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A Commander's Guide to Regulated Medical Waste Management



TG 177

U.S. Army Center for Health Promotion
and Preventive Medicine

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A COMMANDER'S GUIDE TO REGULATED MEDICAL WASTE MANAGEMENT

CHAPTER 1 - FOREWORD

Purpose

This document provides information and guidance to Commanders of U.S Army military treatment facilities (MTF), dental and veterinary activities, and research facilities on the management of regulated medical waste (RMW).

Technical assistance

Requests for additional assistance and guidance may be directed to the Hazardous and Medical Waste Program at the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) at DSN 584-3651, commercial (410) 436-3651, or by sending an email to USACHPPMHMWP@amedd.army.mil.

Suggested improvements

The proponent of this guide is USACHPPM. Users are invited to send comments and suggested improvements on Department of the Army (DA) Form 2028, Recommended Changes to Publications and Blank Forms, directly to Commander, U.S. Army Center for Health Promotion and Preventive Medicine, ATTN: MCHB-TS-EHM, Aberdeen Proving Ground, MD 21010-5403.



CHAPTER 2 - INTRODUCTION

This guide is intended for use by MTF Commanders. It does not reflect specific state or foreign country regulatory requirements. The term MTF used in this guide includes activities such as medical research facilities, and dental and veterinary clinics. The purpose of this Technical Guide is to assist the Commander in taking a proactive role in the management of RMW by

- Providing an overview of present regulations and guidelines.
- Offering insight to future regulations.
- Presenting a quick summary of treatment and disposal options.
- Pointing out state regulations and listing state points of contact.

This document leads the Commander through a logical thought process by posing questions and offering realistic and practical answers. While this guide is of importance to the Commander, it also is of great value to the Commander's staff. This guide is based on U.S. Army Medical Command (MEDCOM) Regulation 40-35, Management of Regulated Medical Waste, and should not be construed as a policy document. Commanders should establish local policy that incorporates Federal, State, local, and Army regulations.

Why is regulated medical waste management an issue?

Controlling waste is an important part of public health, whether hospital infectious waste or household garbage. Improperly managed waste can create conditions that may have severe adverse effects on public health and the environment. Proper storage, collection, transportation, and disposal are key elements to controlling biologic and infectious wastes. Environmental health practitioners must ensure that waste controls are in place and maintained. Improperly managed wastes may even increase disposal costs.



Highly publicized issues such as medical debris washing up on beaches, hepatitis B and C, and human immunodeficiency (HIV)/acquired immune deficiency syndrome (AIDS) cases have focused public attention on medical waste. Improper management of medical waste raises concern over the health risk posed by its infectious character, the potential safety hazards posed by needles and other sharps, and the aesthetic degradation of the environment.

What is regulated medical waste?

Though there is no universally accepted definition for RMW, the definitions offered by regulatory agencies are similar. The Environmental Protection Agency (EPA), the Centers for Disease Control and Prevention (CDC), the World Health Organization (WHO) and the Occupational Safety and Health Administration (OSHA) agree that “regulated medical waste” includes those wastes with the potential for causing infection and for which special precautions are prudent. Some state and local regulations use a similar, general definition. Others list specific categories of waste that are considered infectious.

In 1986, the EPA published its “Guide for Infectious Waste Management”. This guide provided a list of recommended, as well as optional, RMW categories.



Two years later, Congress mandated the EPA to determine which medical wastes would be regulated under the Medical Waste Tracking Act of 1988. This Act has expired and is thus obsolete. The EPA’s final rule, 40 Code of Federal Regulations (CFR) 259 (now expired and no longer in the CFR), regulated the same wastes as were recommended in the 1986 guide, with one exception. The Act included an “unused sharps” category. This category, however, is regulated for potential safety hazards other than its infectious character. Although the guide is obsolete, it still provides a good description of

infectious waste categories. Table 1.1, based on this guide, lists the different classes of RMW as outlined in MEDCOM Regulation 40-35.

Table 2.1 - Regulated Medical Waste Categories.

Waste Class	Examples
Group 1 - Cultures, stocks, and vaccines	Examples include cultures and stocks of infectious agents and associated biologicals, including cultures from medical and pathological laboratories; discarded live and attenuated vaccines; and culture dishes and devices used to transfer, inoculate, and mix cultures.
Group 2 - Pathological waste	Examples are human pathological wastes, including tissues, organs, body parts, extracted human teeth, and body fluids removed during surgery or autopsy, or other medical procedures, and specimens of body fluids.
Group 3 - Blood and blood products	Waste free flowing liquid human blood, plasma, serum, blood in blood bags, blood and/or bloody drainage in suction containers, items such as gauze or bandages, saturated or dripping with human blood. Items caked with dried blood and capable of releasing blood during normal handling procedures.
Group 4 and 7- Used and unused sharps	Includes sharps used in animal or human patient care, in medical research or support laboratories, or when used for live training purposes. Includes hypodermic needles, syringes (with or without the attached needle), pasteur pipettes, scalpel blades, blood collection tubes and vials, test tubes, needles attached to tubing, and culture dishes (regardless of presence of infectious agents). Also includes broken or unbroken glassware that was in contact with infectious agents such as used slides and cover slips. Does not include syringes without needles used for irrigation purposes and non-infectious glassware.
Group 5 - Animal waste	Includes contaminated animal carcasses, body parts, and bedding of animals intentionally exposed to infectious agents during research, production of biologicals, or testing of pharmaceuticals. Does not include road kills, euthanized animals, animals dying of natural causes and waste produced by general veterinary practices.
Group 6 - Isolation wastes	Includes bedding, biological wastes, discarded material contaminated with blood, excretion exudates and secretions from patients or animals isolated or known to be infected with highly communicable diseases.
Group 8 - Other	Fluids that are designated by the local infection control authority. They may include but are not limited to semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid, and amniotic fluid. These designated fluids would be RMW when free flowing, dripping, or saturated on substrates.
Group 9 - Chemotherapy trace wastes	Items such as needles, empty vials and syringes, gowns and tubing that contained chemotherapeutic pharmaceuticals or were exposed to chemotherapeutic pharmaceuticals during the treatment of patients.

