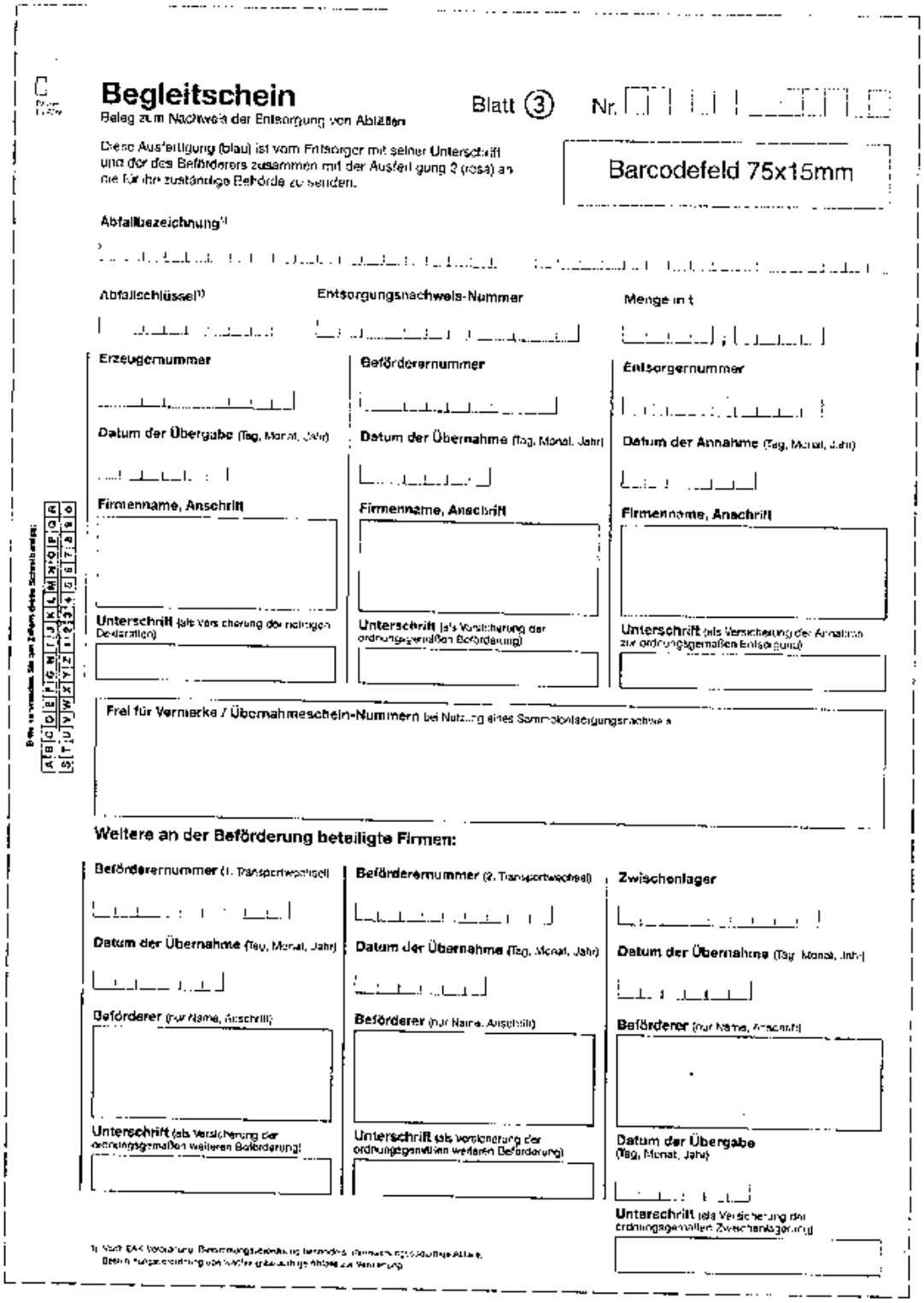
Beförderer (nur Name, Anschrift) | Beförderer (nur Name, Anschrift) | Beförderer (nur Name, Anschrift)

Unterschrift (als Versicherung der ordnungsgemäßen weiteren Beförderung) | Unterschrift (als Versicherung der ordnungsgemäßen weiteren Beförderung) | Datum der Übergabe (Tag, Monat, Jahr)

Unterschrift (als Versicherung der ordnungsgemäßen Zwischenlagerung)

[1] Nach EAK-Verordnung, Bestimmungsverordnung besonders überwachungsbedürftige Abfälle, Bestimmungsverordnung überwachungsbedürftiger Abfälle zur Verwertung

Table C7.T11 Forms for Waste Disposal



Begleitschein

Beleg zum Nachweis der Entsorgung von Abfällen

Blatt ③ Nr.

Diese Ausfertigung (blau) ist vom Entsorger mit seiner Unterschrift und der des Beförderers zusammen mit der Ausfertigung 2 (rosa) an die für ihn zuständige Behörde zu senden.

