

## **SCOPE & DEFINITIONS**

This Chapter contains criteria for a comprehensive management program to ensure that any waste generated by a DoD installation is identified, classified, collected, stored, transported, treated, disposed, and recycled in a safe manner that is protective of human health and the environment.

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 the type of waste defined below. Criteria for specific types of waste that require special precautions are found in Chapter 11 (Pesticides), Chapter 14 (PCBs), Chapter 15 (Asbestos), and Chapter 17 (LBP).

Based on a review of the current Italian waste management requirements, it has been determined that these FGS must be structured to follow the Italian criteria to the extent possible. Therefore, the 1994 FGS Chapters 6, 7, and 8 have been combined into this single waste management chapter, as follows:

### General Criteria for Waste Management

- Waste classification
- Transportation
- Manifests
- Record-keeping
- Training
- Miscellaneous

### Criteria for Special Waste

- General requirements
- Non-dangerous waste
- Dangerous waste
- Sanitary waste

### Criteria for Urban Waste

- General requirements
- Non-dangerous waste
- Dangerous waste

### FGS Appendices

- B.1 – European Waste Catalog
- B.2 – Waste Disposal Activities
- B.3 – Waste Recovery Activities

## **Overview of Italian Waste Classification System**

The Italian waste classification system assigns a unique six-digit code called the European Waste Catalogue number (Catalogo Europeo dei Rifiuti or CER) to each type of waste. This number unequivocally identifies a type of waste and must be used in all the documents related to the

management of that waste (e.g., shipping, transportation, record-keeping, etc.). This allows all EU countries to identify the type of waste and whether the waste is classified as a dangerous waste or not.

Waste is classified into two main categories on the basis of its origin: urban waste or special waste. These two main categories are further subdivided (depending on their degree of hazard) into dangerous waste and non-dangerous waste.

The specific definitions of urban waste and special waste are provided in the definitions section in this Chapter. The assignment of a waste into one category or the other depends on the origin of the waste. Urban waste is typically generated from household activities or residential areas and street-cleaning activities. Special wastes are generated by any other activity different from a house or residential areas (e.g., commercial, handicrafts, industrial, agricultural, etc.). Certain types of special waste that are similar or comparable in nature to urban waste may be disposed of as urban waste if so established by the local Municipality.

The evaluation of dangerousness or non-dangerousness of a known waste has been pre-determined in the Italian regulatory system. Appendix B.1 includes a column that identifies those wastes that have been classified as dangerous. The generator of a known waste is not required to evaluate the hazard characteristic of a waste in order to verify if it dangerous or not; this process has already been completed. Revisions to Appendix B.1 will be maintained by the EEA. (Classification of unknown wastes will follow the procedure in C6.1.1.)

The following table summarizes the Italian waste classification system. The specific definitions are provided in the text following the table. The list of waste is illustrative and not complete. A complete list of waste categories is provided in Appendix B.1 of this Chapter. The appendix also identifies those waste categories that have been classified as dangerous waste.

<b>Waste</b>			
<b>Urban Waste</b>		<b>Special Waste *</b>	
<ul style="list-style-type: none"> <li>• Household trash</li> <li>• Bulky household appliances</li> <li>• Waste from street cleaning, or found in public areas, river banks, sea shores, beaches</li> <li>• Yard waste (including from cemeteries)</li> <li>• Non-dangerous waste from non-residential or household activities that is classified as comparable to urban waste by the local Municipality</li> </ul>		<ul style="list-style-type: none"> <li>• Waste from agricultural and agricultural-industrial activities</li> <li>• Waste from demolition activities, construction, and excavation (see also Construction and Demolition Waste)</li> <li>• Waste from industrial activities (e.g., paint booth processes)</li> <li>• Waste from handicraft activities (e.g., MWR hobby shops, car body shops, wood carpentry shops)</li> <li>• Waste from commercial activities (e.g., commissary, Auto Pride)</li> <li>• Waste from service activities (e.g., offices)</li> <li>• Waste derived from waste recovery and disposal of waste, sludge from wastewater treatment plants, and potable water treatment plants, and from smoke abatement systems</li> <li>• Sanitary waste (e.g., hospitals, veterinary clinics, dental facilities, flightline clinics)</li> <li>• Old and obsolete machinery and equipment (e.g., DRMO/Activity scrap yards, old production equipment)</li> <li>• Scrap vehicles or their parts (e.g., DRMO/Activity scrap yards)</li> <li>• Tires</li> </ul>	
<b>Urban Waste</b>		<b>Special Waste</b>	
<b>Non-dangerous</b>	<b>Dangerous</b>	<b>Non-dangerous</b>	<b>Dangerous</b>
<ul style="list-style-type: none"> <li>• Household waste</li> <li>• Urban waste if not identified as dangerous in Appendix B.1</li> </ul>	<ul style="list-style-type: none"> <li>• Fluorescent lights</li> <li>• Pesticides</li> <li>• Photographic chemicals</li> <li>• Any waste identified as dangerous in Appendix B.1</li> </ul>	<ul style="list-style-type: none"> <li>• Above list if not identified as dangerous in Appendix B.1</li> </ul>	<ul style="list-style-type: none"> <li>• Waste paints</li> <li>• Waste oil</li> <li>• Solvents</li> <li>• Any other waste identified as dangerous in Appendix B.1</li> </ul>

\* Not a complete list

## Definitions

**Accumulation Point (AP)** – A shop, site, or other work center where hazardous wastes are accumulated until removed to a TDW or ASW, or shipped for treatment or disposal. An AP may be used to accumulate no more than one ADR-approved container of dangerous waste from each waste stream (see C6.8.2). The AP must be at or near the point of generation and under the control of the operator.

**ADR** – The European agreement concerning the International Carriage of Dangerous Goods by Road, concluded at Geneva on 30 September 1957, as amended.

**Anatomical Pathology Waste** – Human tissues and organs, amputated limbs or other body parts, fetuses, placentas, and similar tissues from surgery, delivery, or autopsy procedures; animal carcasses; and body parts. The term does not include teeth or unidentifiable body parts.

**Animal and Vegetable Oil and Grease Waste** – A special, non-dangerous waste generated by activities like installation exchanges, dining halls, schools, hospitals, restaurants, and other similar public services. The definition does not include waste generated by households.

**Annual Modello Unico di Dichiarazione (MUD) Report** – An official statement listing quantity and type of waste generated and disposed of in the previous year. The MUD form can be obtained in electronic format from the local Chamber of Commerce.

**Authorized Storage of Waste (ASW)** – A practice consisting of the storage (but not the temporary deposit) of waste prior to conducting any of the following operations:

1. Deposit on or into soil
2. On-land treatment (e.g., biodegradation of liquid or sludge waste in soil)
3. Deep-soil injection
4. Impoundment (e.g., discharge of liquids or sludge in wells, ponds, lagoons, etc.)
5. Deposit in controlled landfills (e.g., landfill with separate waste storage cells which are impervious, covered, and separated from each other and from the environment)
6. Discharge of non-liquid waste in waters, except immersion
7. Immersion, including burial, at sea bottom
8. Biological treatment not otherwise specified, originating compounds or mixtures which are disposed of through one of the operations listed from 1 to 12
9. Chemical-physical treatment not otherwise specified, originating compounds or mixtures that are disposed of through one of the operations listed from 1 to 12 (e.g., evaporation, drying, etc.)
10. On-land incineration
11. At-sea incineration
12. Permanent deposit (e.g., placing waste in containers located in a mine, etc.)
13. Preliminary gathering before conducting one of the operations listed from 1 to 12
14. Preliminary reconditioning before conducting one of the operations listed from 1 to 13
15. Any waste recovery operation

ASW must be authorized via the Italian Base Commander, in accordance with the procedures established in Chapter 1 (see C6.8.4).

**ASW/TDW Manager** – A person (or agency) on the installation assigned the operational responsibility for receiving, storing, inspecting, and general management of the installation's TDW or ASW.

**Bulky Waste** – Refrigerators and freezers, televisions, computers, dishwashing and laundry machines, air conditioners, and any other large-sized waste (i.e., furniture).

**Codice Fiscale** – A unique number that the Italian Ministry of Finance issues for any citizen, company, or public body doing business or having related activity in Italy. The Codice Fiscale is used for tax purposes and is required when filing numerous public and private documents. It can be compared to the U.S. Tax Identification Number. Even non-resident foreign citizens can have a Codice Fiscale. The Codice Fiscale can be requested at the local Tax office.

**CONAI** – The Italian National Mandatory Consortium for Packaging Waste, established to manage recycling/reuse of packaging material and waste. All companies manufacturing, selling, or trading packaging material or waste are required to participate in the CONAI.

**Collection** – The act of consolidating wastes (or materials which have been separated for the purpose of recycling) from various locations.

**Commercial Urban Waste** – Non-dangerous waste derived from locations and facilities other than housing units (with the exclusion of industrial activities) that can be classified by the Municipalities as urban waste. Examples of acceptable classification as commercial urban waste include scrap paper from offices and food residues from a restaurant. Examples of unacceptable classification as commercial urban waste include used toner cartridges from laser printers and photocopying machines or empty paint cans from a warehouse. See Urban Waste.

**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. Construction and demolition waste is classified as special waste.

**Cremation** – Burning of human or animal dead bodies at high temperatures in order to transform them into ashes.

**Dangerous Sanitary Waste** – A sub-category of sanitary waste that includes the following:

1. Waste from maternity, diagnosis, and preventive medicine wards whose collection and disposal requires specific precautions to prevent exposure to infectious agents (European Waste Code # 180103)

2. Waste from research, diagnosis, treatment, and prevention of diseases in animals whose collection and disposal requires specific precautions to prevent exposure to infectious agents (European Waste Code # 180202)
3. Expired or discarded chemicals from laboratory activities (European Waste Code # 180204); expired or discarded drugs are excluded

In addition to the three categories above, the health-related facility's Sanitary Director has the authority to classify any other sanitary waste as dangerous sanitary waste, if needed.

These FGS do not differentiate between infectious hazardous waste and infectious medical waste. A sanitary waste is, by definition, a special waste and certain categories of special waste are classified as dangerous waste because of their origin.

**Dangerous Urban Waste** – A sub-category of urban waste that includes the following waste types:

- Fluorescent lights
- Pesticides
- Photographic chemicals
- Any container labeled with "T" (toxic) and/or "F" (flammable) sold for private use only (e.g., residential or household use)

**Dangerous Waste** – Any non-residential waste identified by a "Yes" in the "Dangerous Waste" column in Appendix B.1. Note: Residential waste is never considered dangerous.

**Dangerous Waste Generation** – Any act or process that produces dangerous urban or special waste as defined in this document.

**Dangerous Waste Log** – A listing of dangerous waste deposited and removed from a Temporary Deposit of Waste (TDW) or an Authorized Storage of Waste (ASW). Information such as the waste type, volume, location, and storage removal dates should be recorded. Note: This is distinct from the Registro di Carico e Scarico.

**Disposal** – Any activity listed in Appendix B.2 (e.g., the discharge, deposit, injection, etc. of any waste into or on land so that the waste or constituent thereof may enter the environment). Proper disposal effectively mitigates hazards to human health and the environment.

**DoD Waste Generator** – In DoD, a generator is considered to be the installation, or activity on an installation, whose processes or actions generate waste.

**Elementary Neutralization** – A process of neutralizing a dangerous waste. It must be accomplished in a tank, transport vehicle, or container.