The Army uses the term RMW as the preferred description for what some people know as infectious waste, biohazardous waste, biomedical waste, or simply medical waste. Other military services and various regulatory organizations may use other terms to identify this waste stream. The Army's use of the term is derived from the original EPA definition. The meaning of the term is defined in MEDCOM Regulation 40-35. The term is also consistent with the proper shipping name required by the U.S. Department of Transportation (DOT) when shipping RMW. Other terms may be appropriate for outside the continental United States (OCONUS) locations.

What is not regulated medical waste?

The decision to handle MTF generated wastes as infectious is made by the Infection Control Committee, or the Infection Control Officer (ICO), and based on MEDCOM Regulation 40-35, applicable state, and local regulations.

General waste is a solid material intended for normal disposal, without pretreatment, but may still be produced as the direct result of patient diagnosis, treatment, or therapy. Such waste is generated in patients' sleeping, treatment, therapy, or isolation rooms (except where the patient is isolated for a CDC Class 4 disease, see Appendix C for a partial list), and rooms used for diagnostic procedures, doctors' offices, and nursing units. Examples of items that may be included in this category are soiled dressings, bandages, disposable catheters, swabs, and used disposable drapes, gowns, masks, gloves, feminine hygiene products, soiled diapers, and empty used specimen containers/cups. This waste requires no further treatment and is disposed of as general waste. Local or state regulations further define what is RMW or solid waste.



Exception: Facilities operating OCONUS and its territories may need to classify and manage some of the items listed above as RMW. Personnel working at these facilities should review the host nation's Final Governing Standards, or the Overseas Environmental Baseline Guidance Document (OEBGD), as applicable, for additional information. Similarly, some states within the United States also require management of all patient waste as RMW. Local regulatory requirements should always be followed when characterizing wastes.

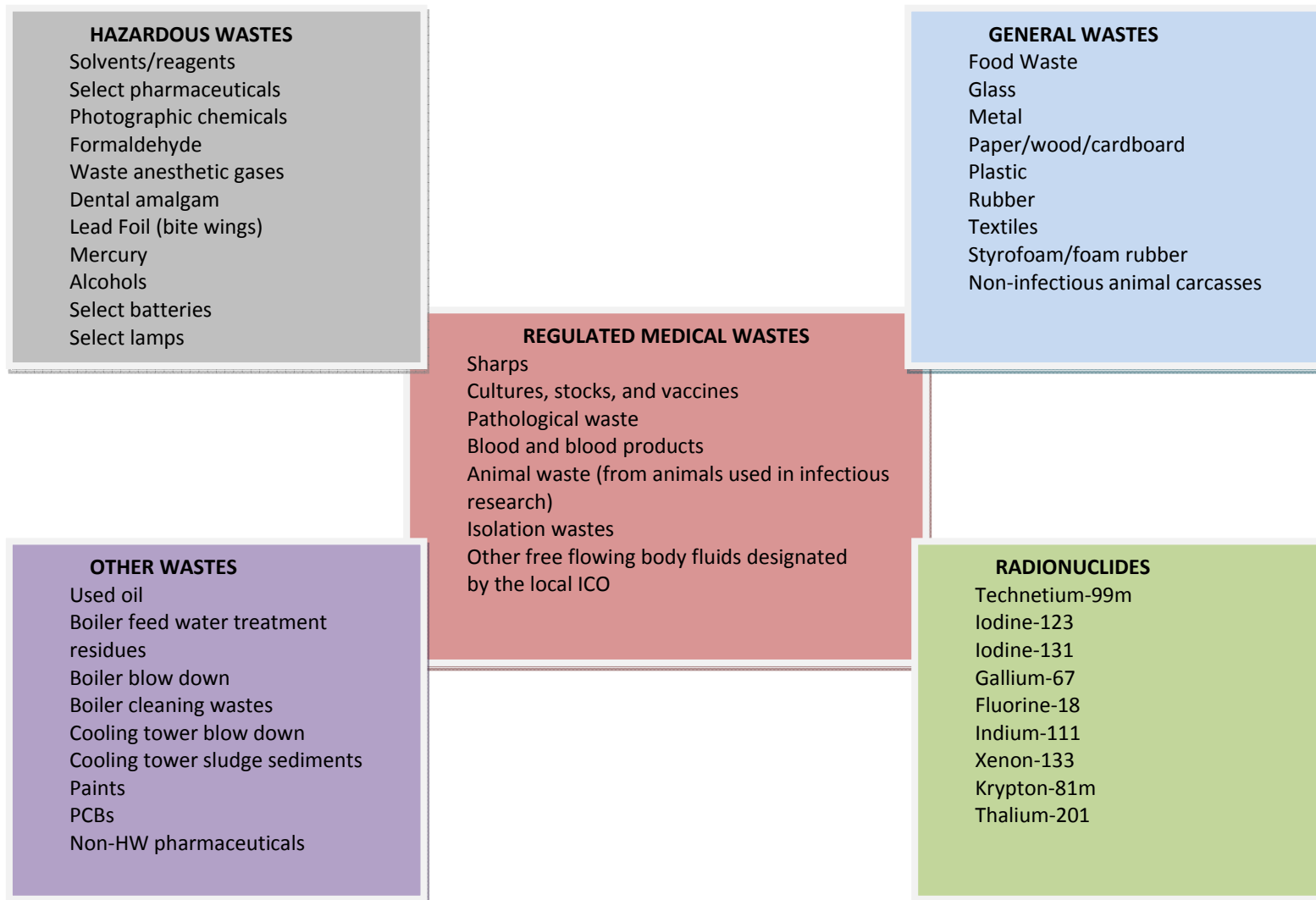
Hazardous waste which is listed or identified in Title 40 CFR, Part 261.3, is regulated under specific EPA and state standards. Hazardous waste (HW) is not included in the RMW category. Conversely, RMW is not classified as a HW. Contact Preventive Medicine (PVNTMED) or the installation Environmental Office for assistance with HW issues.