Barcodefeld 75x15mm

Abfallbezeichnung[1]

Abfallschlüssel[1] | Entsorgungsnachweis-Nummer | Menge in t

Erzeugernummer | Beförderernummer | Entsorgernummer

Datum der Übergabe (Tag, Monat, Jahr) | Datum der Übernahme (Tag, Monat, Jahr) | Datum der Annahme (Tag, Monat, Jahr)

Firmenname, Anschrift | Firmenname, Anschrift | Firmenname, Anschrift

Unterschrift (als Versicherung der richtigen Deklaration) | Unterschrift (als Versicherung der ordnungsgemäßen Beförderung) | Unterschrift (als Versicherung der Annahme zur ordnungsgemäßen Entsorgung)

Frei für Vermerke / Übernahmeschein-Nummern bei Nutzung eines Sammelentsorgungsnachweis

Weitere an der Beförderung beteiligte Firmen:

Beförderernummer (1. Transportwechsel) | Beförderernummer (2. Transportwechsel) | Zwischenlager

Datum der Übernahme (Tag, Monat, Jahr) | Datum der Übernahme (Tag, Monat, Jahr) | Datum der Übernahme (Tag, Monat, Jahr)

Beförderer (nur Name, Anschrift) | Beförderer (nur Name, Anschrift) | Beförderer (nur Name, Anschrift)

Unterschrift (als Versicherung der ordnungsgemäßen weiteren Beförderung) | Unterschrift (als Versicherung der ordnungsgemäßen weiteren Beförderung) | Datum der Übergabe (Tag, Monat, Jahr)

Unterschrift (als Versicherung der ordnungsgemäßen Zwischenlagerung)

1) Nach EAK Verordnung, Bestimmungsverordnung besonders überwachungsbedürftige Abfälle, Bestimmungsverordnung von Wertstoffgebrauchtgeräten zur Verwertung

Table C7.T11 Forms for Waste Disposal

Begleitschein

Beleg zum Nachweis der Entsorgung von Abfällen

Blatt 4 Nr.

Diese Ausfertigung (gelb) ist mit der Unterschrift des Entsorgers im Nachweisbuch des Beförderers abzuheften.

Barcodefeld 75x15mm

Abfallbezeichnung[1]

Abfallschlüssel[1] | Entsorgungsnachweis-Nummer | Menge in t

Erzeugernummer | Befördererrnummer | Entsorgernummer

Datum der Übergabe (Tag, Monat, Jahr) | Datum der Übernahme (Tag, Monat, Jahr) | Datum der Annahme (Tag, Monat, Jahr)

Firmenname, Anschrift | Firmenname, Anschrift | Firmenname, Anschrift

Unterschrift (als Versicherung der richtigen Deklaration) | Unterschrift (als Versicherung der ordnungsgemäßen Beförderung) | Unterschrift (als Versicherung der Annahme zur ordnungsgemäßen Entsorgung)

Frei für Vermerke / Übernahmeschein-Nummern bei Nutzung eines Sammelentsorgungsnachweis

Weitere an der Beförderung beteiligte Firmen:

Befördererrnummer (1. Transportwechsel) | Befördererrnummer (2. Transportwechsel) | Zwischenlager

Datum der Übernahme (Tag, Monat, Jahr) | Datum der Übernahme (Tag, Monat, Jahr) | Datum der Übernahme (Tag, Monat, Jahr)

Beförderer (nur Name, Anschrift) | Beförderer (nur Name, Anschrift) | Beförderer (nur Name, Anschrift)

Unterschrift (als Versicherung der ordnungsgemäßen weiteren Beförderung) | Unterschrift (als Versicherung der ordnungsgemäßen weiteren Beförderung) | Datum der Übergabe (Tag, Monat, Jahr)

Unterschrift (als Versicherung der ordnungsgemäßen Zwischenlagerung)

1) Nach EAK-Verordnung, Bestimmungsverordnung besonders überwachungsbedürftige Abfälle, Bestimmungsverordnung überwachungsbedürftige Abfälle zur Verwertung.

Table C7.T11 Forms for Waste Disposal

Begleitschein

Beleg zum Nachweis der Entsorgung von Abfällen

Blatt 5 Nr.

Diese Ausfertigung (altgold) ist vom Entsorger mit seiner Unterschrift und der des Beförderers an den Erzeuger zu senden.

Barcodefeld 75x15mm

Abfallbezeichnung[1]

Abfallschlüssel[1] | Entsorgungsnachweis-Nummer | Menge in t

Erzeugernummer | Beförderernummer | Entsorgernummer

Datum der Übergabe (Tag, Monat, Jahr) | Datum der Übernahme (Tag, Monat, Jahr) | Datum der Annahme (Tag, Monat, Jahr)

Firmenname, Anschrift | Firmenname, Anschrift | Firmenname, Anschrift

Unterschrift (als Versicherung der richtigen Deklaration) | Unterschrift (als Versicherung der ordnungsgemäßen Beförderung) | Unterschrift (als Versicherung der Annahme zur ordnungsgemäßen Entsorgung)

Frei für Vermerke / Übernahmeschein-Nummern bei Nutzung eines Sammelentsorgungsnachweis

Weitere an der Beförderung beteiligte Firmen:

Befördererunummer (1. Transportwechsel) | Befördererunummer (2. Transportwechsel) | Zwischenlager

Datum der Übernahme (Tag, Monat, Jahr) | Datum der Übernahme (Tag, Monat, Jahr) | Datum der Übernahme (Tag, Monat, Jahr)

Beförderer (nur Name, Anschrift) | Beförderer (nur Name, Anschrift) | Beförderer (nur Name, Anschrift)

Unterschrift (als Versicherung der ordnungsgemäßen weiteren Beförderung) | Unterschrift (als Versicherung der ordnungsgemäßen weiteren Beförderung) | Datum der Übergabe (Tag, Monat, Jahr)

Unterschrift (als Versicherung der ordnungsgemäßen Zwischenlagerung)

1) Nur EAK-Verordnung, Bestimmungsverordnung besonders überwachungsbedürftige Abfälle, Bestimmungsverordnung überwachungsbedürftige Abfälle zur Verwertung

Table C7.T11 Forms for Waste Disposal

Begleitschein

Beleg zum Nachweis der Entsorgung von Abfällen

Blatt 6 Nr.

Diese Ausfertigung (grün) ist mit der Unterschrift des Beförderers im Nachweisbuch des Entsorgers abzuheften.