**Food Waste** – Food waste is classified as urban waste only if it is derived from housing units. Food waste from restaurants, military dining halls, Post Exchanges, or any other public activity is classified as special non-dangerous waste. Authority is given to Municipalities to classify such special waste as urban waste (see Commercial Urban Waste).

**Generation** – The act or process of producing waste.

**Hazardous Constituent** – A chemical compound that is listed by name in Appendix A or possesses the characteristics described in Table 5.1.

**Hazardous Waste** – See Dangerous Waste.

**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 dangerous 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.

**Land Disposal** – Placement in or on the land, including (but not limited to) land treatment, facilities, surface impoundments, underground injection wells, salt dome formations, salt bed formations, underground mines, or caves.

**Lower Explosive Limit** – The lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at 25°C at atmospheric pressure.

**National Waste Managing Company Register** – The nationwide register that lists all of the companies that are authorized to conduct waste managing activities (including transportation, storage, treatment, recycling, disposal, etc.). The register is divided by Region and is available at the local Chamber of Commerce.

**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** – Materials used for the containment, protection, handling, delivery, and presentation of goods (e.g., cardboard, paper, wood, plastic, foam, or any other material). Primary packaging is “sales” packaging designed to constitute a sales unit to the consumer at the point of purchase. Secondary packaging is grouped packaging (containing a number of sales units). Secondary packaging can be removed from the primary packaging without affecting the characteristics of the primary packaging. Tertiary packaging is “transport” packaging designed to facilitate handling and transport of a number of primary or secondary packaging units. (Tertiary packaging does not

include road, rail, ship, or air containers.) For example, the plastic wrapping around a new air filter is primary packaging. The cardboard box and any inner dividers or spacers holding a dozen plastic-wrapped air filters is secondary packaging. Tertiary packaging is the pallet and any wrapping or bindings holding a pallet of boxes.

**Residential Urban Waste** – Domestic urban waste (excluding bulky wastes) generated by the normal activities of households.

**Sanitary Director** – The manager in charge of operations at a medical or health-related facility.

**Sanitary Radioactive Waste** – Any waste from a sanitary or health-related facility contaminated with radioactive material (i.e., from radiology or nuclear medicine wards).

**Sanitary Waste** – A category of special waste. Sanitary waste is a waste generated by any health-related activity (including hospitals, dental clinics, and veterinary clinics). The sanitary waste definition includes both dangerous and non-dangerous sanitary waste.

Non-dangerous waste listed below from sanitary facilities is classified as “comparable to urban waste”:

1. Wastes produced from kitchens during the preparation of meals
2. Wastes from catering activities and food residues, including those from departments with infectious patients, provided that the sterilization treatment is performed
3. Provided that sterilization treatment is performed: wastes produced by public and private sanitary facilities, including wastes from medications; biological wastes and their containers; wastes from diagnostic, therapeutic, and research activities; and wastes from departments with infectious patients or from facilities dedicated to their care,
4. Provided that disinfection is performed: samples of urine, feces, and blood

**Scrap Vehicle** – A motor vehicle or its parts (including tires) that the owner intends to or is required to dispose of.

**Service Solid Waste Management Manual** – Navy NAVFAC MO-213, Army TM 5-634, or their successor documents, and the applicable Air Force Policy.

**Sludge** – A special waste generated from water potabilization activity or any other water treatment, from wastewater treatment activities, and fumes abatement.

**Special Non-Dangerous Waste** – Any waste generated by the activities listed in the Special Waste definition that is not identified by a “Yes” in the “Dangerous Waste” column in Appendix B.1.

**Special Waste** – Any non-urban waste generated by the following activities:

- Waste from agricultural and agricultural-industrial activities
- Waste from demolition activities, construction, and excavation (see also Construction and Demolition Waste)
- Waste from industrial activities (e.g., paint booth processes)
- Waste from handicraft activities (e.g., MWR hobby shops, car body shops, or wood carpentry shops)
- Waste from commercial activities (e.g., commissaries, Auto Prides)
- Waste from service activities (e.g., offices)
- Waste derived from waste recovery and disposal of waste, sludge from wastewater treatment plants, and potable water treatment plants, and from smoke abatement systems
- Sanitary waste (e.g., hospitals, veterinary clinics, dental facilities, flightline clinics)
- Old and obsolete machinery and equipment (e.g., DRMO/activity scrap yards, old production or handcraft machinery)
- Scrap vehicles or their parts (e.g., DRMO/activity scrap yards)

Special waste includes both non-dangerous and dangerous waste. Dangerous wastes are identified by a “Yes” in the “Dangerous Waste” column in Appendix B.1.

**Sterility Assurance Level (SAL)** – The probability that the waste is not sterilized after the treatment. For the purposes of this Chapter, the acceptable SAL value is  $10^{-6}$ .

**Street Waste** – See Urban Waste.

**Temporary Deposit of Waste (TDW)** – The accumulation of wastes (according to specific conditions) within the fence line of the installation, before pick-up for off-site shipment.

**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.

**Transportation** – Removal of waste from a DoD waste generating site to a location outside the physical boundary of the DoD generating site. Transportation of dangerous waste on public roads is a waste managing activity that must be authorized (see C6.2.2).

**Transporter** – The person, agent, or company who physically transports waste on public roads. Authorized transporters are listed in the National Waste Managing Company Register.

**Treatment (of Dangerous Waste, including Sanitary Waste)** – Any method, technique, or process, designed to change the physical, chemical, or biological characteristics or composition of any dangerous waste so as to render such waste non-dangerous, or less dangerous to the persons exposed or to the environment; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume. Note: Sterilization or disinfection of sanitary waste at the waste-generating medical facility is not classified as treatment.

**Type IIA Landfill** – A landfill specifically designed to accept only inert waste (i.e., rubble, demolition, construction, rocks, clean earth, etc.).

**Type IIB Landfill** – A landfill used to dispose of both dangerous and special non-dangerous waste with the exception listed for Type IIC, but not urban waste or inert waste.

**Type IIC Landfill** – A landfill that can be used to dispose of the same wastes as Type IIB above, with the addition of industrial and agricultural wastes, waste treatment wastes, and water treatment sludge (stabilized), as well as the following dangerous waste:

- Combustibles
- Waste that reacts with water or with acids and bases and develops toxic and/or flammable vapors and gases

**Third Category (Type III) Landfill** – A landfill designed for the disposal of dangerous wastes for which no other technical disposal alternative exists.

**Unique Generator Identification Number** – The generator identification is accomplished using the Codice Fiscale (Fiscal Code) of the generator in the required record-keeping documents.

**Unique Waste Identification Code** – Appendix B.1 (the European Waste Catalog) lists any known substance, material, or object that the waste generator (producer) disposes of or is required to dispose of. Each waste listed in Appendix B.1 is provided with a 6-digit number called the European Waste Code or CER. This number is used throughout the European Union to univocally identify a known waste and to ease the waste management and record-keeping process.

**Urban Waste** – Waste produced in urban (municipal) areas, including:

1. Household waste, including bulky waste from households or housing units
2. Non-dangerous waste that is not generated by households, but that can be considered as urban waste in terms of quality and quantity
3. Waste from street-cleaning activities
4. Any type of waste from any public area such as roads, parks, beaches, lake shores, river shores, or similar public areas
5. Yard waste from gardens, parks, and cemeteries, including trees, branches, and stumps
6. Wastes from exhumation and any other waste from cemetery areas different from those in #s 2, 3, and 4 above

**Urban Waste Storage Container** – A receptacle used for the temporary storage of urban waste while awaiting collection.

**Used Oil** – Any oil or other waste POL product (whether mineral or synthetic) that has become unsuitable for the use for which it was initially intended. Used oil includes oil mixtures, oily tank

residues, mixtures of oil and water, and emulsions. Used oil (other than used oil burned for energy recovery) is classified as a dangerous waste and will be managed as such.

**Used Oil Burned for Energy Recovery** – Used oil that is burned for energy recovery is termed "used oil fuel." Used oil fuel includes any fuel produced from used oil by processing, blending, or other treatment.

**Vector** – A carrier that is capable of transmitting a pathogen from one organism to another.

**Waste** – Any substance, material, or object that is listed in one of the categories in Table 6.1 and that the waste generator (producer) disposes of, intends to dispose of, or is required to dispose of, including material "disposed of" for recovery. Waste is classified according to its origin either as urban (municipal) waste or as special waste, and is further divided, depending on its degree of hazard, as dangerous waste or as non-dangerous waste. A complete list of wastes with the corresponding European Waste Code is provided in Appendix B.1.

**Waste Loading and Unloading Register (Registro di Carico e Scarico Rifiuti)** – A specific and dedicated log book, kept at the installation, where all the waste generated must be "loaded" (recorded) and then "unloaded" (recorded) when shipped off site for disposal.

**Waste Manifest (Formulario di Identificazione del Rifiuto)** – A specific form (formulario) used to track the shipment of special waste from its point of origin to its point of disposal. The formulario can be purchased in licensed stores (i.e., Buffetti stationery shops).

**Yard Waste** – See Urban Waste.

## GENERAL CRITERIA FOR WASTE MANAGEMENT

### **C6.1 Waste Classification**

C6.1.1 **Known Wastes.** Generators will classify their known waste streams using the European Waste Catalog (Appendix B.1). If the waste is classified as a dangerous waste, it will be indicated in the "Dangerous Waste" column of the appendix. Wastes that are not noted as dangerous wastes (i.e., not noted in the column) are not classified as dangerous wastes. Urban waste codes begin with 20 XX XX. Waste generated at households, residential apartments, or dwellings are classified as urban waste.

**Unknown Wastes.** Laboratory analysis will be used to identify the chemical constituents of unknown wastes. After the constituents have been identified, the appropriate waste code from Appendix B.1 will be assigned to the waste.

Retrograde Waste. If an installation perceives a need to retrograde waste (i.e., return waste to the United States), the installation must contact the Environmental Executive Agent via the Component chain of command for guidance.

- C6.1.2 Waste Analysis Plan. The ASW/TDW manager, in conjunction with the installation(s) served, will develop a plan to determine how and when wastes are to be analyzed. The waste analysis plan will also include procedures for characterization and verification testing of unknown dangerous wastes. The plan should include: parameters for testing and rationale for choosing them, frequency of analysis, test methods, and sampling methods.

## **C6.2 Transportation Criteria**

- C6.2.1 When transporting dangerous waste via commercial transportation on Italian public roads and highways, dangerous waste generators will prepare off-installation dangerous waste shipments in compliance with packaging and labeling requirements of Chapter 5 - Hazardous Material. Dangerous waste designated for international transport will be prepared in accordance with applicable international regulations (i.e., International Air Transport Association, IATA).
- C6.2.2 The transportation of dangerous waste on public roads and highways must be authorized. Installations that intend to transport dangerous waste via military vehicles on Italian public roads and highways must provide the Italian Base Commander with sufficient information to seek prior authorization of their transport (i.e., enrollment in the National Waste Managing Company Register) (see Chapter 1 for the process). The Italian Base Commander may submit the request for authorization to the competent Region or Province. As an alternative, authorized Italian waste transport companies (i.e., companies currently enrolled in the National Waste Managing Company Register) should be used for off-base transport of waste. No authorization is required if the quantity transported is less than 30 liters or 30 kg per day.

No authorization is required to transport special non-dangerous waste on public roads and highways as long as the generator (i.e., installation) is transporting their own waste.