Radioactive waste is regulated by the Nuclear Regulatory Commission, the DOT, state agencies, and the EPA. It is not included in the RMW category.

Other regulated wastes include those wastes generated within the MTF that are regulated for reasons other than their infectious character such as pharmaceutical and chemotherapy wastes. Waste classification and management procedures of pharmaceutical wastes are addressed in USACHPPM's Military Item Disposal Instructions (MIDI) CD-ROM and on-line at <http://usachppm.amedd.army.mil/MIDI/Default.aspx>.

Mixed wastes should be managed with all the precautions applicable to each of the waste components. The following chart shows the relationship of RMW to the remainder of other waste streams within an MTF. The overlapping areas represent both mixtures of waste streams and wastes that may pose more than one hazard. Mixtures occur when wastes are not properly segregated and the potential for cross-contamination is introduced. Multiple hazards are inherent in some wastes that are not mixtures. An example would be a syringe used to inject radioactive tracers into an infected patient. This syringe must be handled with all the precautions applicable to RMW and radiological wastes, along with special precautions for sharps. Note, this list is not all inclusive and not meant to be used as a guide in making waste classifications. For example, local or state regulations may classify a specific waste as a HW which would not be reflected on this chart.

Examples of possible mixed MTF Waste Streams



CHAPTER 3 - RESPONSIBILITIES

What are the major areas of responsibilities?

The following examples of RMW management responsibilities are presented to assist Commanders; they may not be applicable to all situations.

Activity Commanders ensure RMW is identified and managed according to existing laws, policies, and procedures. When a regulation conflicts with other regulations (for example, state, local, host nation laws, etc.), personnel must follow the most stringent requirement.

Medical Logistics arranges for, and supervises the collection, storage, transportation, and disposal of RMW.

Health care workers are responsible for properly segregating RMW from general waste at the point of generation. Doing so not only protects them but also other hospital personnel, the general public, and the environment.

Housekeeping, or other designated personnel, collect and transport RMW to the appropriate facility holding area. They also ensure that RMW bags are available to facility staff after normal duty hours.

Supervisors establish and use management controls and periodic inspections to ensure compliance with all policies and regulations. Supervisors also plan, conduct, and document training of their personnel.

Preventive Medicine and the ICO assist Medical Logistics and supervisors by—

- Developing local RMW management implementing policies and guidance.
- Monitoring all phases of the management of RMW, including collection, storage, transportation, treatment, and disposal.



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- Providing technical advice in identifying and characterizing RMW.
 - Participating in the planning and providing of training.

Commercial medical waste disposal companies/transporters remove RMW generated at a facility and dispose of it in accordance with state and federal regulations.

What are the existing regulations and guidelines?

The EPA's Guide for Infectious Waste Management defines and categorizes infectious waste and describes effective waste management and treatment options. Some of these guidelines were incorporated into this document and are described later.

The CDC has published several infection control guidelines and recommendations. The most significant recommendation and common theme in these reports is the application of standard precautions. Military medical care providers follow the CDC's guidance in applying standard precautions in healthcare applications. Standard precautions are the basic level of infection control that should be used in the care of all patients all of the time to reduce the risk of transmission of microorganisms. It applies to blood, body fluids, secretions and excretions (except sweat), non-intact skin, and mucous membranes. The application of standard precautions includes hand hygiene; use of gloves, gowns, masks, eye protection, or face shield, depending on the anticipated exposure; safe injection practices, and disinfection of non-disposable equipment before it is reused on another patient.

The OSHA has responded to petitions for federal standards regarding RMW management and includes some aspects in 29 CFR 1910.1030, Bloodborne Pathogens standard. The following items are discussed in the rule:

- The application of "Universal Precautions" to prevent contact with blood and other potentially infectious materials.
- Regulated waste container requirements.
- Requirements regarding color coding and labeling of regulated waste containers.
- Requirements for the disposal of sharps.



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- Decontamination requirements.
 - Controlled access to areas that pose a potential biological hazard.
 - Use of the universal biohazard symbol to identify the actual or potential presence of a biological hazard.
 - Training requirements for all employees with occupational exposure.
 - Recordkeeping requirements.

Nearly all 50 states regulate medical waste to some extent. These regulations are extremely diverse and vary from simple definitions to stringent treatment, storage, and disposal requirements. A list of state points of contacts is provided in Appendix B. The regulatory climate is constantly changing and it is important for individual facilities to stay informed. MTFs should maintain a dialogue with state regulators, especially regarding the status of RMW regulations. Military organizations must comply with military regulations and also applicable federal, state, country, and local regulations.