Barcodefeld 75x15mm

Abfallbezeichnung[1]

Abfallschlüssel[1] | Entsorgungsnachweis-Nummer | Menge in t

Erzeugernummer | Beförderernummer | Entsorgernummer

Datum der Übergabe (Tag, Monat, Jahr) | Datum der Übernahme (Tag, Monat, Jahr) | Datum der Annahme (Tag, Monat, Jahr)

Firmenname, Anschrift | Firmenname, Anschrift | Firmenname, Anschrift

Unterschrift (als Versicherung der richtigen Deklaration) | Unterschrift (als Versicherung der ordnungsgemäßen Beförderung) | Unterschrift (als Versicherung der Annahme zur ordnungsgemäßen Entsorgung)

Frei für Vermerke / Übernahmeschein-Nummern bei Nutzung eines Sammelentsorgungsnachweis

Weitere an der Beförderung beteiligte Firmen:

Beförderernummer (1. Transportwechsel) | Beförderernummer (2. Transportwechsel) | Zwischenlager

Datum der Übernahme (Tag, Monat, Jahr) | Datum der Übernahme (Tag, Monat, Jahr) | Datum der Übernahme (Tag, Monat, Jahr)

Beförderer (nur Name, Anschrift) | Beförderer (nur Name, Anschrift) | Beförderer (nur Name, Anschrift)

Unterschrift (als Versicherung der ordnungsgemäßen weiteren Beförderung) | Unterschrift (als Versicherung der ordnungsgemäßen weiteren Beförderung) | Datum der Übergabe (Tag, Monat, Jahr)

Unterschrift (als Versicherung der ordnungsgemäßen Zwischenlagerung)

[1] Nach EAK-Verordnung, Bestimmungsverordnung besonders überwachungsbedürftige Abfälle, Bestimmungsverordnung überwachungsbedürftige Abfälle zur Verwertung

Table C7.T11 Forms for Waste Disposal

Übernahmeschein

zum Nachweis der Übernahme von Abfällen

Blatt 1 Nr.

Diese Ausfertigung (weiß) ist mit der Unterschrift des Beförderers/Entsorgers im Nachweisbuch des Erzeugers/Beförderers bei Befördererwechsel abzuheften.

Barcodefeld 75x15mm

Abfallbezeichnung[1]

Abfallschlüssel[1] | Entsorgungsnachweis-Nummer | Menge in t

Erzeugernummer (soweit vorhanden) | Beförderernummer (Übernahme vom Erzeuger) | Entsorgernummer (soweit vorhanden)

Datum der Übernahme (Tag, Monat, Jahr)

Abfallerzeuger oder Beförderer bei Befördererwechsel (Name, Anschrift) | Beförderer (Name, Anschrift) | Abfallentsorger (Name, Anschrift)

Unterschrift (als Versicherung der richtigen Deklaration) | Unterschrift (als Versicherung der ordnungsgemäßen Beförderung) | Unterschrift (als Versicherung der Annahme zur ordnungsgemäßen Entsorgung)

Bitte verwenden Sie bei Ziffern diese Schreibweise

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
S	T	U	V	W	X	Y	Z	1	2	3	4	5	6	7	8	9	0

Frei für Vermerke

[1] Nach EAK-Verordnung, Bestimmungsverordnung besonderer überwachungsbedürftiger Abfälle und Bestimmungsverordnung überwachungsbedürftiger Abfälle zur Verwertung

Table C7.T11 Forms for Waste Disposal

Übernahmeschein

zum Nachweis der Übernahme von Abfällen

Blatt ② Nr.

Diese Ausfertigung (gelb) ist zusammen mit dem dazugehörigen Begleitschein im Nachweisbuch des Beförderers/Entsorgers abzuheften.

Barcodefeld 75x15mm

Abfallbezeichnung[1]

Abfallschlüssel[1]

Entsorgungsnachweis-Nummer

Menge in t

Erzeugernummer (soweit vorhanden)

Beförderernummer (Übernahme vom Erzeuger)

Entsorgernummer (soweit vorhanden)

Datum der Übernahme (Tag, Monat, Jahr)

Abfallerzeuger oder Beförderer bei Befördererwechsel (Name, Anschrift)

Beförderer (Name, Anschrift)

Abfallentsorger (Name, Anschrift)

Unterschrift (als Versicherung der richtigen Deklaration)

Unterschrift (als Versicherung der ordnungsgemäßen Beförderung)

Unterschrift (als Versicherung der Annahme zur ordnungsgemäßen Entsorgung)

Frei für Vermerke

[1] Nach EAK Verordnung, Bestimmungsverordnung besonders überwachungsbedürftige Abfälle, Bestimmungsverordnung überwachungsbedürftige Abfälle zur Verwertung.

Table C7.T12 Limit Values for the Application of Sewage Sludge or Composting Materials to Soils

Parameter	Compost Land Application	Compost Forest Application	Sewage Sludge Agricultural Application	Initial Ground Soil Investigation for Application of Sewage Sludge
PCB	1*	1*	0.2	No limit set
Dioxin	No limit set	No limit set	100 ng	No limit set
Cadmium	1.5	1	10	1.5
Chromium	100	70	900	100
Copper	100	70	500*	60
Lead	150	100	500*	100
Mercury	1	0.7	5*	1
Nickel	50	35	100*	50
Zinc	400	300	1,000*	200

FGS CHAPTER 8

CHAPTER 8
MEDICAL WASTE

C8.1 SCOPE

This Chapter contains the Final Governing Standards (FGS) for the management of medical waste at medical, dental, research and development, and veterinary facilities generated in the diagnosis, treatment, or immunization of human beings or animals or in the production or testing of biologicals subject to certain exclusions. This also includes mixtures of medical waste and hazardous waste. It does not apply to what would otherwise be household waste.