The competent Municipality is required to offer urban waste transportation services (either directly, or using an authorized subcontractor). DoD installations that intend to conduct urban waste transportation must submit sufficient information to the Italian Base Commander to seek authorization of their transport (see Chapter 1 for the process). The Italian Base Commander may submit the request for authorization to the Municipality.

### C6.3 Manifesting Criteria

C6.3.1 Manifesting. All waste (urban and special waste, whether dangerous or non-dangerous) leaving the installation will be accompanied by the *Formulario di Identificazione del Rifiuto* (waste manifest) to ensure a complete audit trail from point of origin to ultimate disposal. (Note: urban waste removed by the Municipality with their own vehicles does not have to be manifested.) The manifest, whose pages must be numbered and stamped by the Provincial Chamber of Commerce (*Camera di Commercio Provinciale*) or by the Provincial Registry (*Ufficio del Registro Provinciale*), must include the following information:

- Name, address, and codice fiscale of the generator of the waste
- Name, address, and codice fiscale of the waste transporter
- Origin, waste code, and quantity of waste
- Disposal or recovery code to be used (see Appendices B.2 and B.3)
- Name of disposal facility
- Date and route to the disposal and/or treatment facility
- Transport vehicle license plate number and driver's name
- Name and address of the receiver

The waste manifest must be completed in quadruplet, all dated and signed by the waste generator and countersigned by the transporter. The 1<sup>st</sup> copy of the manifest will remain with the waste generator; of the remaining three copies (countersigned and dated by the receiver), the 2<sup>nd</sup> copy will remain with the transporter, the 3<sup>rd</sup> copy will remain with the receiver, and the 4<sup>th</sup> copy must be returned by the transporter to the waste generator within 3 months of delivery of the waste to the disposal/treatment facility. Installations will notify the Italian Base Commander (who may notify the competent Regional or Provincial authority) if the installation does not receive the 4<sup>th</sup> copy of the manifest from the transporter within 3 months of the delivery of the waste for in-country disposal (or 6 months for out-of-country disposal).

The 1<sup>st</sup> and 4<sup>th</sup> copies of the waste manifest must be kept on file for at least 5 years from the date of shipment. These copies need to be kept physically together with the waste loading and unloading register.

### C6.4 Record-Keeping Criteria

C6.4.1 ID Number. Each generator will use the installation's Codice Fiscale (Fiscal Code) for all record-keeping, reports, and manifests for waste. For DoD internal tracking purposes, a unique identification number may also be used.

C6.4.2 Audit Trail & MUD Report. Generators will maintain an audit trail of special waste (including sanitary waste) from the point of generation to disposal. Generators will obtain a signed copy of the waste manifest (*Formulario di Identificazione del Rifiuto*)

from the initial recipient of the waste (i.e., the transporter), at which time the recipient assumes responsibility. A generator, as provided in a host-tenant agreement, that uses the dangerous waste management and/or disposal program of a DoD component will obtain a signed copy of the DD Form 1348 from the receiving component, at which time the receiving component will assume responsibility for subsequent storage, transfer, and disposal of the waste.

An annual declaration of the waste generated during the previous year (using the dedicated Italian Modello Unico di Dichiarazione (MUD) form) will be submitted to the Italian Base Commander (see Chapter 1 for the process). The Italian Base Commander is required to submit a consolidated MUD (for his entire installation) to the Provincial Chamber of Commerce by April 30<sup>th</sup> of each year.

C6.4.3 Turn-In Documents. Turn-in documents [e.g., waste manifests (Formulario di Identificazione del Rifiuto) and DD Form 1348s] must be maintained for 5 years.

C6.4.4 Dangerous Waste Log. A written log will be maintained for each temporary deposit (TDW) or authorized storage of waste (ASW). The log consists of the following:

- Name/address of generator
- Description and hazard class of the dangerous waste
- Number and types of containers
- Quantity of dangerous waste
- Date stored
- Storage location
- Disposition data, to include: dates received, sealed, and transported and transporter used

In addition, a Waste Loading and Unloading Register (Registro di Carico e Scarico) will be maintained at each installation. The register can be purchased in licensed shops (i.e., Buffetti stationary shops); it must be stamped and its pages must be numbered at the local tax office (Ufficio del Registro). The waste register will be used to record all waste generated and shipped off base; entries must be made within 7 days from the generation/shipment operation. The register is the basis for the completion of the MUD report. The waste register will be retained for 5 years after the date of its last entry, and will have the two signed copies of the waste manifest (i.e., the 1st and 4th copies). More than one register can be present at each installation, as long as there are no duplicate entries.

C6.4.5 Availability of Dangerous Waste Log. The Dangerous 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.

C6.4.6 Inspection Logs. Records of inspections should be maintained for a period of 5 years.

- C6.4.7 Manifests. Manifests of incoming and outgoing special wastes (Formulario di Identificazione del Rifiuto), including sanitary waste, will be retained for a period of 5 years. The 1<sup>st</sup> and 4<sup>th</sup> copies of the waste manifest must be retained together with the Loading and Unloading Register; the 1<sup>st</sup> copy must be signed and stamped by the waste generator and the transporter, the 4<sup>th</sup> copy must be signed and stamped by the transporter and consolidator or final disposer (see C6.3.1).
- C6.4.8 TDW Records. The installation will maintain records, identified in C6.4.3, C6.4.4, and C6.4.7, for TDWs on the installation.
- C6.4.9 Sanitary Waste Treatment Records. Installations will maintain records (for at least 5 years after the date of disposal) of sanitary waste treatment, if any, including date of treatment and records of the sequential identification numbers of sterilized containers and of sterilization efficiency monitoring. Such information must be logged into a “sterilization log book” to be maintained at the facility where the treatment is performed.

## C6.5 Training Criteria

- C6.5.1 Personnel Training. Personnel assigned to duty at TDW and ASW areas must successfully complete appropriate waste training necessary to perform their assigned duties. At a minimum, this must include pertinent waste handling and emergency response procedures. Generic dangerous waste training requirements are described in C6.5.4.
- C6.5.2 Application. Personnel and their supervisors that are assigned duties involving actual or potential exposure to dangerous waste must successfully complete an appropriate training program prior to assuming those duties. Additional guidance is contained in DoDI 6050.5 (DoD Hazard Communication Program) and in the work place risk evaluation (see Chapter 5).
- C6.5.3 Refresher Training. All personnel performing dangerous waste duties must successfully complete annual refresher dangerous waste training.
- C6.5.4 Training Contents and Requirements. The training program must:
- C6.5.4.1 Include sufficient information to enable personnel to perform their assigned duties and fully comply with pertinent dangerous waste requirements.
  - C6.5.4.2 Be conducted by qualified trainers who have completed an instructor training program in the subject, have comparable academic credentials, or experience.
  - C6.5.4.3 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.

- C6.5.4.4 Address the following areas in particular for personnel whose duties include dangerous waste handling and management:
- Emergency procedures (response to fire/explosion/spills; use of communications/alarm systems; body and equipment clean-up)
  - Drum/container handling/storage; safe use of dangerous waste equipment; proper sampling procedures
  - Employee Protection. Personal Protective Equipment (PPE), safety and health hazards, hazard communication, worker exposure
  - Record-Keeping. Record-keeping, security, inspections, contingency plans, storage requirements, transportation requirements
- C6.5.5 Documentation of Training. Installations must document all dangerous waste training for each individual assigned duty involving actual or potential exposure to dangerous waste. Updated training records on personnel assigned duties involving actual or potential exposure to dangerous waste must be kept by the Waste Storage Manager or the responsible installation office and retained for at least 3 years after termination of duty of these personnel.

### **CRITERIA FOR SPECIAL WASTE**

#### **C6.6 General Criteria for Special Waste**

- C6.6.1 Segregation of Waste. Waste will be segregated by waste stream at its point of origin and while in temporary storage (either at the AP, TDW, or ASW). Dangerous waste will be segregated from non-dangerous waste.
- C6.6.2 Container Handling & Storage. To protect human health and the environment, the following guidelines will apply when handling and storing special waste containers:
- C6.6.2.1 Containers holding special waste will be in good condition, free from severe rusting, bulging, or structural defects.
  - C6.6.2.2 Containers used to store special waste, including overpack containers, must be compatible with the materials stored. Storage containers previously used for special waste shall not be used to store food products.
  - C6.6.2.3 A container holding special waste must always be closed during storage, except when it is necessary to add or remove waste.
  - C6.6.2.4 A container holding special waste must not be opened, handled, or stored in a manner that may rupture the container or cause it to leak.

- C6.6.2.5 Containers of flammable liquids must be grounded when transferring flammable liquids from one container to the other.
  - C6.6.2.6 Containers holding special waste will be marked with a special waste marking, and a label indicating the hazard class of the waste contained (i.e., flammable, corrosive, etc.).
  - C6.6.2.7 Areas where containers are stored must be inspected weekly for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors. Secondary containment systems will be inspected for defects and emptied of accumulated releases or retained storm water.
- C6.6.3 Containment. Container storage areas must have a secondary containment system meeting the following:
- C6.6.3.1 Must be sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed.
  - C6.6.3.2 The secondary containment system must have sufficient capacity to contain one-third of the total capacity of stored containers or the volume of the largest container, whichever is greater.
  - C6.6.3.3 Storage areas that store containers holding only wastes that do not contain free liquids need not have a containment system as described in C6.6.3.1, provided the storage area is sloped or is otherwise designed and operated to drain and remove liquid resulting from precipitation, or the containers are elevated or are otherwise protected from contact with accumulated liquid.
  - C6.6.3.4 Rainwater captured in secondary containment areas should be inspected and/or tested prior to release. The inspection or testing must be reasonably capable of detecting contamination by the special waste in the containers. Contaminated water shall be treated as special waste until determined otherwise.

## **C6.7 Criteria for Non-Dangerous Special Waste**

### **C6.7.1 Temporary Deposit of Wastes**

- C6.7.1.1 A TDW for non-dangerous special waste is defined as a segregated temporary deposit that must meet the following conditions. The total amount of non-dangerous waste temporarily deposited in all the TDWs within the physical boundary of a DoD installation must comply with one of the two following limitations:

1. The volume of the waste must not exceed 20 meters<sup>3</sup> at any one time
2. The temporary storage of the waste must not exceed 3 months (even if the volume limit has not been reached).

However, the duration of temporary deposit of non-dangerous special waste can be extended up to 1 year (without requiring an authorization) if the total quantity produced in that year does not exceed 20 meters<sup>3</sup> or if the temporary deposit is located on a small island (i.e., La Maddalena).

C6.7.1.2 A TDW will comply with the storage limits in C6.7.1.1. When these limits have been reached, the generator must have the waste removed for disposal or have it moved to an ASW. Arrangements must include submission of all appropriate turn-in documents to initiate the removal (e.g., DD Form 1348-1A) to appropriate DoD authorities responsible for removing the special waste (e.g., DRMO) or preparation of the waste manifest when using an external (Italian) contractor.

C6.7.1.3 All criteria of C6.6.2 (Container Storage & Handling) and C6.6.3 (Containment) apply to TDWs.