Department of the Army Pamphlet (DA PAM) 40-11, Preventive Medicine, describes the areas of responsibility and the requirements for management of RMW at MTFs. The requirements are very general and are not intended to incorporate specific state regulations.

MEDCOM Regulation 40-35 provides regulatory requirements for RMW management. It applies to MEDCOM activities, to include subordinate commands, MTFs, dental activities, veterinary activities, and research facilities.



CHAPTER 4 - REGULATED MEDICAL WASTE GENERATION

Which departments within my facility generate regulated medical waste?

Commanders must comply with all RMW regulations. The first step towards compliance is to determine a local MTF definition for RMW. The definitions presented previously are based on MEDCOM Regulation 40-35, Management of Regulated Medical Waste. Each individual facility must also incorporate federal, and any applicable country, state or local definitions into a single working definition for the facility. A facility regulation, memorandum, or standard operating procedure, that specifically defines the categories of wastes to be considered infectious, must be developed.

Once RMW has been defined and a local policy is in place the next logical step is to conduct an RMW inventory at the facility. First, a determination has to be made on what wastes are generated by which department, and more specifically, which departments generate RMW. Table 4.1 shows the four common waste streams within an MTF and lists the departments that are most likely to generate these wastes.

What types of regulated medical waste are generated?

Next, an assessment should be made on what types of RMWs are generated. This step is necessary to determine specific waste collection and shipping container needs. The following examples demonstrate how this information can be used:

- Supply those departments, which generate waste syringes and sharps with puncture resistant containers.
- Generally, blood may be disposed of through the sanitary sewer system. When this is not an option, however, departments generating waste blood require leakproof containers.
- Departments generating heavy RMWs items such as infectious glassware require sturdy, puncture resistant containers.



Table 4.1 - Waste Generation by Department.

Department	Radioactive	Hazardous	General	RMW
Administrative Areas			X	
Blood Bank			X	X
Critical Care Services		X	X	X
Dental Services		X	X	X
Dialysis			X	X
Emergency Care		X	X	X
Environmental Services		X	X	
Facility Maintenance		X	X	
In-Patient Areas		X	X	X
Laboratories		X	X	X
Laundry			X	X ¹
Materials Management		X	X	
Medical Maintenance		X	X	
Medical Research		X	X	X
Morgue		X	X	X
Oncology		X	X	X
Outpatient Clinics		X	X	X
Pharmacy		X	X	X
Physical/Occupational Therapy		X	X	X
Public Restrooms			X	X ²
Radiology, Cardiology, CT Scan, Nuclear Medicine	X	X	X	X
Sterile Processing		X	X	
Surgery		X	X	X
Waste Storage		X	X	X

¹ There may be a potential of the laundry receiving excessively blood soaked linen or improperly discarded sharps within the linen.

² Some medical facilities place sharps containers in public restrooms for diabetic patients.

How much regulated medical waste is generated?

Finally, a waste generation estimate is necessary to determine the average disposal cost based on how much RMW is generated. It is MEDCOM's policy that the RMW waste disposal contractor must charge disposal fees by weight, not volume, or containers generated. See MEDCOM Regulation 40-35 for more information on waste generation weighing and tracking requirements.

Two factors will greatly influence the amount of RMW generated: defining what is a RMW and emphasis on proper waste stream segregation at the point of generation. Commanders and the Infection Control Committee may need to identify other wastes as infectious in addition to the RMW categories provided in Table 1.1; federal, state, and local regulations will define what must be included. **Commanders can impart the greatest influence on amounts of waste generated by emphasizing segregation efforts through implementing staff education and training programs on the identification and proper disposal of RMW.**



CHAPTER 5 - TRAINING

Why is it important to provide training to employees?

Command emphasis on proper RMW management procedures will be ineffective if waste generators and handlers do not understand these procedures. Employees must be informed of the potential health and safety hazards and trained in appropriate handling and disposal methods.

Who should be involved in providing training?

A training program which assures knowledge and understanding of the desired waste handling process is a necessity. Members of the Infection Control Committee should develop and implement a training program for hospital staff. Only qualified instructors (personnel who are knowledgeable in the subject area and have had formal and extensive training in the material) may instruct classes and oversee training. Though a contractor may conduct the training of contracted housekeeping personnel, the Committee should oversee it. Specific state or local training requirements must be included as part of the contract. Annual refresher training is required for all hospital personnel. Document all the training programs, to include topics of discussion and names of those in attendance. Training records may be in the form of class rosters, individual certificates maintained in personnel files, database, etc. Regardless of the format, departments/supervisors/activity managers should maintain documentation of all training for a minimum of 3 years.

What should the training include?

- RMW definitions.
- Properly collecting, handling, storing, transporting, and disposing of RMW and sharps.
- Procedures for cleaning up RMW spills.
- Procedures for reporting RMW incidents such as spills or exposures.

Which laws or regulations govern regulated medical waste training?

Personnel handling RMW are required under OSHA Regulation 29 CFR 1910.1200, Hazardous Communication (HAZCOM); 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response (HAZWOPER); and 29 CFR 1910.1030, Bloodborne Pathogens Standard, to receive training. MEDCOM Regulation 40-35 presents basic training requirements and specifies that Commanders must ensure all employees are trained to perform their duties.

Under the DOT, RMW is a hazardous material for transportation purposes. Furthermore, a Hazardous Material (HAZMAT) employee is a person who directly affects hazardous materials transportation safety. This includes all employees who are involved in preparing RMW for transport. These employees are required to complete general awareness, function specific, safety, and security awareness training under 49 CFR 172, Subpart H.