C8.2 TERMS AND DEFINITIONS

Disposal. Off-installation transportation of waste for treatment, recycling, reuse, or permanent disposal.

EWC. European Waste Catalogue.

Hazardous Waste. All wastes having hazardous properties, which includes all "wastes requiring special supervision" *(besonders überwachungsbedürftiger Abfall)* and some "wastes requiring supervision" *(überwachungsbedürftiger Abfall).* The requirements do not specifically define which wastes requiring supervision are considered hazardous wastes (HW); this must be decided on a case by case basis. See Chapter 6, Hazardous Waste.

HMD. Landfill for household waste.

HMV. Incineration facility for household waste.

Infectious Agent. Any organism (such as a virus or a bacterium) that is capable of being communicated by invasion and multiplication in body tissues and capable of causing disease or adverse health impacts in humans.

Infectious Hazardous Waste. Mixtures of infectious medical waste and hazardous waste to include solid waste such as fluids from a parasitology laboratory.

Infectious Medical Waste. Solid waste produced by medical and dental treatment facilities which is specially managed because it has the potential for causing disease in man and may pose a risk to both individuals or community health if not managed properly. These wastes fall into categories B and C medical waste. Infectious medical wastes include the following classes.

- Microbiology waste, including cultures and stocks of etiologic agents which, due to their species, type, virulence, or concentration are known to cause disease in humans.
- Pathology waste, including human tissues and organs, amputated limbs or other body parts, fetuses, placentas, and similar tissues from surgery, delivery or autopsy procedures. Animal carcasses, body parts, blood and bedding are also included.
- Human blood and blood products (including serum, plasma, and other blood components), items contaminated with liquid or semi-liquid blood or blood products and

items saturated or dripping with blood or blood products, and items caked with blood or blood products that are capable of releasing these materials during handling.

- Potentially infectious materials including human body fluids such as semen, vaginal secretions, cerebrospinal fluid, pericardial fluid, pleural fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids.
- Sharps, including hypodermic needles, syringes, biopsy needles and other types of needles used to obtain tissue or fluid specimens, needles used to deliver intravenous solutions, scalpel blades, pasteur pipettes, specimen slides, cover slips, glass petri plates, and broken glass potentially contaminated with infectious waste.
- Infectious waste from isolation rooms, but only including those items which were contaminated or likely to be contaminated with infectious agents or pathogens to include excretion exudates and discarded materials contaminated with blood.

Installation. A base, camp, post, station, yard, center, or other activity under the jurisdiction of the Secretary of a Military Department that is located outside the United States and outside any territory, Commonwealth, or possession of the United States.

LAGA. Association of all German Federal States for developing guidelines for waste management.

Medical Waste. Solid waste produced by medical and dental treatment facilities which is further defined as Category A, B, C, D, or E medical waste:

Category A Medical Wastes. Wastes that do not have special disposal requirements from an infection prevention or a hygienic point of view. These include:

- Household waste and wastes similar to household wastes that are not generated as a direct result of heath service activities (e.g., magazines, paper, plastic and glass).
- Disinfected Category C wastes.
- Industrial wastes similar to household waste (e.g., wrapping material, cardboard cartons).
- Kitchen and canteen wastes.

Category B Medical Wastes. Wastes that have special requirements for disposal within the medical facility from an infection-prevention point of view. These include:

- Wastes contaminated with blood, secretions, and excretions such as bandages, plaster casts, disposable clothing, soiled diapers, as well as expendable articles including syringes, sharps and scalpels.
- Large volumes of fluid such as secretions and excretions.

Category C Medical Wastes. Wastes that have special requirements for disposal both within and outside the medical facility from an infection-prevention point of view. These include:

- These requirements apply, if a waste may carry any pathogenic agents of infectious diseases, that must be notified to authorities and if a spreading of this disease is of concern. These pathogenic agents include: cholera, leprosy, anthrax, paratyphoid fever (types A, B, and C), plague, pocks, poliomyelitis, dysentery (bacterial), rabies, "Tularaemie" (rabbit plague), viral "hemorrhagical" fever, "Brucellose", diptheria, meningitis/encephalitis, Q-fever, "Rotz" (malleus), tuberculosis (active form), and viral hepatitis.

  These type of wastes may be generated in the facilities such as infectious wards, dialysis wards, and dialysis centers with yellow dialysis, pathology, blood banks, and physicians' practices, as well as in veterinary medical practices and clinics. These wastes are normally generated through the treatment of a patient, for example, material contaminated with infectious secretions or excretions. This usually does not include wrapping materials.

- Wastes from facilities and medical activities such as microbiological cultures generated in institutes for hygiene, microbiology, and virus research, as well as in laboratory medicine and in physician's practices with similar activities. These include:

  - Test animals, where the spreading of infectious diseases is of concern.
  - Litter and excrements from test animal facilities, where the spreading of infectious diseases is of concern.

Category D Medical Wastes. Wastes that have special disposal requirements from an environmental point of view (i.e., hazardous wastes). Examples include:

- Solid mineral wastes, such as glass and ceramic wastes with dangerous contamination and used filters or absorption masses (silica, active soils, active charcoal) with dangerous contamination.
- Wastes from plant protection agents and pesticides as well as from pharmaceutical products, such as old stocks and residues of plant protection agents and pesticides, wastes resulting from the production and preparation of pharmaceutical products (including chemotherapy drugs), and disinfectants.
- Laboratory wastes and chemical residues identified as hazardous waste in Chapter 6, Hazardous Waste such as inorganic acids, acid mixtures, pickling solutions (acidic), lyes, lye mixtures, pickling solutions (alkaline), tetrachloromethane, solvent mixtures containing halogenated organic solvents, benzole, toluene, xylene, methanol and other liquid alcohols, solvent mixtures without halogenated organic solvents, fine chemicals, and the remains of laboratory organic or inorganic chemicals.
- Wastes from X-ray laboratories, such as lead or silver containing wastes, fixing baths, developing baths, and other concentrates.

