

SCOPE & DEFINITIONS

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, and related spill contingency and emergency response requirements. These matters are covered under other chapters. This guide does not cover munitions.

Hazardous Chemical Warning Label – A label, tag, or marking on a container which provides the following information and which is prepared in accordance with DoD 6050.5-H (DoD Hazardous Chemical Warning Labeling System):

- Identification/name of hazardous chemicals
- Appropriate hazard warnings
- The name and address of the manufacturer, importer or other responsible party

Hazardous Material – Any substance, compound, preparation, or material that is capable of posing an unreasonable risk to health, safety, or environment if improperly handled, stored, issued, transported, labeled, or disposed because it displays a characteristic listed in Table 5.1 (Typical Hazardous Materials Characteristics) or the material is listed in Appendix A. Munitions are excluded.

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 DoD land 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, in excess of any of the following quantities:

- For hazardous material identified as a result of inclusion in Appendix A, any quantity in excess of the reportable quantity listed in Appendix A
- For other liquid or semi-liquid hazardous material, in excess of 410 liters (110 gallons)
- For other solid hazardous material, in excess of 225 kg (500 pounds)
- For combinations of liquid, semi-liquid and solid hazardous materials, in excess of 340 kg (750 pounds)

Material Safety Data Sheet (MSDS) – A form used by manufacturers of chemical products to communicate to users the chemical, physical, and hazardous properties of their product.

CRITERIA

C5.1 STORAGE AND HANDLING OF HAZARDOUS MATERIALS

Storage and handling of hazardous materials will adhere to 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 4450-12 provide additional guidance on the storage and handling of hazardous materials. 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. In addition, hazardous material MSDSs will be reviewed to determine whether additional handling and storage requirements are required for a specific chemical.

Installations that store hazardous materials will provide the Spanish Base Commander with sufficient information to seek a construction/operation permit (from the municipal council) for their storage facilities. A technical report (with the facility's design specifications and safety measures) must be submitted with the permit request.

Installations that store hazardous materials at volumes listed in Table 5.2 will also provide the Spanish Base Commander with sufficient information to seek registration/inscription in the Ministry of Industry's Register of the Province Delegation. The registration/inscription request must include a copy of the technical report (prepared for the permit request). To maintain the registration/inscription, installations must submit a conformity certificate to the Spanish Base Commander every 5 years (for submittal to the Ministry of Industry). The certificate is issued by an Authorities' Collaborating Company [Entidad Colaboradora], stating the facility is in compliance with the applicable standards for the material stored.

C5.2 HAZARDOUS MATERIAL DISPENSING AREAS

Hazardous material dispensing areas will be located away from catch basins and storm drains. The dispensing area will be designed and operated so that any spilled liquids will flow to a sump or basin that is connected to an appropriate collection container, to prevent such spills from entering the sewer network. The dispensing area will also be designed and operated to provide appropriate segregation for incompatible hazardous materials.

Hazardous material dispensing areas will be properly maintained. 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. Appropriate chemical warning signs will be posted for each hazardous material stored in the area. Hazardous material MSDSs will be reviewed to determine whether additional handling and storage requirements are required for a specific chemical.

If hazardous materials are delivered to the dispensing area from a tanker vehicle, the following requirements apply during deliveries:

- Smoking is prohibited in and around the vehicle
- The vehicle engine must be shut off during unloading operations, unless power is required to operate a pump
- If the delivery involves flammable materials with a flash point less than 61°C, the vehicle must be grounded prior to commencing the unloading operation

C5.3 HAZARDOUS MATERIAL SHIPMENT

Installations will ensure that for each hazardous material shipment transported on Spanish public roads:

C5.3.1 The shipment is accompanied throughout by shipping papers that clearly describe the quantity and identity of the material and that include an MSDS. The shipment papers must include the Spanish accident instruction sheets (Instrucciones en caso de accidente). The accident instruction sheets should include the following information:

- Name of the hazardous material, class, and identification number, and a brief description of the physical state (including color and associated odors)
- Associated risk (primary, secondary, and risks for the environment)
- Type of personal protective equipment to be used
- Immediate response measures to be taken by the driver in the event of an accident
- Spill containment measures to be taken by the driver in the event of leaks or spills
- Indication of hazardous materials that react with water
- First aid measures
- Any additional information considered necessary for the material in transport

C5.3.2 All Spanish drivers must be ADR certified (by a training center authorized by the General Directorate of Traffic); U.S. military drivers must also be ADR trained. See C5.10. All drivers must be briefed on the hazardous material included in the shipment, including health risks of exposure and the physical hazards of the material (including potential for fire, explosion, and reactivity).

C5.3.3 All drivers will be trained on spill control, use of the accident instruction sheets (see C5.3.1), and emergency notification procedures. Notification procedures are established in Chapter 18.

- C5.3.4 For any hazardous material categorized on the basis of Appendix A, the shipping papers and briefing for the driver must include identification of the material's hazardous properties.
- C5.3.5 The vehicles are subjected to a walk-around inspection by supervisory personnel before and after the material is loaded.
- C5.3.6 Packages are labeled in accordance with Joint Service Publications (see C5.1), C5.7, and Table 5.2. The Joint Service Publications incorporate requirements for UN standard packaging.
- C5.3.7 DoD installations with regular off-installation hazardous material transport activities will identify those transport routes and associated spill scenarios in their installation Spill Prevention and Response Plan and will provide the off-installation transport route information to the Spanish Base Commander (see C18.2.13).
- C5.3.8 If a commercial transporter is used, contracting officials will ensure that the transporter has the applicable licenses or permits for operation in Spain.

C5.4 MASTER LISTING OF STORAGE LOCATIONS & INVENTORY OF MATERIAL

Each installation will maintain a master listing of all storage locations for hazardous material and an inventory of all hazardous materials contained therein (see C18.2).

C5.5 MATERIAL SAFETY DATA SHEETS

Each material safety data sheet (MSDS) shall be in English and Spanish if Local National workers are present in the work place, and shall contain at least the following information. If a translated MSDS is not available, bilingual training will be provided on the content of the MSDS.

- C5.5.1 The identity used on the label:
- C5.5.1.1 If the hazardous chemical is a single substance, its chemical and common name, and its Chemical Abstract Service (CAS) Number
 - C5.5.1.2 If the hazardous chemical is a mixture which has been tested as a whole to determine its hazards, the chemical and common name(s) of the ingredients which contribute to these known hazards, and the common name(s) of the mixture itself; or,
 - C5.5.1.3 If the hazardous chemical is a mixture which has not been tested as a whole:
 - C5.5.1.3.1 The chemical and common name(s) of all ingredients which have been determined to be health hazards, and which comprise 1% or greater of

the composition, except that chemicals identified as carcinogens shall be listed if the concentrations are 0.1% or greater

- C5.5.1.3.2 The chemical and common name(s) of all ingredients which have been determined to be health hazards, and which comprise less than 1% (0.1% for carcinogens) of the mixture, if there is evidence that the ingredient(s) could be released from the mixture in concentrations which would exceed an established OSHA permissible exposure limit, or could present a health hazard to employees
- C5.5.1.3.3 The chemical and common name(s) of all ingredients which have been determined to present a physical hazard when present in the mixture
- C5.5.2 Physical and chemical characteristics of the hazardous chemical (such as vapor pressure, flash point)
- C5.5.3 The physical hazards of the hazardous chemical, including the potential for fire, explosion, and reactivity
- C5.5.4 The health hazards of the hazardous chemical, including signs and symptoms of exposure, and any medical conditions which are generally recognized as being aggravated by exposure to the chemical
- C5.5.5 The primary route(s) of entry (inhalation, skin absorption, ingestion, etc.)
- C5.5.6 The appropriate occupational exposure limit recommended by the chemical manufacturer, importer, or employer preparing the MSDS, where available
- C5.5.7 Whether the hazardous chemical has been found to be a potential carcinogen
- C5.5.8 Any generally applicable precautions for safe handling and use which are known to the chemical manufacturer, importer, or employer preparing the MSDS, including appropriate hygienic practices, protective measures during repair and maintenance of contaminated equipment, and procedures for clean-up of spills and leaks
- C5.5.9 Any generally applicable control measures which are known to the chemical manufacturer, importer, or employer preparing the MSDS, such as appropriate engineering controls, work practices, or personal protective equipment
- C5.5.10 Emergency and first aid procedures
- C5.5.11 The date of preparation of the MSDS or the last change to it
- C5.5.12 The name, address and telephone number of the chemical manufacturer, importer, employer, or other responsible party preparing or distributing the MSDS, who can