Anyone signing RMW shipping manifests/documents must attend an approved training course and complete refresher training every two years per Department of Defense (DOD) 4500.9-R Part II, Chapter 204. In addition, DOD 4500.9-R Part II, Chapter 204 requires all certifying officials to be designated, in writing, by the activity commander and successfully complete a formal training course from an DOD-approved school. A listing of which schools are “approved” is specified in DOD 4500.9-R.

CHAPTER 6 - WASTE SEGREGATION, PACKAGING, AND STORAGE

Which guidelines should I follow for waste segregation, accumulation, and packaging?

Federal, State, and local regulations ultimately determine the minimum standards of a RMW management program. Commanders, however, have the option to expand on these regulations and develop a program that will best serve their facility and community. MEDCOM Regulation 40-35 provides the following minimum requirements.

Manage and dispose of general waste according to existing published regulations; that is, federal, state, and local requirements. Place regular trash and recycling containers at appropriate locations in the workplace to make segregation convenient and to minimize improper waste segregation.

Segregate RMW from general waste, by groups, at the point of origin. Place items designated as RMW into a RMW container. Place sharps in a puncture resistant container designated for sharps disposal.

Deposit non-sharps RMW in puncture resistant, plastic bag lined receptacles. Use sturdy, tear resistant, red, 3-mil thick bags. In areas where RMW is rarely generated (for example, very small labs or clinics), personnel may use bags less than 3 mils thick as interim collection bags provided these thinner bags are placed in 3-mil thick bags prior to transport within and outside the facility. Refer to state and local requirements and ensure bag thickness complies with these regulations. Meeting state requirements regarding the thickness, strength, or color of RMW bags for waste collection takes precedence over this guide.

Securely tie and seal medical waste bags. Do not shake or squeeze the bags in an attempt to reduce volume and never compact or crush the waste to make room for more. Remember, bags serve as the primary barrier between the RMW and the worker. Coordinate with PVNTMED, ICO, and Safety Office for additional instructions on safely sealing and labeling containers to meet your local requirements.

Carry sealed bags by their necks to the transportation cart. Do not lift or hold bags by the bottom or sides. Carry bags away from the body. Ensure bags are not broken, opened, or dropped. Never throw the bags into the carts. Wear gloves and personal protective equipment (PPE) appropriate for the task when handling bagged RMW.

Group 1. Cultures and Stocks. Separate microbiologic waste (cultures and stocks of etiologic agents) from general waste for decontamination. Liquid Group 1 RMW (for example, liquid culture media) may be either steam sterilized and disposed of in the sanitary sewer system or kept in its original glass container and placed in the sharps container for treatment and disposal without using the sanitary sewer system.

Vaccines. Discard partially full or empty vials of vaccine in sharps containers. Dispose of nasal mist vaccine dispensers in non-sharps RMW containers. Full vials subject to the pharmaceutical return's vendor program must be returned to the pharmacy in original condition. Empty carpules from dental procedures that are broken or contain visible blood should be placed in sharps containers; otherwise manage unbroken carpules that do not contain visible blood as non-regulated waste.

Group 2 - Pathological Waste. Dispose of pathological waste inside an RMW container lined with a plastic bag or double bag in RMW bags.

Group 3 - Blood and Blood Products. Unless against local, state, or host nation law, bulk blood may be disposed into the sanitary sewer. Dispose of breakable containers of bulk blood or blood products in rigid, puncture resistant, leak proof containers. Use plastic RMW bags to dispose of blood products such as blood bags and blood filter tubing, and items saturated, dripping, or caked with blood. Remove needles from the tubing (avoiding unsafe manipulation) and place needles in a sharps container for disposal.



Groups 4 and 7 - Sharps. Discard all sharps directly into a rigid puncture resistant, plastic sharps container immediately after use. Discard disposable needles and syringes intact, do not cut, break, bend by hand, or recap using a two-hand method.

Group 5 - Animal Waste. Contaminated animal carcasses, body parts, and bedding of animals that are known to have been exposed to infectious agents during research; including those produced in veterinary facilities, production of biologicals, or testing of pharmaceuticals, must be managed as RMW and be incinerated.

Group 6 - Isolation Waste (Biosafety Level (BSL) Level 4 agents). Consult the ICO for specific instructions on handling waste that contains BSL Level 4 agents (see Appendix C).

Group 8 - Other. Consult the ICO for specific instructions on handling RMW fluids. Free flowing fluids may need to be collected in containers as designated by the ICO. Items that are dripping or saturated with infectious agents should be placed in RMW bags.

Group 9 - Chemotherapy Trace Wastes. Do not mix trace chemotherapy wastes with non-chemotherapy RMW or HW. Deposit chemotherapeutic trace wastes in containers provided by the medical waste disposal contractor. These containers are normally yellow in color. Consult the activity chemotherapy drugs protocol or contact PVNTMED, ICO, and/or Safety Office for additional guidance.

How do I store regulated medical waste?

Though RMW should be treated as soon as possible, some temporary storage is inevitable. Some states have very specific guidelines regarding storage areas and times. The following minimum guidelines are provided.

Store RMW, excluding pathological waste, in a designated RMW storage area. The main holding area for the MTF must be secured, properly identified, and kept clean and free from pests (e.g., insects, rats, and animals). Facility utility rooms need not be secured when RMW (other than sharps) is collected there, unless dictated by local policy.

Storage of RMW must not exceed the storage times specified in current contracts for removal and disposal, and must not exceed the storage times specified by applicable state or host nation regulations. When conflicts exist, the more stringent time limits will be followed. Unusual or extenuating circumstances will be taken into consideration to allow brief or minor variances from storage time requirements.