### **C6.7.2 Authorized Storage of Non-Dangerous Special Waste**

The operation of any ASW must be authorized. Installations that intend to operate an ASW must provide the Italian Base Commander with sufficient information to seek prior authorization of their ASW (see Chapter 1 for the process). The Italian Base Commander may submit the request for authorization to the competent Regional or Provincial authority. The basic information to be provided in the Letter of Request to operate an AWS includes:

- Name and address of generator/generating activity(ies)
- Type and quantity of waste forecasted
- Technical specifications of the area (e.g., safety devices, structures, etc.)
- Other documents if required by the Regional authority

C6.7.2.1 Waste may be stored up to 1 year in an ASW, unless otherwise prescribed in the authorization. When these limits have been reached, the generator must have the waste removed. Arrangements must include submission of all appropriate turn-in documents to initiate the removal (e.g., DD Form 1348-1A) to appropriate DoD authorities responsible for removing the waste (e.g., DRMO) or preparation of the waste manifest when using an external (Italian) contractor.

C6.7.2.2 All criteria of C6.6.2 (Container Storage & Handling) and C6.6.3 (Containment) apply to ASWs.

### C6.7.3 Composting Facilities

Composting facilities must be authorized. DoD installations that intend to operate composting facilities to process sludge from their domestic wastewater treatment plant (see Chapter 4) must provide the Italian Base Commander with sufficient information to seek authorization of their composting facility (i.e., enrollment in the Provincial register for composting activities) (see Chapter 1 for the process). The facility will comply with the following criteria unless more protective criteria are established in their authorization:

- C6.7.3.1 Operators must maintain a record of the characteristics of the waste composted, sewage sludge, and other materials (such as nutrient or bulking agents being composted), including the source and volume or weight of the material.
- C6.7.3.2 Access to the facility must be controlled. All access points must be secured when the facility is not in operation.
- C6.7.3.3 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.
- C6.7.3.4 Run-off water that has come in contact with composted waste, materials stored for composting, or residual waste must be diverted to a leachate collection and treatment system.
- C6.7.3.5 The temperature and retention time for the material being composted must be monitored and recorded.
- C6.7.3.6 Periodic analysis and analysis conducted at the end of the production process of the compost must be completed for the following parameters: percentage of total solids, volatile solids as a percentage of total solids, pH, ammonia, nitrate nitrogen, total phosphorous, cadmium, chromium, copper, lead, nickel, zinc, mercury, polychlorinated biphenyls, glass (particles), plastic, iron, humidity, organic matter, humic matter, carbon/nitrogen (C/N) ratio, and potassium oxide (K<sub>2</sub>O).
- C6.7.3.7 Compost must be produced by a process to further reduce pathogens. Two such acceptable methods are:
  - Windrowing, which consists of an unconfined composting process involving periodic aeration and mixing such that aerobic conditions are maintained during the composting process.
  - The enclosed vessel method, which involves mechanical mixing of compost under controlled environmental conditions. The retention time in the vessel must be at least 72 hours with the temperature maintained at 55°C. A stabilization period of at least 7 days must follow the decomposition period.

C6.7.3.8 The transportation of sludge must be conducted with appropriate, dedicated vehicles and must follow procedures to prevent risk to human health and the environment.

#### **C6.7.4 Classification & Use of Compost**

Compost produced at a composting facility which is located on a DoD installation from sludge from a domestic wastewater treatment plant (see Chapter 4) must meet the parameter limits in Table 6.2 at the end of the composting process. Its distribution and application should be based on the agronomic characteristics and the composition of the soil at the point of end use as indicated in Tables 6.2 and 6.3.

C6.7.4.1 To be distributed for agricultural applications at the end of the composting process, the compost should have the characteristics listed in Table 6.4.

C6.7.4.2 Compost which fails to meet the standards in Tables 6.2, 6.3, or 6.4 must be disposed of either by landfilling or incineration.

#### **C6.7.5 Scrap Vehicles, Tires, & Other Car Parts**

Vehicles that are no longer usable and need to be dismantled must be turned over to an authorized collection center. Motor vehicles purchased on the economy may also be returned to the new (or used) vehicle dealer, when purchasing a new (or replacement) vehicle. The collection center is responsible for dismantling the vehicle, recovery of recyclable materials, and disposal of the scrap metal, and will issue a certificate to the vehicle owner releasing the owner from any penal or civil liability relative to the vehicle. Vehicle spare parts (including tires, but excluding parts related to vehicle safety) can also be collected at the centers or can be sold on the economy.

Scrap vehicle collection centers must be authorized. A DoD installation that intends to operate a scrap vehicle collection center must provide the Italian Base Commander with sufficient information to seek the authorization (see Chapter 1 for the process). The Italian Base Commander may submit the request for authorization to the competent Provincial or Regional authority.

#### **C6.7.6 Construction & Demolition Waste**

Construction and demolition waste is a special non-dangerous waste that must be disposed of in authorized Type IIA landfills.

#### **C6.7.7 Animal & Vegetable Oil & Grease Waste**

Animal and vegetable oil and grease waste (generated by activities like installation exchanges, dining facilities, schools, hospitals, restaurants, and similar public services) is classified as a special non-dangerous waste. It will be separated at the point of generation, placed in dedicated

containers, and turned over to authorized Italian transporters for disposal through the National Consortium for Animal and Vegetable Oil and Grease. (Note: This criterion is not applicable to animal and vegetable oil and grease generated in households.)

## **C6.8 Criteria for Dangerous Special Waste**

### **C6.8.1 Waste Analysis & Verification**

C6.8.1.1 HWPS. A Hazardous Waste Profile Sheet (HWPS) will be used to identify each dangerous waste stream. The HWPS must be updated by the generator, as necessary, to reflect any new waste streams or process modifications that change the classification of the dangerous waste being handled at the storage area.

C6.8.1.2 Maintenance of HWPS. The ASW must have, and keep on file, a hazardous waste profile sheet (HWPS) for each waste stream that is stored at each ASW.

C6.8.1.3 Waste Verification. Generating activities will provide identification of incoming waste on the HWPS to the ASW manager. Prior to accepting the waste, the ASW manager will:

- Inspect the waste to ensure it matches the description provided
- Ensure that no waste is accepted for storage unless a HWPS is provided, or available and properly referenced
- Request a new HWPS from the generator if there is reason to believe that the process generating the waste has changed
- Reject shipments that do not match the accompanying waste descriptions unless the generator provides an accurate description

### **C6.8.2 Accumulation Points (APs)**

C6.8.2.1 Each AP must be designed and operated to provide appropriate segregation for different waste streams, including those that are chemically incompatible. Each AP will have warning signs (National Fire Protection Association or appropriate international sign) appropriate for the waste being accumulated at that site.

C6.8.2.2 Individual APs may accumulate a single container of waste per waste stream (using the appropriate ADR-approved container for each type of waste) for an indefinite time period, as long as the waste container is not full. When the container is full, the full container must be moved to a TDW or ASW (or ship it off-site for treatment or disposal) prior to starting a new accumulation container. If moving the full container to the TDW prior to starting a new accumulation container is inherently prohibited by the process generating the waste (i.e., if the AP is part of a continuous process that

requires direct change-out of containers), then the operator must move the full container to the TDW within 24 hours after filling the container.

To initiate the waste removal, installations must submit all appropriate turn-in documents (e.g., DD 1348-1A) to appropriate authorities responsible for removing the dangerous waste (e.g., DRMO).

C6.8.2.3 All criteria of C6.6.2 (Container Storage & Handling) and C6.6.3 (Containment) apply to APs with the exception of C6.6.2.7 (Weekly Inspections).

C6.8.2.4 Waste transfers from an AP to a TDW must be recorded in the TDW log book, on a DD 1348, or other appropriate document. The AP does not need to maintain a waste log.

### **C6.8.3 Temporary Deposit of Dangerous Special Wastes (TDWs)**

C6.8.3.1 A TDW for dangerous special waste is defined as a temporary deposit within the physical boundary of the installation. TDWs must be designed and operated to provide appropriate segregation for different waste streams, including those that are chemically incompatible. A TDW does not need authorization as long as the following conditions are met:

- The waste must not contain polychlorodibenzodioxines and/or polychlorodibenzofurans and polychlorodibenzophenols exceeding 2.5 ppm, nor PCBs and/or PCTs exceeding 25 ppm.
- The total amount of dangerous waste temporarily deposited in all the TDWs within the physical boundary of the DoD installation must comply with one of the two following limitations: 1) the volume of the waste must not exceed 10 meters<sup>3</sup> at any one time, or 2) the temporary storage of the waste must not exceed 2 months (even if the volume limit has not been reached). However, the duration of storage in a TDW can be extended up to 1 year (without requiring an authorization) if the total quantity of dangerous waste produced in that year does not exceed 10 meters<sup>3</sup> or if the temporary deposit is located on a small island (i.e., La Maddalena).
- The dangerous special waste stored in a TDW must be segregated by waste stream and must follow the container requirements in C6.6.2 and the containment requirements in C6.6.3.
- Each TDW will have warning signs (appropriate Italian or international signs, or National Fire Protection Association signs) appropriate for the waste being accumulated at that site.

C6.8.3.2 A TDW will comply with the storage limits in C6.8.3.1. When these limits have been reached, the generator must have the waste removed for disposal or moved to an

ASW. To initiate the waste removal, installations must submit all appropriate turn-in documents (e.g., DD Form 1348-1A) to appropriate DoD authorities responsible for removing the special waste (e.g., DRMO) or prepare the waste manifest (formulario) when using an external (Italian) contractor.

C6.8.3.3 All criteria of C6.6.2 (Container Storage & Handling) and C6.6.3 (Containment) apply to TDWs.

#### **C6.8.4 Authorized Storage of Dangerous Waste (ASW)**

The operation of any ASW must be authorized. Installations that intend to operate an ASW must provide the Italian Base Commander with sufficient information to seek authorization of their ASW (see Chapter 1 for the process). The Italian Base Commander may submit the request for authorization to the competent Regional or Provincial authority. The basic information to be provided in the Letter of Request to operate an ASW includes:

- Name and address of generator/generating activity(ies)
- Type and quantity of waste forecasted
- Technical specifications of the area (e.g., safety devices, structures, etc.)
- Other documents if required by the Regional authority

ASWs must meet the following criteria unless more stringent requirements are prescribed in their authorization:

C6.8.4.1 Location Standards. To the maximum extent possible, all ASW will be located to minimize the risk of release due to seismic activity, floods, or other natural events. For ASW at facilities located where they may face such risks, the installation spill prevention and control plan must address the risk.

C6.8.4.2 Design & Operation of ASW. ASW must be designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned release of dangerous waste constituents to air, soil, groundwater, or surface water that could threaten human health or the environment. Dangerous waste should not be stored longer than 1 year in an ASW.

C6.8.4.3 Security

C6.8.4.3.1 General. The installation must prevent the unknowing entry, and minimize the possibility for unauthorized entry (of persons or livestock) onto the ASW.

C6.8.4.3.2 Security System Design. An acceptable security system for an ASW consists of either:

- 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 ASW.
- An artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff) that completely surrounds the ASW, combined with a means to control entrance at all times (e.g., an attendant, television monitors, locked gate, or controlled roadway access).

C6.8.4.3.3 Required Signs. A sign with the legend "Danger - Unauthorized Personnel Keep Out," must be posted at each entrance to the ASW, and at other locations, in sufficient numbers to be seen from any approach to the ASW. 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 ASW, and entry to it can be dangerous.

C6.8.4.4 Required Aisle Space. Aisle space must allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency. Containers must not obstruct an exit.

C6.8.4.5 Access to Communications or Alarm System

C6.8.4.5.1 General. Whenever dangerous 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.

C6.8.4.5.2 If there is only one person on duty at the ASW 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.

C6.8.4.6 Required Equipment. All ASWs must be equipped with the following:

C6.8.4.6.1 An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to ASW personnel.