provide additional information on the hazardous chemical and appropriate emergency procedures, if necessary

C5.6 MSDS FILE

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 HMIS and those MSDSs prepared for locally-purchased items should be incorporated into HMIS. A file of MSDS information not contained in HMIS should be maintained on site.

C5.7 HAZARDOUS CHEMICAL WARNING LABELS

All hazardous materials on DoD installations will have a Hazardous Chemical Warning Label in accordance with DoDI 6050.5-H and have MSDS information either available or in HMIS in accordance with DoD Directive 6050.1 and other Component instructions. These requirements apply throughout the life-cycle of these materials.

All hazardous materials labels must be in English and Spanish if Local National workers are present in the workplace and must follow the requirements in Table 5.3. If a translated label is not available, bilingual training will be provided on the content of the label.

C5.8 REDUCTION OF THE USE OF HAZARDOUS MATERIAL

DoD installations will reduce the use of hazardous materials where practical through resource recovery, recycling, source reduction, acquisition, or other minimization strategies in accordance with Service guidance on improved hazardous material management processes and techniques.

C5.9 EXCESS HAZARDOUS MATERIAL

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 in accordance with Spanish and EU laws (i.e., requirements on the import, sale, or trade of hazardous material). Applicable laws regarding hazardous material transfer include a requirement for labeling (C5.7) and a requirement that the transfer be accompanied by a Spanish language MSDS. This criterion is not intended to prohibit the transfer of usable hazardous material between DoD activities participating in a regional or local pharmacy or exchange program.

C5.10 PERSONNEL TRAINING

All personnel who use, handle, or store hazardous materials will be trained in accordance with DoDI 6050.5 (DoD Hazard Communication Program) and other Component instructions. The

training will be documented and the training records will be retained in accordance with applicable instructions. At a minimum, the training will include the following subjects:

- Hazards to which the personnel are potentially exposed
- Precautions for safe use of the hazardous material
- Personal protective equipment and control devices
- Exposure symptoms and emergency first aid treatment
- The use of MSDSs
- Labeling of hazardous materials in accordance with C5.7 and DoDI 6050.5-H
- Waste disposal instructions

All U.S. military personnel who transport hazardous material by vehicle will also be trained in accordance with ADR. Local National employees who transport hazardous material by vehicle must be ADR trained and certified (by a training center authorized by the Spanish General Directorate of Traffic). Local National employees who transport hazardous material by tank trucks must receive specific ADR training for tank truck transportation.

Local National employees who use, handle, or store hazardous materials must receive training on general health and safety issues as well as on the specific hazards associated with the worker's specific tasks/duties. The training must be conducted at the time of first employment, when the worker is transferred or receives different duties, and when new technologies, tools, or materials are introduced. The training must be periodically repeated according to the evolution of the risks or when new risks are identified. The training should include information on:

- Health and safety hazards associated with the general activities conducted at the work place
- Preventive and protective measures and activities adopted
- Specific hazards to which the worker is exposed on the basis of his/her job/tasks
- Spanish health and safety regulations and organization norms on health and safety
- Hazards related to the handling and use of the hazardous materials, according to the data contained in the MSDSs
- First aid procedures, fire fighting, and site evacuation

C5.11 PREVENTION OF UNAUTHORIZED ENTRY

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

C5.12 PROHIBITED OR RESTRICTED-USE PRODUCTS

The materials listed in Table 5.4 are classified as prohibited for use or as restricted use within Spain.