Refrigerate or freeze pathological waste. Pathological waste generated at veterinary clinics or laboratories must be stored in a refrigerator or freezer prior to pickup for disposal. The usual time for freezer storage of any RMW is approximately 30 days. Refrigerated RMW must be picked up sooner to avoid the waste becoming noxious.



CHAPTER 7 - TRANSPORTATION OF REGULATED MEDICAL WASTE

The following information is based on National Institute for Occupation Safety and Health (NIOSH), DOT, DOD, and MEDCOM Regulation 40-35 guidelines and standards. Host nation, state and local regulations should be consulted for any additional standards.

What are the requirements for transporting waste within the treatment facility?

Carts used to transport RMW within the MTF should not be used for any other purpose. Carts used to transport RMW must be constructed of readily cleanable material such as plastic or stainless steel. If carts are equipped with lids, it is a good management practice to close the lids when transporting the RMW. If available, freight elevators should be used to transport RMW to different floors. Busy patient areas should be avoided as well when moving about RMW.

Clean carts or other reusable containers used to transport RMW, using an EPA registered hospital grade detergent/disinfectant or other facility approved antimicrobial disinfectants, both inside and outside. State and local requirements must be considered when choosing a disinfectant. Housekeeping personnel are generally responsible for timely transportation of waste within the facility, maintenance of carts, and the cleaning on a weekly basis, or more frequently if needed. If a spill occurs, the cart and impacted area will be cleaned immediately with a disinfectant.

Put bags of RMW in rigid containers and mark the containers with the universal biohazard symbol. Red bags do not need to be marked with the universal biohazard symbol unless required by state or local regulations.

Do not collect chemotherapy trace waste with non-chemotherapy trace waste (or HW) in the same container. Place chemotherapy trace waste in separate leakproof, rigid containers (usually yellow in color) and mark the containers with the universal biohazard symbol.

What are the requirements for transporting waste from outlying clinics?

RMW from outlying medical, dental, and veterinary clinics, located on post, should be collected on a schedule approved by the facility's environmental, infection control, and/or safety officials.

Privately owned vehicles must never be used to transport RMW from outlying clinics to the MTF. Only government or contractor owned vehicles, that are easily cleaned and disinfected,

should be used for this purpose. An appropriate spill kit must also be located in the vehicle. The kit should include appropriate PPE (such as impervious gloves and gown, surgical mask, splash-proof safety glasses, face shield, and shoe covers), an approved disinfectant, spill absorbent, and equipment for cleaning up the spill. The kit may either be developed and assembled locally or commercially procured.

When moving RMW between buildings by vehicle, movement must be done in accordance with the installation's Transportation Office. At a minimum, the RMW must be in rigid outer packagings and protected from shifting while being transported.

Are there any drivers' training requirements for transporting waste on-post?

There may be a requirement for drivers to receive driver training or augmentive training to transport RMW on post, contact the Transportation Office for more information. At a minimum, personnel moving RMW must have bloodborne pathogens training in accordance with OSHA requirements.

What are the requirements for shipping regulated medical waste offsite?

Commanders must be aware that neither responsibility nor legal liability ends when wastes leave the facility. Waste generators are responsible for assuring proper treatment and disposal of their wastes. Commanders must, therefore, ensure all in-house and contracted waste handlers meet the requirements for the safe transport and disposal of RMW.

When the contractor supplies reusable containers for transport of bagged waste, ensure containers have been cleaned after each use. This can be done by visually inspecting the containers as soon as the MTF receives the containers by the contractor. Single use containers are usually destroyed as part of the treatment process.

In the continental United States, RMW is defined by the DOT as a hazardous material. When transported in commerce (for example, over public roads), RMW must be prepared for shipment following the requirements in Title 49, CFR Parts 100 - 185.

Shipping papers must be prepared according to 49 CFR 172.200 and applicable state requirements, some states require the use of a state mandated manifest. Shipping papers must be carried by the transporter per 49 CFR 177.817. Only a certified official may sign shipping papers according to DOD 4500.9-R, Defense Transportation Regulations, Part II, Chapter 204 (see Chapter 5 of this guide). A DOD certified official is a person who has successfully

completed an approved DOD hazardous material certification course and is appointed in writing by his/her activity or unit commander, to include scope of authority.

Activities must maintain a copy of the shipping papers for 2 years after the RMW was accepted by the initial commercial waste carrier per 49 CFR 172.201(e). State requirements may be stricter; many states require generators to maintain shipping papers/manifests for 3 years. In all cases, documentation provided back to the activity by the RMW treatment facility, indicating the waste has been treated and the treatment method used (incineration, sterilization, etc.), must be maintained for 3 years.

Material of trade exception. There are a limited number of situations where a government employee driving a government vehicle is allowed to use the DOT Material of Trade Exception (49 CFR 173.6), which provides some relief from many of the DOT requirements for transporting RMW. The specifics may also be obtained from the USACHPPM's Hazardous and Medical Waste Program at 410-436-3651 or DSN 584-3651.

When shipping RMW in a government vehicle that is not exempt by the Material of Trade exception, Department of Defense (DD) Form 836 (Dangerous Goods Shipping Paper/Declaration and Emergency Response Information for Hazardous Materials Transported by Government Vehicles) is the standard shipping paper used.

Outer shipping containers must meet United Nations (UN) and DOT requirements as stated in 49 CFR 173.197 unless they are being shipped by a private or contract carrier by motor vehicle. Contract carriers are those who are contracted with the MTF to transport and dispose of RMW. Outer shipping containers carried under these conditions are not required to meet the UN packaging requirements and do not need to have the UN specification marking.