C6.8.4.6.2 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.

- C6.8.4.6.3 Portable fire extinguishers, fire control equipment appropriate to the material in storage (including special extinguishing equipment as needed, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment.
- C6.8.4.6.4 Water at adequate volume and pressure to supply water hose streams, foam producing equipment, automatic sprinklers, or water spray systems.
- C6.8.4.6.5 Readily available personal protective equipment (appropriate to the materials stored), eyewash, and shower facilities.
- C6.8.4.6.6 Testing and Maintenance of Equipment. All ASW communications alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be maintained to ensure its proper operation in time of emergency.

#### C6.8.4.7 General Inspection Requirements

- C6.8.4.7.1 General. The installation must inspect the ASW for malfunctions and deterioration, operator errors, and discharges that may be causing, or may lead to, a release of dangerous waste constituents to the environment or threat to human health. The inspections must be conducted often enough to identify problems in time to correct them before they harm human health or the environment.
- C6.8.4.7.2 Types of Equipment Covered. Inspections must include all equipment and areas involved in storage and handling of dangerous 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.
- C6.8.4.7.3 Inspection Schedule. Inspections must be conducted according to a written schedule that is kept at the ASW. 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.).
- C6.8.4.7.4 Frequency of Inspections. Minimum frequencies for inspecting containers and container storage areas are found in C6.6.2.7; minimum frequencies for inspecting tank systems are found in C6.8.7.5.2. For equipment not covered by those sections, the 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.

C6.8.4.7.5 Remedy of Problems Identified 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.

C6.8.4.7.6 Maintenance of Inspection Records. The installation must record inspections in an inspection log or summary, and keep these records for at least 5 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.

#### C6.8.4.8 Storage Practices

C6.8.4.8.1 Compatible Storage. The storage of ignitable, reactive, or incompatible wastes must be handled so that it does not threaten human health or the environment. Dangers resulting from improper storage of incompatible wastes include generation of extreme heat, fire, and explosion, and generation of toxic gases.

C6.8.4.8.2 General Requirements for Ignitable, Reactive, or Incompatible Wastes. The ASW 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 ASW 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, Italian, and in any other language predominant in the area. Water-reactive waste cannot be stored in the same area as flammable and combustible liquid.

#### C6.8.4.9 Closure and Closure Plans

C6.8.4.9.1 Closure. At closure of an ASW, dangerous waste and dangerous waste residues must be removed from the containment system including remaining containers, liners, and bases. Closure should be done in a manner that eliminates or minimizes the need for future maintenance or the potential for future releases of dangerous waste and according to the Closure Plan.

C6.8.4.9.2 Closure Plan. Closure plans will be developed before a new ASW is opened. Each existing ASW also will develop a closure plan. Concurrent with the decision to close the ASW, the plan will be implemented. The closure plan will include: estimates of the storage capacity of dangerous waste, steps to be taken to remove or decontaminate all waste residues, and estimate of the expected date for closure.

## **C6.8.5 Additional Requirements for Ignitable, Reactive, or Incompatible Wastes**

C6.8.5.1 Special Requirements for Ignitable or Reactive Waste. Areas which store containers holding ignitable or reactive waste must be located at least 15 meters (50 feet) inside the installation's boundary.

C6.8.5.2 Special Requirements for Incompatible Wastes

- Incompatible wastes and materials must not be placed in the same container.
- Dangerous waste must not be placed in an unwashed container that previously held an incompatible waste or material. Containers that have been used for temporary storage of dangerous waste, and that will not be re-used for the same type of waste, must be properly decontaminated before further utilization.
- A storage container holding a dangerous 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.
- Food products may not be stored in containers previously used for dangerous waste.

## **C6.8.6 Contingency Plan**

C6.8.6.1 Each installation will have a contingency plan that describes actions to be taken to contain and clean up spills and releases of dangerous waste in accordance with the provisions of Chapter 18.

C6.8.6.2 Copies of Contingency Plan. A current copy of the installation contingency plan must be:

- Maintained at each TDW and ASW that contain dangerous waste (TDWs need maintain only portions of the contingency plan which are pertinent to their facilities and operation).
- Submitted to all police departments, fire departments, hospitals, and emergency response teams identified in the plan, and which the plan relies upon to provide

emergency services. Plans, including appropriate references to the Workplace Risk Evaluation (see Chapter 5), should be available in both English and Italian.

### C6.8.7 Tank Systems

The following criteria apply to all storage tanks containing dangerous wastes. See Chapter 19 for criteria dealing with underground storage tanks (USTs) containing petroleum, oil, and lubricants (POL) and hazardous substances.

C6.8.7.1 Application. The requirements of this section apply to TDWs and ASWs that use tank systems for storing or treating dangerous waste. Tank systems that are used to store or treat dangerous waste that contains no free liquids and are situated inside a building with an impermeable floor are exempted from the requirements in C6.8.7.4 (Containment and Detection of Releases). Tank systems, including sumps, that serve as part of a secondary containment system to collect or contain releases of dangerous wastes, are exempted from the requirements in C6.8.7.4.

C6.8.7.2 Assessment of Existing Tank System's Integrity. For each existing TDW or AST system that does not have secondary containment meeting the requirements of C6.8.7.4, installations must determine annually whether the tank system is leaking or is fit for use. Tightness tests for UST systems must be conducted according to the schedule specified in Chapter 19. Installations must obtain, and keep on file at the TDW or ASW, a written assessment of UST tank system integrity reviewed and certified by a competent authority. The UST tightness test results must be logged in the UST log book (see C6.8.7.5.2.3).

C6.8.7.3 Design and Installation of New Tank Systems or Components. Managers of TDWs or ASWs installing new tank systems or components must obtain a written assessment, reviewed and certified by a competent authority attesting that the tank system has sufficient structural integrity and is acceptable for the storing and treating of dangerous waste. The assessment must show that the foundation, structural support, seams, connections, and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength, compatibility with the waste(s) to be stored or treated, and corrosion protection to ensure that it will not collapse, rupture, or fail.

For new double-walled USTs, the walls must be one of the following:

- Both metallic, with the external surface coated with an anti-corrosion layer
- Metallic internal surface and non-metallic external surface
- Both non-metallic, if the wall material is both resistant to corrosion and to mechanical stress
- Non-metallic internal surface and anti-corrosion-coated metallic external surface

Single-walled tanks are permitted if placed in a containment vault that has been coated with an impermeable material and equipped with continuous leak monitoring. The same vault may hold more than one tank without partitioning.

C6.8.7.4 Containment and Detection of Releases. To prevent the release of dangerous waste or dangerous constituents to the environment, secondary containment that meets the requirements of this section must be:

C6.8.7.4.1 Provided for all new and existing tank systems or components that store or treat dangerous waste.

C6.8.7.4.2 Provided for above-ground storage tank (AST) used for dangerous waste storage. Each containment system must meet the larger of the following volumes:

- Equal to the volume of the largest AST plus sufficient freeboard to allow for precipitation and expansion of product
- Equal to one-third of the total capacity stored in the ASTs in the containment system

C6.8.7.4.3 Designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, groundwater, or surface water at any time during the use of the tank system; and capable of detecting and collecting releases and accumulated liquid until the collected material is removed.

C6.8.7.4.4 Constructed to include one or more of the following: a liner external to the tank, a vault, or double-walled tank.

C6.8.7.4.5 Leak Prevention Systems. USTs must have the following leak prevention systems:

- Continuous monitoring of the interstitial space
- Underground pressurized tank piping must be equipped with a “sleeve” or equivalent system for the underground pressurized pipes, to collect any leak/spill/release
- An annual function test of the release/containment detection systems

C6.8.7.5 General Operating Requirements

C6.8.7.5.1 Dangerous wastes or treatment reagents must not be placed in a tank system if they could cause the tank, its ancillary equipment, or the containment system to rupture, leak, corrode, or otherwise fail.

C6.8.7.5.2 The installation must inspect and log the following at least once each operating day:

C6.8.7.5.2.1 The above-ground portions of the tank system, if any, to detect corrosion or releases of waste

C6.8.7.5.2.2 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

C6.8.7.5.2.3 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 dangerous waste (e.g., wet spots, dead vegetation)

A separate log book should be maintained for each UST. The UST log book entries must also include the following information:

- Year of installation of the UST
- The Italian Base Commander (holding the UST operating permit)
- Date of each periodic function/control test
- Date of each tightness test
- Any modification to the UST
- Any anomaly or accidents involving the UST

C6.8.7.5.3 The installation must inspect cathodic protection systems to ensure that they are functioning properly. The proper operation of the cathodic protection system must be confirmed within 6 months after initial installation and annually thereafter. All sources of impressed current must be inspected and/or tested, as appropriate, or at least every other month. The installation manager must document the inspections in the operating record of the TDW or ASW.

C6.8.7.6 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. Installations must satisfy the following requirements:

C6.8.7.6.1 Cessation of use; prevention of flow or addition of wastes. The installation must immediately stop the flow of dangerous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.

C6.8.7.6.2 Containment of visible releases to the environment. The installation must immediately conduct an inspection of the release and, based upon that inspection:

- Prevent further migration of the leak or spill to soils or surface water
- Remove and properly dispose of any contamination of the soil or surface water
- Remove free product to the maximum extent possible
- Continue monitoring and mitigating for any additional fire and safety hazards posed by vapors or free products in subsurface structures

C6.8.7.6.3 Make required notifications and reports. Report releases following the procedures established in Chapter 18.

C6.8.7.7 Closure. At closure of a tank system, the installation must remove or decontaminate dangerous waste residues, contaminated containment system components (liners, etc.), contaminated soils to the extent practicable, and structures and equipment.

## C6.8.8 Dangerous Waste Disposal

C6.8.8.1 Use of DRMS. All DoD dangerous waste should be disposed of through the Defense Reutilization and Marketing Service (DRMS) with the exception of those disposed of through consortiums or authorized agencies. A decision not to use the DRMS for dangerous 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.

C6.8.8.2 In-Country & Out-of-Country Disposal. Installations and components must use organizations that hold a valid authorization (i.e., enrollment in the National Waste Managing Company Register) to treat or dispose of their specific waste. Components are not required to conduct studies as to the disposal company or organization's acceptability.

When dangerous wastes cannot be disposed of in accordance with this FGS within Italy, the waste will be either retrograded to the U.S. or, if permissible under international agreements, transferred to another country outside the U.S. where it can be disposed of in an environmentally-sound manner and in compliance with the FGS applicable to the country of disposal, if any exist. Transshipment of hazardous wastes to another country other than the U.S. for disposal must be approved by, at a minimum, the Deputy Under Secretary of Defense for Environmental Security [DUSD(ES)] (Note: delegated to DLA on 25 May 1995).

C6.8.8.3 Recycling & Use of Containers. Dangerous waste will be recycled or reused to the maximum extent practical. Safe and environmentally acceptable methods will be used

to identify, store, prevent leakage, and dispose of dangerous waste, to minimize risks to health and the environment.

Installations must utilize Italian consortiums when required, to recycle/dispose of dangerous waste. DRMSI will assist the installations in identifying those Italian consortiums that are required to accept and recycle/dispose of selected waste streams (e.g., the consortium for lead-acid battery disposal, the consortium for waste oil disposal, etc.).