- Non-iron metal-containing wastes, such as dental amalgams, nickel cadmium accumulators, batteries containing mercury, dry cells, mercury, mercury-containing residues, mercury vapor lamps, and fluorescent tubes.
- Mineral oils and synthetic oils, such as transformer oils, heat carrier oils, hydraulic oils, PCB containing products or wastes, fuels, and lubricants.
- Old or otherwise unsuitable medications excluding chemotherapy drugs.

Category E Medical Waste. Wastes that have additional disposal requirements from a sensitive and/or respectful point of view. For example, body parts and organ wastes.

Noninfectious Medical Waste. Solid waste created that does not require special management because it has been determined to be incapable of causing disease in man or which has been treated to render it noninfectious. These wastes fall into categories A, D, and E medical wastes. Category D and E medical wastes still require special handling.

SAD. Landfill for wastes requiring special supervision.

SAV. Incineration facility for wastes requiring special supervision.

Solid Waste. All moveable property (see Table C7.T2 of Chapter 7, Solid Waste) which the owner disposes or recycles, wishes to dispose or recycle, or must dispose or recycle. Disposal processes are listed in Table C7.T4 of Chapter 7, Solid Waste and recycling processes in Table C7.T3 of Chapter 7, Solid Waste.

Treatment. Any method, technique or process designed to change the physical, chemical, or biological character or composition of any infectious hazardous or infectious waste so as to render such waste non-hazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume. Treatment methods for infectious waste must eliminate infectious agents so that they no longer pose a hazard to persons who may be exposed.

C8.3 GENERAL REQUIREMENTS

The following general requirements apply to the general handling and management of medical waste:

C8.3.1 During the internal (i.e., within the health care facility) transport and/or handling of medical waste, it must be classified and handled as Category A, B, C, D, or E medical waste. All classes of medical waste will be separated, if practical, with regard to their LAGA category or EWC key number at the point of origin. If medical waste is prepared for off-site transport and disposal, the nomenclature contained in the EWC should be used (see Table C8.T2).

C8.3.2 Mixtures of infectious medical wastes and hazardous wastes will be handled as infectious hazardous waste under DoD 4160.21-M (reference (l)) and are the responsibility of the generating DoD Component. Priority will be given to the hazard

that presents the greatest risk. Defense Reutilization and Marketing Offices (DRMOs) have no responsibility for this type of property until it is rendered noninfectious as determined by the appropriate DoD medical authority.

C8.3.3 Solid waste that is classified as a hazardous waste in accordance with Chapter 6, Hazardous Waste will be managed in accordance with the criteria in Chapter 6.

C8.3.4 Mixtures of other solid waste (e.g., Category A) and infectious wastes (e.g., Category B or Category C) will be handled as infectious medical waste and be classified with regard to the greatest risk.

C8.3.5 Radioactive medical waste will be managed in accordance with Service Directives.

C8.3.6 Category B and Category C medical waste must be segregated, transported and stored in disposable receptacles, reutilization receptacles, or in a combination of both. All types of containers must be lockable, moisture resistant, odor proof, able to withstand the hazards of being handled and moved, and durable enough to resist punctures and to prevent rupture or leaks during ordinary use. Bags or receptacles should be a minimum of 3 mils thick. Bag volumes should not exceed 70 L. Reutilization receptacles must be easy to clean and disinfect, and must be carefully maintained.

C8.3.7 All bags or receptacles used to segregate, transport or store infectious medical waste will be clearly marked with the universal biohazard symbol and the word "BIOHAZARD" and will include marking that identifies the generator, date of generation and the contents.

C8.3.8 Sharps will only be discarded into rigid and puncture resistant receptacles. Sharps/needles shall not be clipped, cut, bent, or recapped before disposal.

C8.3.9 Infectious medical waste will be transported and stored to minimize human exposure, and will not be placed in chutes or dumbwaiters.

C8.3.10 Infectious medical waste will not be compacted unless converted to noninfectious medical waste by treatment as described in subsection C8.3.17. Containers holding sharps will not be compacted.

C8.3.11 All anatomical pathology waste (i.e., large body parts) will be placed in containers lined with plastic bags that comply with subsection C8.3.6 so that the contents are not visible until its final disposal. All anatomical pathology waste must only be disposed of by burial after being treated for disposal by incineration or cremation.

C8.3.12 HANDLING OF BLOOD AND BLOOD PRODUCTS

Blood, blood products, and other liquid infectious wastes will be handled as follows:

C8.3.12.1 Bulk blood or blood products of Category B may only be decanted into clinical sinks and the emptied containers will be managed as Category B medical waste.

Bulk blood or blood products of Category C may be decanted into clinical sinks after disinfection and the emptied containers will be managed as Category C medical waste. Non-disinfected Category C waste must be managed as hazardous waste and incinerated.

Bulk blood or blood products of Category E may only be collected in appropriate containers. Filled containers must be managed as Category E medical waste.

C8.3.12.2 Suction canister waste from operating rooms will either be decanted into a clinical sink (Category B or disinfected Category C waste) or will be sealed into leak-proof containers and incinerated (e.g., non-disinfected Category C waste).

C8.3.13 PERSONAL PROTECTIVE EQUIPMENT

C8.3.13.1 All personnel handling infectious medical waste will wear appropriate protective apparel or equipment such as gloves, coveralls, mask, and goggles sufficient to prevent the risk of exposure to infectious agents or pathogens.