Packages of RMW must be marked in accordance with 49 CFR Part 172.300 and labeled in accordance with 49 CFR Part 172.400, as well as applicable state regulations. Outer shipping containers holding trace chemotherapy waste must be marked in such a way to indicate that incineration is required. This may be done by affixing a label on the container or writing on it, or by checking the appropriate treatment method option (if already printed on the container).

Persons who transport RMW over public roads must receive driver's training as specified in 49 CFR 177.816, AR 600-55, and applicable state requirements. A commercial driver's license is not required provided the gross weight of the vehicle used is less than 26,001 pounds. All military and civilian drivers of U.S. government-owned vehicles must have a valid state driver's license and a military driver's license (Optional Form 346, U.S. Government Motor Vehicle Operator's Identification Card).



CHAPTER 8 - WASTE TREATMENT

What are my regulated medical waste treatment options?

At Army facilities, RMW is generally removed by a waste disposal contractor within the continental United States (CONUS) and OCONUS. Medical facilities located OCONUS and its territories must reference their host nation's final governing standards (FGS), or where the FGS does not exist, the OEBGD for specific treatment and disposal requirements.

Historically, many MTFs were treating RMW in on-site permitted incinerators. Due to more stringent EPA standards for emissions of RMW incinerators and the high cost of maintaining them, the Army has discontinued this practice. At the time of publication of this guide, the only permitted RMW incinerator remaining at Army facilities is located at Fort Detrick.

There are, however, some limited treatment options facilities may perform on site as defined and discussed below. Permitting requirements should be investigated as part of any treatment alternatives. Note, this guide does not provide specific recommendations. If you need help finding a new or different treatment method for your MTF, technical assistance is available from USACHPPM's Hazardous and Medical Waste Program.

Steam sterilization, also known as autoclaving, is the treatment of infectious waste with saturated, pressurized steam at a sufficiently elevated temperature to kill infectious agents. This is performed within an enclosed vessel known as an autoclave. Steam sterilization can effectively treat all wastes that can be penetrated by the pressurized steam. However, when used to treat pathological wastes, it is normally required that they be rendered unrecognizable (usually through grinding or shredding) before final disposal, which may not be feasible. Check local, state, and/or host nation regulations for specific requirements.

Microwave disinfection is a treatment method in which wastes are continuously irradiated with microwaves. Some microwave systems treat RMW by grinding it within a closed container, then passing this waste through a series of microwaves, which in the presence of moisture from the addition of water to the waste, effectively heats to temperatures sufficient to provide sterilization.



Chemical disinfection is the inactivation of waste by the addition of limited quantities of chemicals. Hydrogen peroxide, chlorine in the form of sodium hypochlorite solution (bleach) or chlorine dioxide gas, acids, and sodium hydroxide are the commonly used chemicals. Glutaraldehyde is frequently used as a disinfectant for heat-sensitive equipment such as dialysis instruments. Surfaces, utensils, and medical supplies are chemically disinfected on a widespread basis; however, this method is not recommended for the treatment of wastewater.

Chemical disinfection for suction containers is made of a dry powder cold sterilant that uses glutaraldehyde to solidify and treat blood and other body fluids contained in suction canisters. After a minimum exposure time of 24 hours, medical waste may be stored, transported, and disposed of as non-infectious waste, thereby reducing potential for worker exposure to such fluids. Check local and state regulations first before disposing of non-infectious suction containers into the solid waste.

Autoclaving/encapsulation is a system used to collect and dispose of syringes and other sharps. The sharps are decontaminated by heat and then encapsulated in an impervious, compact, plastic shell. Check local and state regulations first before disposing of these non-infectious containers into the solid waste.

What if state or local regulations prohibit use of the treatment methods above?

When the treatment/disposal methods introduced above and in Table 8.1 are not appropriate or feasible for the local situation, contracting for the transport and disposal of RMW is recommended. For planning purposes, activities must assume that RMW contractors will not accept for transportation any RMW that contains WHO Risk Group 4 or Biosafety Level 4 agents. Furthermore, activities should assume that commercial RMW treatment companies will refuse to accept for treatment and disposal any RMW that contains WHO Risk Group 4 or Biosafety Level 4 agents.

Which treatment methods are appropriate for regulated medical waste?

Not all treatment methods are effective for the various types of RMW. Table 8.1 is a brief summary of acceptable treatment/disposal methods. As previously mentioned, more stringent state or local laws may require more stringent treatment and disposal methods.

Table 8.1. Regulated Medical Waste Treatment Methods.

Source/Type of Medical Waste	Regulated as RMW	Treatment/Disposal Method
Microbiologic cultures/stocks	Yes	Incineration, Thermal inactivation, Chemical disinfection (for liquids only), Steam sterilization followed by incineration or grinding (check w/ state/local regulations if end product should be unrecognizable)
Pathological wastes (includes surgery and autopsy waste)	Yes	Incineration, Steam sterilization followed by incineration or grinding (check w/ state/local regulations if end product should be unrecognizable)
Blood/blood products, caked blood including blood bags and tubing.	Yes, only if free flowing, saturated, dripping, or caked.	Steam sterilization, Incineration, Sanitary sewer system for liquids
"Sharps" both used and unused	Yes	Incineration, Steam sterilization followed by incineration or grinding (check w/ state/local regulations if end product should be unrecognizable)
Vaccines	Yes	Incineration, Steam sterilization followed by incineration or grinding (check w/ state/local regulations if end product should be unrecognizable)

Table 8.1. Regulated Medical Waste Treatment Methods (continued).