ADMINISTRATIVE ITEMS

1. Installations that store hazardous materials will provide the Spanish Base Commander with sufficient information to seek a construction/operation permit (from the municipal council) for their storage facilities. A technical report (with the facility's design specifications and safety measures) must be submitted with the permit request.
2. Installations that store hazardous materials at volumes listed in Table 5.2 will also provide the Spanish Base Commander with sufficient information to seek registration/inscription in the Ministry of Industry's Register of the Province Delegation. The registration/inscription request must include a copy of the technical report (prepared for the permit request). To maintain the registration/inscription, installations must submit a conformity certificate to the Spanish Base Commander every 5 years (for submittal to the Ministry of Industry). The certificate is issued by an Authorities' Collaborating Company [*Entidad Colaboradora*], stating the facility is in compliance with the applicable standards for the material stored.
3. Installations with regular off-installation hazardous material transport activities will identify those transport routes and associated spill scenarios in their installation Spill Prevention and Response Plan and will provide the off-installation transport route information to the Spanish Base Commander (see C18.2.13).

Table 5.1 – Typical Hazardous Materials Characteristics

1. The item is a health or physical hazard. Health hazards include carcinogens, corrosive materials, irritants, mutagenics, noxious materials, sensitizers, toxic materials, very toxic materials, materials that are toxic for reproductive activities, materials which damage the skin, eyes, or internal organs, and materials that are hazardous to the environment. Physical hazards include combustible liquids, comburent materials (oxidizing agents), compressed gases, explosives, flammable materials, easily flammable materials, extremely flammable materials, organic peroxides, oxidizers, pyrophoric materials, unstable (reactive) materials, and water-reactive materials.
2. The item and/or its disposal is regulated by the host nation because of its hazardous nature.
3. The item contains asbestos, mercury, or polychlorinated biphenyls.
4. The item has a flashpoint below 93°C (200°F) closed cup, or is subject to spontaneous heating or is subject to polymerization with release of large amounts of energy when handled, stored, and shipped without adequate control.
5. The item is a flammable solid or is an oxidizer or is a strong oxidizing or reducing agent with a standard reduction potential of greater than 1.0 volt or less than -1.0 volt.
6. 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.
7. The item has special characteristics that, in the opinion of the manufacturer or the DoD Components, could cause harm to personnel if used or stored improperly.

Table 5.2 – Hazardous Material Storage Volumes that Require Registration

| Product Class | Description | Storage Volume that Requires Registration* | |
|---|---|--|---------|
| | | Liters | Gallons |
| Combustible and Flammable Liquids: | | | |
| Class A | Liquefied products with an absolute vapor pressure (at 15°C) higher than 98 kPa. These products are divided into two subclasses: A1 - products stored in liquid phase at temperatures below 0°C A2 - products stored in liquid phase in other conditions | 85 | 22.4 |
| Class B | Products with a flash point below 55°C, that are not included in Class A. Depending on their flash point, they are divided into two subclasses: B1 - products whose flash point is below 38°C B2 - products whose flash point is 38°C or higher | 100 | 26.4 |
| Class C | Products with a flash point between 55°C and 100°C | 200 | 52.8 |
| Class D | Products with a flash point higher than 100°C | 400 | 105.7 |
| Corrosive Materials: | | | |
| Class A | Very Corrosive Substances - Substances that cause necrosis in the cutaneous tissue in the application area when applied over the intact skin of an animal for < 3 minutes | 200 | 52.8 |
| Class B | Corrosive Substances - Substances that cause necrosis in the cutaneous tissue in the application area when applied over the intact skin of an animal for 3 to 60 minutes. | 400 | 105.7 |
| Class C | Less Corrosive Substances - Substances that cause necrosis in the cutaneous tissues in the application area when applied over the intact skin of an animal for 1 to 4 hours. Products that can cause corrosion of steel or aluminum at a rate of 6.25 mm/year at a temperature of 55 °C are also in this class. | 1,000 | 264.2 |

* The volume applies to a single storage area, storage facility, or storage building.