C8.3.13.2 The Facility Commander of a medical facility is obligated to implement necessary hygienic measures and to provide individual personnel protective equipment as well as protective apparel.

C8.3.13.3 The Facility Commander must provide:

C8.3.13.3.1 Appropriate apparel in sufficient number.

C8.3.13.3.2 Thin and waterproof gloves, if personnel hands have the potential to contact blood, excrement, pus, or skin affecting substances.

C8.3.13.3.3 Rigid and waterproof gloves for disinfecting and cleaning used instruments and surfaces.

C8.3.13.3.4 Waterproof aprons, if permeation of the protective apparel may be a concern.

C8.3.13.3.5 Waterproof footwear, if drenching of shoes may be a concern.

C8.3.13.3.6 Face and head protecting wear, if sparkling or spraying of infectious substances may be a concern and other technical measures do not provide sufficient protection.

C8.3.13.4 The Facility Commander is responsible for ensuring that procedures are established and that facilities are available for the disinfection, cleaning, and maintaining of the supplied apparel.

C8.3.13.5 The Facility Commander must ensure that separate storage facilities are available for protective apparel and other clothing.

C8.3.13.6 The functionality and effectiveness of the technical protection measures must be examined regularly in order to minimize the contamination of the work place and the exposure of employees.

C8.3.13.7 Employees must remove all protective apparel before entering day rooms or dining rooms.

C8.3.13.8 Employees are not allowed to eat and drink at work places that may be contaminated with biological material. Separate rooms must be provided for eating and drinking.

C8.3.14 STORAGE REQUIREMENTS

If infectious medical waste cannot be treated on-site, it will be managed during storage as follows:

C8.3.14.1 Infectious medical waste collected at the point of generation can only be stored at this location for a maximum of 24 hours before it must be transferred to an internal central storage location. The storage sites at the point of generation must be well ventilated in order to prevent odor annoyance. Provisions for hand cleaning and disinfecting must exist nearby.

C8.3.14.2 Infectious medical waste may not be stored in aisles or in front of elevators at any time (not even on a temporary basis).

C8.3.14.3 Infectious medical waste storage locations should be designed and operated to avoid dust or odor annoyance, and pest attraction.

C8.3.14.4 Non-refrigerated infectious medical waste should be transported for disposal at least twice a week.

C8.3.14.5 Category C must be stored in accordance with the requirements of the following:

Duration time	Temperature
14 days	Maximum 5°C (41°F)
Maximum of 7 days (168 hours)	15°C (59°F)
Maximum of 4 days (96 hours)	Cooling is not required.

C8.3.14.6 If Category B, C or E medical waste cannot be treated on-site, it will be maintained in a nonputrescent state, using refrigeration as necessary.

C8.3.14.7 Infectious medical waste with multiple hazards (i.e., infectious hazardous waste, or infectious radioactive waste) will be segregated form the general infectious waste stream when additional or alternative treatment is required.

C8.3.15 STORAGE SITES

Storage sites must meet the following requirements:

C8.3.15.1 All collected medical waste must be stored at an internal central location, which is specifically designated and designed for that function.

C8.3.15.2 The central medical waste storage location must be constructed to prevent entry of insects, rodents, and other pests.

C8.3.15.3 The central medical waste storage location must be lockable to prevent access by unauthorized personnel.

C8.3.15.4 The central medical waste storage location must be marked on the outside with the universal biohazard symbol and the word "BIOHAZARD" in both English and German *("Biogefährdeng").*

C8.3.15.5 Rooms for the internal central storage of medical waste must be situated in an area of the medical facility, so that impacts on other non-clinical sections (e.g., kitchen, nursing areas) are minimized.

C8.3.15.6 The central storage location should be easy to access from outside to facilitate waste transport. Central storage rooms must be designed in order to enable the application of approved disinfecting measures. The central storage location for Category C wastes must be in a separate storage room

C8.3.15.7 A location for cleaning and disinfecting hands, as well as for changing coveralls, must be installed in close proximity to the central storage location.

C8.3.16 MEDICAL WASTE CONTAINERS

Bags and receptacles containing infectious medical waste must be placed into rigid or semi-rigid, leak-proof containers before being transported off-site.

C8.3.16.1 Before being transported off-site, bags and receptacles containing Category C or Category E waste must be placed into containers that meet the following requirements:

- rigid or semi-rigid so as to be puncture resistant;
- waterproof;
- leak-proof;
- able to be disinfected;
- germ resistant;
- lockable;
- approved with respect to the manner of construction; and
- the containers must be labeled in German and English with the name of the waste generating installation, date of waste generation, and the associated UN-number. The containers must be supplied with an accompanying document on which it includes in German *"Ansteckungsgefahr, bei*

Beschädigung oder Auslaufen unverzüglich zuständige Gesundheitsbehörde benachrichtigen" ("Infection Danger – in case of damage or leakage, immediately notify the local health authority").

C8.3.16.2 The internal transfer of medical waste containers must meet the following requirements.

- The internal collection and transportation system must be compatible with the external disposal procedures beyond the medical facility.
- Wastes whose improper utilization could be a danger to the public, must be inaccessible for unauthorized persons.
- The internal transfer of wastes to a central storage or transfer site, must occur in such a way that pathogenic agents may not escape.
- It is prohibited to re-open or transfer (to a location other than the central storage site) containers with Category C and Category E wastes, or to sort these wastes.

C8.3.17 TREATMENT AND DISPOSAL REQUIREMENTS

Infectious medical waste must be treated in accordance with Table C8.T3 and the following before disposal. Additionally, disposal of medical waste should be in general accordance with Table C8.T1.

C8.3.17.1 Sterilizers must maintain the temperature at 121°C (250°F) for at least 30 minutes at 15 psi.