#### C6.8.8.4 Land Disposal Requirements

The following waste may be landfilled:

- Inert waste (i.e., rubble and demolition-type materials)
- Residual wastes from recycling, recovery, and disposal operations listed in items 1 to 12 of Appendix B.2 (Waste Disposal Activities)

Disposal of the following waste categories in landfills is prohibited:

- Liquid waste
- Waste classified as Explosive and/or Comburent (oxidizing agent)
- Waste with a flash point lower than 55°C
- Waste containing corrosive material classified as R35 in concentrations above 1% (see Table 6.5)
- Waste containing corrosive material classified as R34 in concentrations above 5% (see Table 6.5)
- Infectious medical waste
- Waste derived from drug and pesticide preparations
- Waste containing PCBs or PCTs in concentrations greater than 25 ppm
- Waste containing or contaminated with dioxin and/or furans in concentrations greater than 10 ppb
- Waste containing ozone depleting substances (ODS) or waste that during degradation could generate ODS
- Waste containing new chemicals from research activities whose effects on human health and the environment are unknown.

Dangerous waste can be disposed of only in Type IIB or IIC landfills or in Type III landfills (see Definitions).

Type IIB Landfills - Used to dispose of both dangerous and special non-dangerous waste with the exception listed for Type IIC, but not urban waste or inert waste.

Type IIC Landfills - Can be used to dispose of the same wastes as Type IIB, with the addition of industrial and agricultural wastes, waste treatment wastes, and water treatment sludge (stabilized), as well as the following dangerous waste:

- Combustibles
- Waste that reacts with water or with acids and bases and develops toxic and/or flammable vapors and gases

Type III Landfills - Can be used for the disposal of dangerous waste as long as the dangerous waste is specified in the landfill's authorization.

C6.8.8.5 Incinerator Standards. This section applies to incinerators that incinerate dangerous waste as well as boilers and industrial furnaces that burn dangerous waste for any recycling purposes.

All incinerators used to dispose of dangerous waste must be authorized (i.e., incinerators operated by companies listed in the National Waste Managing Company Register). DoD installations that intend to operate on-base incinerators must provide the Italian Base Commander with sufficient information to seek authorization of their incinerator (see Chapter 1 for the process). The Italian Base Commander may submit the request for authorization to the competent Regional or Provincial authority.

C6.8.8.6 Waste Treatment. All treatment activities must be conducted by entities that are authorized (i.e., enrolled in the National Waste Managing Company Register) to treat the specific type of waste. DoD generators who intend to treat their dangerous waste on their installation must obtain the approval of the Environmental Executive Agent (via the Component chain of command) and must provide the Italian Base Commander with sufficient information to seek prior authorization of the treatment activity. The Italian Base Commander may submit the request for authorization to the competent Regional or Provincial authority.

Note: sterilization or disinfection of sanitary waste at the waste-generating medical facility is not classified as treatment.

## C6.8.9 Criteria for Batteries

C6.8.9.1 Lead-Acid Batteries. For in-country disposal, lead-acid batteries shall be managed as dangerous waste and shall be transferred (with other lead wastes) to the mandatory consortium or authorized agent companies for the collection and recycling of used lead-acid batteries.

C6.8.9.2 Mercury, Nickel-Cadmium, & Lithium Batteries. For in-country disposal, mercury, nickel-cadmium, and lithium batteries will be turned over to authorized members of the National Consortium for Hazardous Batteries, which are the only entities permitted to collect, treat, and store such dangerous waste. Installations will follow the appropriate manifesting and record-keeping criteria when transferring the waste batteries to the Consortium (see C6.3.1, C6.4.1, C6.4.2, C6.4.3, and C6.4.4). Installations will only temporarily deposit such batteries, and must take precautions to avoid any risk or harm to the environment.

### C6.8.10 Standards for the Management of Used Oil

C6.8.10.1 Used Oil Burned for Energy Recovery. Used oil fuel generated directly by the installation may be burned for energy recovery only in the following devices located within the boundary of the installation. This activity requires authorization. Installations that intend to burn used oil generated at their installation for energy recovery must provide the Italian Base Commander with sufficient information to seek the authorization (see Chapter 1 for the process). The Italian Base Commander may submit the request for authorization to the competent Regional authority.

C6.8.10.1.1 Industrial furnaces

C6.8.10.1.2 Boilers that are identified as follows:

C6.8.10.1.2.1 Industrial boilers with a thermal capacity of at least 6 MW (20.48 million Btu/hr) located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes

C6.8.10.1.2.2 Utility boilers with a thermal capacity of at least 6 MW (20.48 million Btu/hr) used to produce electric power, steam, or heated or cooled air, or other gases or fluids

C6.8.10.1.2.3 Used oil-fired space heaters provided that:

- The heater burns only used oil that the installation generates
- The heater is designed to have a maximum capacity of not more than 147 kW (0.5 million BTU per hour)
- The combustion gases from the heater are properly vented to the ambient air

C6.8.10.1.3 Waste oil cannot be used as a fuel supplement in boilers/thermal plants with a thermal capacity less than 6 MW (20.48 million Btu/hr) (with the exception of space heaters, per C6.8.10.1.2.3). Combustion of used oils containing PCBs

and PCTs in concentrations greater than 25 ppm is prohibited. The maximum emission limits for the following substances must be met using the testing methodologies and frequencies established in the site-specific authorization:

<b>Parameter</b>	<b>Maximum Emission Limit (as mg/m<sup>3</sup>)</b>
Cd	0.2
Ni	1
Cr <sup>VI</sup>	1
Cu	5
Cl	30
F	5

Note: see Chapter 2 for more information

As long as used oil is burned for energy recovery, it does not have to meet the dangerous waste criteria. To ensure proper handling and segregation from dangerous waste, used oil fuel should be labeled with the words “used oil fuel for energy recovery”.

C6.8.10.2 Prohibitions on Dust Suppression or Road Treatment. Used oil, dangerous waste, or used oil contaminated with any dangerous waste will not be used for dust suppression or road treatment.

C6.8.10.3 Use of the National Consortium for Waste Oil. Waste oil management, transportation, and disposal for all used oil other than used oil fuel (burned for energy recovery within the DoD installation; see C6.8.10.1) must follow the dangerous waste storage, handling, and record-keeping criteria in this Chapter; this waste oil must be given to the National Consortium for Waste Oil.

C6.8.10.4 Criteria When Producing More Than 300 Liters/Year of Waste Oil. Facilities that produce more than 300 liters/year of waste oil are required to:

- Store oil in a manner that prevents mixing waste oil with new oil, dangerous waste, or other substances
- Maintain a log book (for facilities that burn their waste oil as fuel for energy recovery) or a waste loading/unloading register (for facilities that dispose of their waste oil through the Consortium) with a record of the quantities generated, the source, and the destination of the waste oil; the log book or register must be retained for a period of 3 years after the date of its last entry

C6.8.10.5 Waste Oil Containers. Waste oil containers must be adequately resistant to the physical-chemical properties and to the hazard degree of the stored waste oil. Containers must be provided with:

- Proper closures to avoid waste spillage
- Devices to allow their safe loading and unloading
- Devices to allow safe and easy movement operations
- Special labels that identify the contents

## **C6.9 Criteria for Sanitary Waste**

### **C6.9.1 Sanitary Waste Storage & Transportation Containers**

The following sanitary wastes will be segregated, transported, and stored in bags or receptacles a minimum of 3 mils thick having such durability, puncture resistance, and burst strength as to prevent rupture or leaks during ordinary use:

- Sanitary waste derived from medication, infectious patient wards, or from biological laboratories
- Waste that may pose a danger to human health

The bags or receptacles must be placed inside a rigid secondary container equipped with a hermetic seal before being transported off site. If a reusable secondary container is used, it must be cleaned and disinfected after each use and periodically sterilized.

### **C6.9.2 Marking of Storage Bags**

All bags or receptacles used to segregate, transport, or store dangerous sanitary waste will be clearly and permanently marked with the universal biohazard symbol and the word "BIOHAZARD/RISCHIO BIOLOGICO", the date of generation, and the name of the sanitary facility of origin.

For sanitary waste that is "comparable to urban waste", the bags or receptacles will be labeled only with the date of generation, name of the sanitary facility of origin, and the words "Rifiuti di origine sanitaria assimilabili agli urbani – Sanitary waste comparable to urban waste". Biohazard markings should not be used.

Containers of treated sanitary waste will be labeled with the bilingual words "Rifiuti Ospedalieri Trattati - Treated Sanitary Waste". Containers of treated wastes must also indicate the sequential sterilization or disinfection identification number.

Both types of containers should be easily distinguishable from containers used for other types of waste, by color or other specific characteristics.

**C6.9.3 Temporary Storage**

Sanitary waste (other than sanitary waste comparable to urban waste) will not be placed in chutes or dumbwaiters, and will be transported and stored to minimize human exposure, according to the following requirements:

- Temporary storage of dangerous sanitary waste at the point of origin cannot exceed 5 days prior to movement to a TDW or ASW.
- If the stored quantity of dangerous sanitary waste does not exceed 200 liters, the temporary storage time at the point of origin can be extended to 30 days.
- Dangerous sanitary waste stored in a TDW will comply with the storage time and volume limits established in C6.8.3.1.

Sanitary waste will be managed during temporary storage as follows:

- C6.9.3.1 Sanitary waste will be maintained in a non-putrescent state, using refrigeration as necessary.
- C6.9.3.2 Dangerous sanitary waste with multiple hazards (e.g., infectious sanitary waste or radioactive sanitary waste) will be segregated from the general dangerous sanitary waste stream when additional or alternative treatment is required. The temporary storage of any dangerous sanitary waste must be conducted by waste stream.
- C6.9.3.3 Temporary storage of dangerous sanitary waste at the point of origin must be conducted in a manner that does not pose a risk to human health. The sanitary director of the facility producing the waste is responsible for the surveillance and fulfillment of these requirements.

**C6.9.4 Storage Sites**

Storage sites must be:

- C6.9.4.1 Specifically designated
- C6.9.4.2 Constructed to prevent entry of insects, rodents, and other pests
- C6.9.4.3 Prevent access by unauthorized personnel
- C6.9.4.4 Marked on the outside with the universal biohazard symbol and the word "BIOHAZARD" in both English and Italian (RISCHIO BIOLOGICO), and properly labeled, indicating the type and nature of the stored waste and its hazards

**C6.9.5 Protective Apparel**

All personnel handling dangerous sanitary 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. Such protective apparel:

- Must be adequate to prevent the expected risks and must not cause a higher risk
- Must be adequate to the existing working conditions
- Must take into account the ergonomic or health needs of the workers
- Can be adapted to the users, according to their needs

**C6.9.6 Mixtures of Dangerous Sanitary Waste & Dangerous or Non-Dangerous Waste**

Mixtures of dangerous sanitary waste with any other waste will be avoided to the maximum extent possible. If accidental mixing does occur, the resultant waste will be handled and disposed of as dangerous sanitary waste (i.e., incinerated). Such wastes will be handled under DoD Directive 4160.21M 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 waste.

**C6.9.7 Urban-Type Waste from Sanitary Facilities**

Non-dangerous waste from sanitary facilities can be disposed of as urban waste (see Sanitary Waste definition).

**C6.9.8 Radioactive Waste**

Radioactive sanitary waste will be segregated from other waste streams (see C6.9.3) and managed in accordance with Service Directives.

**C6.9.9 Sharps**

Sharps will only be discarded into rigid receptacles. Needles shall not be clipped, cut, bent, or recapped before disposal.