Table 5.3 – Labeling Requirements for Hazardous Materials in the Workplace

Hazardous materials must be labeled in English and Spanish if Local National workers are present in the workplace (see C5.7). The Spanish text cannot be smaller than the text of any other language, and must contain the following information:

- Name of the material
- Full name, address, and telephone number of the marketer in the EU
- Hazard symbol and specification (printed in black on a yellow-orange background); the color of the product label must be such that the hazard symbol is clearly visible
- The risk (R-) phrases specific for the use and handling of that material (if the quantity exceeds 125 ml)
- The safety (S-) phrases specific for the use and handling of that material (if the quantity exceeds 125 ml)
- The European Inventory of Existing Commercial Substances (EINECS) number, if available
- The EINECS label, if required

The label must be securely placed on one or more sides of the package, to guarantee horizontal reading when the package is stored in its normal position. The dimensions of labels must be:

| Container Capacity | Minimum Dimensions for Labels | |
|-------------------------------|-------------------------------|-------------|
| | mm | inches |
| ≤ to 3 liters | 52 x 74 | 1.77 x 2.51 |
| > 3 liters and ≤ to 50 liters | 74 x 105 | 2.51 x 3.57 |
| > 50 liter and ≤ 500 liters | 105 x 148 | 3.57 x 5.03 |
| > 500 liters | 148 x 210 | 5.03 x 7.13 |

During use within the workplace, hazardous material containers must bear the original manufacturer's label or the Hazardous Chemical Warning Label. If the manufacturer's label does not include the information required by the Hazardous Chemical Warning Label, the container should be labeled in accordance with DoDI 6050.5-H.

Table 5.4 – Prohibited or Restricted-Use Products

| Material | Prohibited Product | Restricted-Use Product |
|---|--------------------|------------------------|
| 4-Aminobiphenyl | | X |
| Alkaline extract wastes, low temperature coal tar | | X |
| Antracene oil | | X |
| Arsenic compounds | | X |
| Asbestos fibers (all types) | | X |
| Amosite | X | |
| Anthrophyllite | X | |
| Actinolite | X | |
| Crocidolite | X | |
| Chrysotile | | X |
| Tremolite | X | |
| Benzene | | X |
| Benzidine | | X |
| Cadmium and its compounds | | X |
| Carbon tetrachloride | | X |
| Chloroethylene | X | |
| Chloroform | | X |
| Coal tar acids | | X |
| Creosote | | X |
| Creosote oil | | X |
| Creosote oil (acenaphthene fraction) | | X |
| 1,1-Dichloroethylene | | X |
| Di-oxo-n-butyl-tin hydroxy-borane | | X |
| Hexachloroethane | | X |
| Lead carbonates | | X |
| Lead sulfates | | X |
| Manganese alkaline batteries | | X |
| Mercury compounds | | X |
| Monomethyl-tetrachloro-diphenyl-methane | X | |
| Monomethyl-dichloro-diphenyl-methane | X | |
| Monomethyl-dibromo-diphenyl-methane | X | |
| 2-Naphthalene | | X |
| Naphthalene oils, coal tar distilled products | | X |
| Nickel and its compounds | | X |
| 4-Nitrobiphenyl | | X |
| Organo-stannic compounds | | X |
| PCB and PCT | X | |
| Pentachlorethane | | X |
| Pentachlorophenol | | X |
| Polybromobiphenyl | X | |
| Superior distilled products from the coal tar | | X |
| 1,1,1,2-Tetrachloroethane | | X |
| 1,1,2,2-Tetrachloroethane | | X |
| 1,1,1-Trichloroethane | | X |
| 1,1,2-Trichloroethane | | X |
| Traiziridimil-phosphine oxide | X | |
| Wood creosote | | X |