C8.3.17.2 The effectiveness of sterilizers must be checked at least weekly using Bacillus stearo thermophilus spore strips or an equivalent biological performance test.

C8.3.17.3 Incinerators used to treat medical waste must be designed and operated to maintain a minimum temperature of 850°C and a retention time of 2 seconds, even under disadvantageous conditions, homogenous mixing and an oxygen volume share of 6 percent presumed. They must meet applicable criteria in Chapter 2, Air Emissions.

C8.3.17.4 All ash and/or residue from the incineration of medical waste must be managed as a hazardous waste and disposed of in a landfill for waste requiring special supervision (SAD).

C8.3.17.5 Chemical disinfection is not permitted as a means of treatment for Category C medical waste.

C8.3.18 CONTINGENCY PLANS

Installations will develop contingency plans for treatment or disposal of infectious medical waste should the primary means become inoperable.

C8.3.19 MEDICAL WASTE SPILLS

Spills of infectious medical waste will be cleaned up as soon as possible in accordance with the following:

C8.3.19.1 Response personnel must comply with subsection C8.3.13.

C8.3.19.2 Blood, body fluid, and other infectious fluid spills must be removed with an absorbent material that must then be managed as infectious medical waste.

C8.3.19.3 Surfaces contacted by infectious medical waste must be washed with soap and water and chemically decontaminated in accordance with paragraph C8.3.17.5.

C8.3.20 RECORDKEEPING

C8.3.20.1 Installations will maintain records, for at least three years after the date of disposal, of the following information concerning infectious medical waste:

C8.3.20.1.1 Type of waste (in accordance with the EWC);

C8.3.20.1.2 Amount of waste (volume or weight);

C8.3.20.1.3 Treatment, if any, including date of treatment; and

C8.3.20.1.4 Disposition, including date of disposition, and if the waste is transferred to host nation facilities, receipts acknowledging paragraphs C8.3.20.1 – C8.3.20.3 for each transfer.

C8.3.20.2 The installation must maintain this information in a central location (i.e., file, binder, or other suitable means). The installation must maintain the following information as part of this recordkeeping: the accompanying documentation *(Begleitscheine),* acceptance slips *(Übernahmescheine),* and disposal manifests *(Entsorgungsnachweise).*

C8.3.20.3 All accompanying documentation must be filed within 10 days of receipt and records must be kept in chronological order.

C8.3.21 GENERAL PRINCIPALS OF MEDICAL WASTE MANAGEMENT

C8.3.21.1 The management of medical waste should incorporate the following concepts:

C8.3.21.1.1 To the maximum extent possible, the generation of medical waste should be avoided, specifically through a reduction in the amount of waste generated and its hazard characteristics.

C8.3.22 WASTE MANAGEMENT OFFICER

C8.3.22.1 A waste management officer must be appointed at all DoD clinics and hospitals.

C8.3.22.2 The waste management officer must submit an annual report to the Facility Commander of the organization, concerning measures taken and planned with respect to their duties.

C8.3.22.3 Additional duties of the waste management officer shall include:

C8.3.22.3.1 Providing advice regarding medical waste management to the Facility Commander and employees.

C8.3.22.3.2 Tracking waste generated at the facility from its point of generation to disposal.

C8.3.22.3.3 Supervising compliance at the facility with regard to medical waste management through regular inspections of facilities and evaluating the type and nature of waste generated, recycled, or disposed; and, to provide information regarding identified deficiencies and to make proposals for correcting these deficiencies.

C8.3.22.3.4 Informing personnel with regard to any negative impact on the public interest and/or health that could result from the waste generated, recycled, or disposed of in the facility, as well as, considering the implementation of any measures for preventing such impacts.

C8.3.22.3.5 Encouraging the development and introduction of:

- environmentally-friendly, low waste-producing procedures, including procedures for the avoidance, proper, and safe recycling and/or disposal or waste;
- environmentally-friendly, low waste-producing products, including procedures for reuse, recycling, and/or disposal upon completion of these products.

C8.3.22.3.6 Cooperating in the development and introduction of procedures (referenced above), by studying relevant procedures and products related to closed-loop waste management and disposal.

C8.3.22.3.7 Encouraging the improvement of relevant procedures in facilities in which waste is recycled or disposed.

C8.3.23 WASTE MANAGEMENT PLANS AND WASTE REGISTRY

Medical facilities that annually produce greater than 2,000 kg of waste requiring special supervision or 2,000 tons of waste requiring supervision per waste type, must prepare a Waste Management Plan and an annual Waste Registry.

C8.3.23.1 The Management Plan must address waste avoidance, reuse, and disposal of wastes generated at the facility and be updated at least every 5 years.

C8.3.23.2 The Waste Registry should include information related to an analysis of the type, amount, and storage of wastes requiring special supervision, and of waste requiring special supervision that has been recycled or disposed during the previous year.

C8.3.23.3 Both the Waste Management Plan and Waste Registry must be submitted to the competent authorities upon request. A Waste Management Plan and a Waste Registry must be prepared for each individual medical facility meeting the criteria of C8.3.23.

C8.3.24 HAZARDOUS MEDICAL WASTE

C8.3.24.1 Laboratory Wastes and Chemical Residues

C8.3.24.1.1 Laboratory wastes that are subject to reuse or recycling must be segregated with respect to their specific chemical substances.

C8.3.24.1.2 Laboratory chemicals and solvents must be collected and preferably reused, if the required costs are reasonable compared to other disposal costs.

C8.3.24.2 Wastes from X-Ray Laboratories

C8.3.24.2.1 Recovery methods should be implemented with regard to treating fixing and developing baths. Used films and lead foils should be recovered for reuse.