**C6.9.10 Anatomical Pathology Waste**

All anatomical pathology waste (i.e., large body parts, with the exclusion of teeth and unidentifiable body parts) must be collected and sealed in reinforced plastic bags at the place of origin; the bags must comply with C6.9.1. A disinfectant must be added to the bags. The sealed bags must be kept in a controlled environment and transported with caution, and may only be disposed of by cremation followed by burial. Teeth and unidentifiable body parts must be disposed of by incineration.

Note: Sterilization or disinfection conducted at the waste-generating medical facility does not require authorization.

### **C6.9.11 Blood & Liquid Infectious Waste**

Blood, blood products, and other liquid infectious wastes will be handled as follows:

- C6.9.11.1 After disinfection, samples of blood, urine, or feces may be decanted into clinical sinks or disposed of as urban waste. The emptied containers will continue to be managed as dangerous sanitary waste.
- C6.9.11.2 Suction canister waste from operating rooms will be sterilized and sealed into leak-proof containers and incinerated.
- C6.9.11.3 Bulk blood, blood products, and other liquid dangerous sanitary waste must be sterilized, sealed in leak-proof containers, and incinerated.
- C6.9.11.4 Disposal of blood or liquid dangerous sanitary waste through clinical sinks is not allowed (other than samples of blood, urine, and feces, and only after disinfection).

Note: Sterilization or disinfection conducted at the waste-generating medical facility does not require authorization.

### **C6.9.12 Compaction**

Dangerous medical waste will not be compacted unless treated as described in C6.9.13. Containers holding sharps will not be compacted.

### **C6.9.13 Treatment**

Sanitary waste will be treated in accordance with Table 6-6. Sterilization or disinfection conducted at the waste-generating medical facility does not require authorization.

- C6.9.13.1 Sterilizers must maintain the temperature at 121°C (250°F) at 1 bar (15 psi) for 40 to 45 minutes, or a temperature of 134 °C for 15 to 20 minutes at 2 bar pressure (30 psi), whichever is available at the sanitary facility. Records of the sterilization must be entered in a sterilization log book (see C6.4.9 – Record-Keeping).

The sterilization efficiency should reach a Sterility Assurance Level (SAL) value not lower than  $10^{-6}$ .

- C6.9.13.2 The effectiveness of sterilizers must be checked at least weekly using *Bacillus stearo thermophilus* spore strips or an equivalent biological performance test (i.e., UNI 10384 - Part I). Results of the tests must be recorded in the sterilization log book.

C6.9.13.3 Only authorized incinerators (i.e., incinerators operated by companies currently listed in the National Waste Management Company Register) can be used to treat dangerous sanitary waste (see C6.8.8.5). The incinerator must be designed and operated to maintain a minimum temperature and retention time sufficient to destroy all infectious agents and pathogens, and must meet applicable criteria in Chapter 2 for air emissions.

C6.9.13.4 Ash or residue from the incineration of infectious medical waste is classified as dangerous sanitary waste and must be managed in accordance with this Chapter.

C6.9.13.5 Chemical disinfection must be conducted using procedures and compounds approved by an appropriate DoD medical authority for use on any pathogen or infectious agent suspected to be present in the waste.

Wastewater from sanitary and dental facilities must be treated according to the standards defined in Chapter 4 (Wastewater).

#### **C6.9.14 Contingency Plans**

Installations will develop contingency plans for treatment or disposal of dangerous sanitary waste, should the primary means become inoperable.

#### **C6.9.15 Spills**

Spills of dangerous sanitary waste will be cleaned up as soon as possible in accordance with the following:

C6.9.15.1 Response personnel must comply with C6.9.5

C6.9.15.2 Blood, body fluid, and other infectious fluid spills must be removed with an absorbent material that must then be managed as dangerous sanitary waste

C6.9.15.3 Surfaces contacted by dangerous sanitary waste must be washed with soap and water and chemically decontaminated in accordance with C6.9.13.5.

**CRITERIA FOR URBAN WASTE****C6.10 General Criteria for Urban Waste**

- C6.10.1 Installations must consult with the Italian Base Commander and Municipal officials in the urban waste management planning process.
- C6.10.2 Installations will develop and implement a strategy to reduce urban waste disposal. This strategy must include recycling, composting, or waste minimization efforts. The strategy shall also include the means for separate collection of secondary and tertiary packaging waste and its recovery/recycling through coordination with the Consortium for Packaging Waste.
- C6.10.3 Recycling programs will be instituted on DoD installations in accordance with the policies in DoDI 4715.4 (Pollution Prevention). These programs will provide for separate collection and recycling/recovery of primary and secondary packaging wastes, appliances, and large auto parts. Landfilling of such recovered wastes is prohibited. Disposal of recycled/recovered material shall be coordinated with the Municipality and with the mandatory Consortium for Packaging Wastes.
- C6.10.4 Urban waste collection and transport must be conducted directly by the local Municipality or by an entity that is authorized by the Municipality. DoD installations that intend to conduct urban waste transportation must provide the Italian Base Commander with sufficient information to seek authorization (see Chapter 1 for the process). The Italian Base Commander may submit the request for authorization to the local Municipality.

DoD urban wastes will be treated, stored, and disposed of in authorized facilities (i.e., enrolled in the National Waste Managing Company Register).

**C6.11 Criteria for Non-Dangerous Urban Waste****C6.11.1 Urban Waste Storage Containers**

Storage containers should be leak-proof, 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.

**C6.11.2 Urban Waste Container Storage Sites**

Containers should be stored on a firm, level, well-drained surface which is large enough to accommodate all of the containers and which is maintained in a clean, spillage-free condition.

### **C6.11.3 Storage of Separated Recyclables**

All urban 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. Waste must be picked up every 3 months (at a minimum) or when the quantity of stored waste reaches 20 meters<sup>3</sup>.

### **C6.11.4 Bulky Wastes**

DoD units that generate waste appliances (e.g., refrigerators, freezers, televisions, washing machines, air conditioners, computers, etc.) should return the waste appliances to their point of purchase if feasible. If not feasible, the waste appliances will be turned over to authorized collection points (via DRMO). Scrap vehicles/trailers and large vehicle parts will be handled in accordance with C6.7.5.

Temporary storage of bulky wastes will comply with the storage time and volume limitations established in C6.7.1, C6.8.3, and C6.11.3, as applicable. The temporary storage will also 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 as defined in Chapter 2 or hazardous constituents as defined in this Chapter. Readily detachable or removable dangerous special waste will be segregated and disposed of in accordance with this Chapter, as well as Chapters 14 and 15. Domestic appliances and scrap vehicles/trailers should be returned to their point of purchase or to authorized collection points.

### **C6.11.5 Design of Urban Waste Storage Areas**

In the design of all buildings or other facilities that are constructed, modified, or leased after the effective date of these guidelines, there will be provisions for storage in accordance with these guidelines that will accommodate the volume of urban waste anticipated. Storage areas will be easily cleaned and maintained, and will allow for safe, efficient collection.

### **C6.11.6 Approval for New/Expanded Landfills**

Installations will not initiate new or expand existing landfill units without approval of the Unified Combatant Commander with responsibility for the area where the landfill would be located, and only after justification that unique circumstances mandate a new unit.

New and existing landfills must be designed and operated to meet the Italian requirements for Type I, II, and III landfills, whichever is appropriate, and must be authorized. Installations that intend to construct or operate a landfill must provide the Italian Base Commander with sufficient

information to seek authorization (see Chapter 1 for the process). The Italian Base Commander may submit the request for authorization to the competent Regional authority.

### **C6.11.7 Burning**

Open burning shall not be used for the disposal of urban waste. Burning must be conducted using authorized incinerators (currently listed in the National Waste Managing Company Register) that meet the air quality requirements in Chapter 2.

New incinerators must conduct the combustion process together with energy recovery. Urban waste incinerators cannot have a capacity of less than 100 tons/day of waste, unless specifically approved in their authorization.

## **C6.12 Criteria for Dangerous Urban Waste**

C6.12.1 These dangerous urban wastes should be managed according to the following criteria:

- Mercury, nickel-cadmium, and lithium batteries from household appliances
- Fluorescent lights
- Pesticides
- Photographic chemicals
- Any container labeled with “T” (toxic) and/or “F” (flammable) sold for private use only (from households)

C6.12.1.1 Collected separately from any other urban waste and given to the local Municipality if operating such service

C6.12.1.2 If no Municipality collection and disposal service is available for dangerous urban waste, the dangerous urban waste generated at the installation will be managed and disposed of as dangerous waste. In that case, mercury, nickel-cadmium, and lithium batteries from household appliances will be managed in accordance with C6.8.9 (Criteria for Batteries).

## **ADMINISTRATIVE ITEMS**

1. The following activities must be authorized. Installations that intend to conduct such activities will provide the Italian Base Commander with sufficient information to seek the authorization of their activity (see Chapter 1 for the process). The Italian Base Commander may submit the request for authorization to the competent Regional or Provincial authority.

- Transportation of dangerous waste on Italian public roads/highways
- Intermediate waste operations

- Operation of an ASW
  - Operation of a composting facility
  - Operation of a scrap vehicle collection center
  - Operation of an incinerator
  - Any treatment of dangerous waste (other than disinfection or sterilization conducted at the sanitary waste generating facility)
  - Any disposal of dangerous waste
  - On-site burning (i.e., within the installation boundaries) of used oil for energy recovery
  - Operation of any landfill
2. Installations that intent to transport urban waste on Italian public roads/highways must provide the Italian Base Commander with sufficient information to seek authorization from the Municipality.
  3. With the exception of urban waste collected by the Municipality (or its contractor), waste shipments off of any DoD installation (via ground transportation) must be accompanied by the Formulario di Identificazione del Rifiuto (waste manifest), whose pages must be numbered and stamped by the Provincial Chamber of Commerce or by the Provincial Registry.
  4. Installations will prepare an annual declaration of the waste generated during the previous year, using the MUD form, and submit the MUD to the Italian Base Commander.
  5. Installations will maintain a waste log book for each TDW or ASW on the installation.
  6. Installations will maintain a dangerous waste loading/unloading register, stamped and numbered by the Provincial Registry, for each installation.
  8. Installations will conduct a workplace risk evaluation (see Chapter 5).
  9. Installations will maintain an UST log book for each UST (see Chapter 19).
  10. Installations that generate more than 300 liters/year of waste oil must maintain a log book of the quantities generated, the source, and the destination of the waste oil.
  11. Installations that operate sanitary waste sterilizers must maintain a sterilization log book.