C8.3.24.3 Non-Iron Metal-Containing Wastes

C8.3.24.3.1 Wastes containing heavy metals must be segregated and processed separately for disposal. This applies particularly to mercury containing wastes. Mercury filled thermometers should no longer be purchased. If reuse is not possible, mercury waste must be disposed in accordance with Chapter 6, Hazardous Waste.

C8.3.24.3.2 Dry-cell batteries should be substituted by rechargeable batteries. Batteries that cannot be reused must be disposed of as waste requiring special supervision.

C8.3.24.3.3 Fluorescent tubes should be recovered for reuse. If reuse is not possible, these wastes must be disposed in accordance with Chapter 6, Hazardous Waste.

C8.3.24.3.4 Dental liquid wastes containing amalgam may only be discharged into public sewer lines, if a discharge license has been issued by the competent water authority. Procedures for obtaining licenses are addressed in Chapter 1, Overview. The amalgam load of the dental wastewater must be reduced at the place of origin by 95 percent through the use of amalgam separators. Amalgam containing wastes must be segregated and disposed through companies that are capable of recovering the zinc, silver, or mercury in the wastes.

C8.3.24.4 Mineral Oils and Synthetic Oils

C8.3.24.4.1 PCB-contaminated medical wastes must be processed and disposed according to the requirements presented in Chapter 14, Polychlorinated Biphenyls.

C8.3.24.5 Out-dated Medications and Chemotherapy Drugs

C8.3.24.5.1 Out-dated medications must be collected and handled separately from other wastes in order to prevent misuse.

C8.3.24.5.2 Chemotherapy drugs must be segregated from other out-dated medicines and preferably disposed by incineration for waste requiring special supervision. This is not applicable for materials that are generated as wastes through the handling of chemotherapy drugs or have only been contaminated with these drugs in a small amount. These wastes should be separated, and may be processed as Category B medical wastes.

Table C8.T1 Appropriate Waste Disposal Paths

Category	Waste Types	Disposal Path
A	Household waste, disinfected waste, household similar industrial waste, kitchen and canteen waste	▪ Reuse and Recycling (wrapping material, paper, card boards, glass, metal, plastics) ▪ Composting ▪ HMD, HMV
B	Waste contaminated with blood and secretions	▪ Reuse and Recycling (separate from A-waste) ▪ HMD, HMV
C + E	Infectious waste Wastes with special requirements from an ethical point of view	After disinfection: HMD, HMV Without disinfection: SAV
D	Chemotherapy drugs	SAV
	Old medications	SAV, HMV, HMD
	Solid mineral wastes, residues of laboratories and chemicals, wastes from X-ray laboratories, mineral oils and synthetic oils	▪ SAV, SAD, CPB, UTD ▪ Special recovery measures

Abbreviations:

HMV Incineration facility for household waste

HMD Landfill for household waste

SAV Incineration facility for waste requiring special supervision

SAD Landfill for waste requiring special supervision

UTD Underground landfill

CPB Facility for chemical/physical and biological treatment

Table C8.T2 Medical Waste Classification System

EAKV Waste key	EAKV Waste Name (Type of waste including characteristics and composition)	LAGA-Classification	Waste requiring special supervision
18	**Waste from human or animal health care and/or related research (except kitchen and restaurant waste not arising from immediate health care)**		
18 01	Waste from obstetric care, diagnosis, treatment or prevention of disease in humans		
18 01 01	Sharps	Category B	
18 01 02	Body parts and organs, including blood bags and preserved blood	Category E	X*
18 01 03	Waste collection and disposal which is subject to special requirements with regard to the prevention of infection	Category C	X
18 01 04	Waste collection and disposal which is not subject to special requirements with regard to the prevention of infection (e.g., dressings, plaster casts, linen disposable clothing, diapers)	Category B	
18 01 05	Discarded chemicals and medicines	Category D	X
18 01 05 D[1]	Chemotherapy drugs	Category D	X
18 02	Waste from research, diagnosis, treatment or prevention of disease involving animals		
18 02 01	Sharps	Category B	
18 02 02	Waste collection and disposal which is subject to special requirements with regard to the prevention of infection	Category C	X
18 02 03	Waste collection and disposal which is not subject to special requirements with regard to the prevention of infection	Category B	
18 02 04	Discarded chemicals	Category D	X
20	**Municipal Waste (household waste and similar commercial, industrial and institutional waste) including separately collected fractions**		
20 03 01	Other mixed municipal waste including mixed municipal waste	Category A	
Various	Various chemicals, collected separately	Category D	X

* waste with special disposal requirements from a sensitive and/or respectful point of view

Table C8.T3 Treatment and Disposal Methods for Infectious Medical Waste

Type of Medical Waste	Method of Treatment	Method of Disposal
Microbiological	[1] *Steam sterilization*	[2] Municipal solid waste landfill (MSWLF)
	Incineration	MSWLF
Pathological	[3] Incineration	MSWLF
	[3] Cremation	Burial
	[4] *Steam sterilization*	[5] Domestic wastewater treatment plant (DWTP)
Bulk blood & suction canister waste	[6] Steam sterilization	DWTP
	[6] Incineration	MSWLF
Sharps in sharps containers	Steam sterilization	MSWLF
	Incineration	MSWLF

[1] Preferred method for cultures and stocks because they can be treated at point of generation.

[2] See Chapter 7, Solid Waste for criteria for solid waste landfills.

[3] Anatomical pathology waste (i.e., large body parts) must be treated either by incineration or cremation prior to disposal.

[4] This only applies to placentas, small organs and small body parts which may be steam sterilized or chemically sterilized, ground, and discharged to a domestic wastewater treatment plant.

[5] See Chapter 4, Wastewater for criteria for domestic wastewater treatment plants.

[6] Bulk blood or suction canister waste known to be infectious must be treated by incineration or steam sterilization before disposal.