**Table 6.1 Waste Categories**

Waste Category	Description
Q 1	Non-specified industrial production or consumption wastes – Residui di produzione o di consumo in appresso non specificati
Q 2	Unlawful products – Prodotti fuori norma
Q 3	Expired products – Prodotti scaduti
Q 4	Accidentally poured, lost, or altered substances, including all contaminated materials, equipment, etc. following a specific accident – Sostanze accidentalmente riversate, perdute o aventi subito qualunque altro incidente, compresi tutti i materiali, le attrezzature, ecc. contaminati in seguito all'incidente in questione
Q 5	Contaminated or soiled substances after voluntary actions (e.g., wastes from cleaning activities, packing materials, containers, etc.) – Sostanze contaminate o insudiciate in seguito ad attività volontarie (a esempio residui di operazioni di pulizia, materiali da imballaggio, contenitori, ecc.)
Q 6	Unusable elements (e.g., run-down batteries, exhausted catalysts, etc.) – Elementi inutilizzabili (a esempio batterie fuori uso, catalizzatori esausti, ecc.)
Q 7	Substances that have become unfit for use (e.g., contaminated acids, contaminated solvents, exhausted salts, etc.) – Sostanze divenute inadatte all'impiego (a esempio acidi contaminati, solventi contaminati, sali da rinverdimento esauriti, ecc.)
Q 8	Industrial processing wastes (e.g., cinders, residual of distillation, etc.) – Residui di processi industriali (a esempio scorie, residui di distillazione, ecc.)
Q 9	Anti-pollution processing wastes (e.g., gas-scrubbing sludge, air filter powder, used filters, etc.) – Residui di procedimenti antinquinamento (a esempio fanghi di lavaggio di gas, polveri di filtri dell'aria, filtri usati, ecc.)
Q 10	Machining and profiling wastes (e.g., shavings and milling cuttings, etc.) – Residui di lavorazione/sagomatura (a esempio trucioli di tornitura o di fresatura, ecc.)
Q 11	Wastes from the extraction and preparation of raw material (e.g., wastes from mining or oil-drilling activities, etc.) – Residui provenienti dall'estrazione e dalla preparazione delle materie prime (a esempio residui provenienti da attività minerarie o petrolifere, ecc.)
Q 12	Contaminated substances (e.g., PCB-contaminated oil, etc. – Sostanze contaminate (a esempio olio contaminato da PCB, ecc.)
Q 13	Any matter, substance, or product whose use is prohibited by law – Qualunque materia, sostanza o prodotto la cui utilizzazione è giuridicamente vietata
Q 14	Products no longer used by the holder (e.g., discarded products from agriculture, families, offices, shops, workshops, etc.) – Prodotti di cui il detentore non si serve più (a esempio articoli messi fra gli scarti dell'agricoltura, dalle famiglie, dagli uffici, dai negozi, dalle officine, ecc.)
Q 15	Contaminated matter, substances, or products from land fills – Materie, sostanze o prodotti contaminati provenienti da attività di riattamento di terreni
Q 16	Any substance, matter, or product not included in the categories listed above – Qualunque sostanza, materia o prodotto che non rientri nelle categorie sopra elencate

**Table 6.2  
Parameter Limits for Sludge, after Composting**

<b>Parameter</b>	<b>Unit of Measure</b>	<b>Limit of Acceptability</b>
C/N Ratio	--	< 30
Glass (particle)	mm	≤ 3
Glass (total)	% on a dry weight basis	≤ 3
Inert materials	% on a dry weight basis	≤ 3
Iron	% on a dry weight basis	≤ 0.5
Humic Matter	% on a dry weight basis	< 20
Humidity	% on a dry weight basis	< 45
K <sub>2</sub> O	% on a dry weight basis	> 0.4
Organic Matter	% on a dry weight basis	< 40
P <sub>2</sub> O <sub>5</sub>	% on a dry weight basis	> 0.5
Particle Size	mm	0.5 - 25
Plastics	% on a dry weight basis	≤ 1
Total Nitrogen	% on a dry weight basis	> 1

**Table 6.3  
Maximum Concentrations for Parameters in Soil,  
if Sludge is Applied for Agriculture**

<b>Parameter</b>	<b>Maximum Concentration in Soil (mg/kg of dry soil)</b>	<b>Maximum Amount That Can Be Applied (g/ha/yr)</b>
Arsenic	10	100
Cadmium	3	15
Chromium VI	3	15
Chromium III	50	2,000
Copper	100	3,000
Lead	100	500
Mercury	2	15
Nickel	50	1,000
Zinc	300	10,000

**Table 6.4  
Maximum Parameter Concentrations for Sludge Applied for Agriculture**

<b>Parameter</b>	<b>Unit of Measure</b>	<b>Limit</b>
Arsenic	mg/kg on a dry weight basis	10
Cadmium	mg/kg on a dry weight basis	10
Chromium VI	mg/kg on a dry weight basis	500
Chromium III	mg/kg on a dry weight basis	10
Copper	mg/kg on a dry weight basis	600
Lead	mg/kg on a dry weight basis	500
Mercury	mg/kg on a dry weight basis	10
Nickel	mg/kg on a dry weight basis	200
pH	pH unit	6 - 8.5
Salmonella	# /50 g	Absent
Weed seeds	# /50 g	Absent
Zinc	mg/kg on a dry weight basis	2,500

**Table 6.5 Risk Phrases**

#	Phrase
1	Explosive when dry
10	Flammable
11	Highly flammable
12	Extremely flammable
13	Extremely flammable liquefied gas
14	Reacts violently with water
14/15	Reacts violently with water, liberating extremely flammable gases
15	Contact with water liberates extremely flammable gases
15/29	Contact with water liberates toxic, extremely flammable gas
16	Explosive when mixed with oxidizing substances
17	Spontaneously flammable in air
18	In use, may form flammable/explosive vapor air-mixture
19	May form explosive peroxides.
2	Risk of explosion by shock, friction, fire or other sources of ignition.
20	Harmful by inhalation
20/21	Harmful by inhalation and in contact with skin
20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
20/22	Harmful by inhalation and if swallowed
21	Harmful in contact with skin
21/22	Harmful in contact with skin and if swallowed
22	Harmful if swallowed
23	Toxic by inhalation
23/24	Toxic by inhalation and in contact with skin
23/24/25	Toxic by inhalation, in contact with skin and if swallowed
23/25	Toxic by inhalation and if swallowed
24	Toxic in contact with skin
24/25	Toxic in contact with skin and if swallowed
25	Toxic if swallowed
26	Very toxic by inhalation
26/27	Very toxic by inhalation and in contact with skin
26/27/28	Very toxic by inhalation, in contact with skin and if swallowed
26/28	Very toxic by inhalation and if swallowed
27	Very toxic in contact with skin
27/28	Very toxic in contact with skin and if swallowed
28	Very toxic if swallowed
29	Contact with water liberates toxic gas
3	Extreme risk of explosion by shock, friction, fire or other sources of ignition
30	Can become highly flammable in use
31	Contact with acids liberates toxic gas
32	Contact with acids liberates very toxic gas
33	Danger of cumulative effects
34	Causes burns
35	Causes severe burns
36	Irritating to eyes
36/37	Irritating to eyes and respiratory system
36/37/38	Irritating to eyes, respiratory system and skin
36/38	Irritating to eyes and skin
37	Irritating to respiratory system

#	Phrase
37/38	Irritating to respiratory system and skin
38	Irritating to skin
39	Danger of very serious irreversible effects
39/23	Toxic: danger of very serious irreversible effects through inhalation
39/23/24	Toxic: danger of very serious irreversible effects through inhalation and in contact with skin
39/23/24/25	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed
39/23/25	Toxic: danger of very serious irreversible effects through inhalation and if swallowed
39/24	Toxic: danger of very serious irreversible effects in contact with skin
39/24/25	Toxic: danger of very serious irreversible effects in contact with skin and if swallowed
39/25	Toxic: danger of very serious irreversible effects if swallowed
39/26	Very toxic: danger of very serious irreversible effects through inhalation
39/26/27	Very toxic: danger of very serious irreversible effects through inhalation and in contact with skin
39/26/27/28	Very toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed
39/26/28	Very toxic: danger of very serious irreversible effects through inhalation and if swallowed
39/27	Very toxic: danger of very serious irreversible effects in contact with skin
39/27/28	Very toxic: danger of very serious irreversible effects in contact with skin and if swallowed
39/28	Very toxic: danger of very serious irreversible effects if swallowed
4	Forms very sensitive explosive metallic compounds
40	Possible risks of irreversible effects
40/20	Harmful: possible risk of irreversible effects through inhalation
40/20/21	Harmful: possible risk of irreversible effects through inhalation and in contact with skin
40/20/21/22	Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed
40/20/22	Harmful: possible risk of irreversible effects through inhalation and if swallowed
40/21	Harmful: possible risk of irreversible effects in contact with skin
40/21/22	Harmful: possible risk of irreversible effects in contact with skin and if swallowed
40/22	Harmful: possible risk of irreversible effects if swallowed
41	Risk of serious damage to eyes
42	May cause sensitization by inhalation
42/43	May cause sensitization by inhalation and skin contact
43	May cause sensitization by skin contact
44	Risk of explosion if heated under confinement
45	May cause cancer
46	May cause heritable genetic damage
47	May cause birth defects
48	Danger of serious damage to health by prolonged exposure
48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation

#	Phrase
48/20/21	Harmful: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin
48/20/21/22	Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed
48/20/22	Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed
48/21	Harmful: danger of serious damage to health by prolonged exposure in contact with skin
48/21/22	Harmful: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed
48/22	Harmful: danger of serious damage to health by prolonged exposure if swallowed
48/23	Toxic: danger of serious damage to health by prolonged exposure through inhalation
48/23/24	Toxic: danger of serious damage to health by prolonged exposure through inhalation and in contact with skin
48/23/24/25	Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed
48/23/25	Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed
48/24	Toxic: danger of serious damage to health by prolonged exposure in contact with skin
48/24/25	Toxic: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed
48/25	Toxic: danger of serious damage to health by prolonged exposure if swallowed
49	May cause cancer by inhalation
5	Heating may cause an explosion
50	Very toxic to aquatic organisms
50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
51	Toxic to aquatic organisms
51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
52	Harmful to aquatic organisms
52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
53	May cause long-term adverse effects in the aquatic environment
54	Toxic to flora
55	Toxic to fauna
56	Toxic to soil organisms
57	Toxic to bees
58	May cause long-term adverse effects in the environment
59	Dangerous for the ozone layer
6	Explosive with or without contact with air
60	May impair fertility
61	May cause harm to the unborn child
62	Possible risk of impaired fertility
63	Possible risk of harm to the unborn child
64	May cause harm to breast-fed babies
65	Harmful: may cause lung damage if swallowed

#	Phrase
66	Repeated exposure may cause skin dryness or cracking
67	Vapors may cause drowsiness and dizziness
7	May cause fire
8	Contact with combustible material may cause fire
9	Explosive when mixed with combustible material

**Table 6.6 Treatment & Disposal Methods for Sanitary Waste**

Type of Sanitary Waste	Method of Pre-Treatment Before Offsite Shipment	Method of Treatment Prior to Final Disposal	Method of Final Disposal
Anatomic parts with the exclusion of those below	Chemical disinfection	Cremation or burial if not infectious Incineration if infectious	Landfill if not infectious Dangerous waste landfill if infectious
Animals from laboratories and veterinary offices	Chemical disinfection	Incineration	Dangerous waste landfill if infectious; landfill if not infectious
Bulk blood & suction canister waste	Steam sterilization	Incineration	Landfill (ashes)
Bulky materials	Steam sterilization	None	Recycling or landfill
Expired chemicals	None	Incineration	Landfill (ashes)
Glass containers of drugs and solutions for infusion	Steam sterilization	Incineration	Landfill (ashes)
Inert construction materials and orthopedic casts	None	None	Inert material landfill (former Category IIA)
Materials from gardening activities at sanitary facilities	None	None	Urban waste landfill
Microbiological wastes	Steam sterilization	Incineration	Dangerous waste landfill if infectious; landfill if not infectious
Non-bulky metallic materials	Steam sterilization	None	Recycling or landfill
Sharps in sharps containers	Chemical disinfection	None	Incineration
	Steam sterilization	None	Landfill
Samples of blood, urines, feces, etc.	Chemical disinfection or steam sterilization	None	Decanted into clinical sinks or landfilled
Teeth and unidentifiable body parts	Chemical disinfection	Incineration	Landfill (ashes)