Source/Type of Medical Waste	Regulated as RMW	Treatment/Disposal Method
Contaminated animal carcasses, body parts, and bedding	Yes	Incineration, Steam sterilization followed by incineration or grinding (check w/ state/local regulations if end product should be unrecognizable)
Communicable disease isolation*	No, except for Biosafety Level 4 or WHO Risk Group 4 agent.	Check with ICO for guidance, Steam sterilization, Incineration
Treatment/Examination Room*	No	General waste
General patient care areas*	No	General waste
Dental operatory*	Yes, only if free flowing, item saturation, dripping, or caked with blood.	Steam sterilization, Incineration, Sanitary sewer system for liquids
Intravenous bags and intravenous tubing	Check with state regulations	Steam sterilization, Incineration

* Unless the wastes fall into one of the categories above.

ABOUT USACHPPM

The U.S. Army Center for Health Promotion and Preventive Medicine is part of the U.S. Army Medical Command. It provides advice and assistance in the following areas:

- Environmental Quality and Management
- Entomological Sciences
- Radiation and Health Physics
- Occupational Health
- Industrial Hygiene and Medical Safety Management
- Sanitation and Hygiene
- Laboratory Analysis

To help with general environmental and health needs, USACHPPM has subordinate commands at Fort Meade, Fort Sam Houston, Fort Lewis, Landstuhl, Germany, and Camp Zama, Japan. The main Center at Aberdeen Proving Ground performs larger consultations and specialized work.

Any official representative can request USACHPPM's services at <https://chppm-www.apgea.army.mil/MSRV/ServiceRequest.aspx>.



APPENDIX A

References

Section I

Required Publications

AR 40-5, Preventive Medicine

AR 40-61, Medical Logistics Policies

AR 600-55, The Army Driver and Operator Standardization Program (Selection, Training, Testing, and Licensing)

U.S. Environmental Protection Agency. 1986. EPA/530-SW-86-014. *Guide for Infectious Waste Management*. Washington, DC: Office of Solid Waste and Emergency Response

U.S. Department of Health and Human Services Centers for Disease Control and Prevention and National Institutes of Health. 2007. *Biosafety in Microbiological and Biomedical Laboratories (BMBL) 5th Edition*. Washington, DC: US Government Printing Office

CDC, Office of Biosafety. 1974. *Classification of Etiologic Agents on the Basis of Hazard*, 4th Edition. U.S. Department of Health, Education and Welfare, Public Health Service

DA PAM 40-11, Preventive Medicine

DA PAM 200-1, Environmental Protection and Enhancement

DA PAM 385-69, Biological Defense Safety Program

DA Pam 420-47, Solid Waste Management

DOD 4500.9-R, Defense Transportation Regulation - Part II, Cargo Movement, Chapter 204.

DOD 4715.5-G, Overseas Environmental Baseline Guidance Document.

Elizabeth A. Bolyard, RN, MPH, et al, and The Hospital Infection Control Practices Advisory Committee. Guideline for Infection Control in Health Care Personnel, 1998

Joint Commission Hospital Accreditation Standards, Environment of Care

Joint Commission Standards for Ambulatory Care

Title 29, Code of Federal Regulations, Part 1910.120, Hazardous Waste Operations and Emergency Response (29 CFR 1910.120)

MEDCOM Regulation 40-35, Management of Regulated Medical Waste.

Title 29, Code of Federal Regulations, Part 1910.1030, Bloodborne Pathogens (29 CFR 1910.1030)

Title 29, Code of Federal Regulations, Part 1910.1200, Hazard communication (29 CFR 1910.1200)

Title 40, Code of Federal Regulations, Parts 260-273, and 279, Resource Conservation and Recovery Act of 1976 and subsequent amendments

Title 49, Code of Federal Regulations, Parts 100-185, Pipeline and Hazardous Materials Safety Administration, Department of Transportation (49 CFR 100-185)

USACHPPM Technical Guide 149, Guidelines for Controlling Occupational Exposure to Hazardous Drugs, June 2001

Section II

Related Publications

AR 190-51, Security of Unclassified Army Property (Sensitive and Nonsensitive)

AR 385-10, The Army Safety Program

AR 200-1, Environmental Protection and Enhancement

AR 420-1, Army Facilities Management

Military Item Disposal Instructions, U.S. Army Center for Health Promotion and Preventive Medicine (<http://usachppm.amedd.army.mil/MIDI/Default.aspx>)

Siegel JD, Rhinehart E, Jackson M, Chiarello L, and the Healthcare Infection Control Practices Advisory Committee. Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings, 2007

TB MED 593, Guidelines for Field Waste Management

USACHPPM Web Site, <http://chppm-www.apgea.army.mil/>

USACHPPM, Hazardous and Medical Waste Program Web Site, <http://chppm-www.apgea.army.mil/hmwp/>

Section III Prescribed Forms

There are no entries in this section

Section IV Referenced Forms

DA Form 836, Dangerous Goods Shipping Paper/Declaration and Emergency Response Information for Hazardous Materials Transported by Government Vehicles

Optional Form 346, U.S. Government Motor Vehicle Operator's Identification Card



APPENDIX B

State Points of Contact

The State contact information provided below was current at the time of publication of this guide but is apt to change. Many states have regional field offices, only main offices and contact numbers are listed.

A Alabama Department of Environmental Management
P.O. Box 301463
Montgomery, AL 36130
334-271-7700
<http://www.adem.state.al.us/>

Alaska Department of Environmental Conservation
Division of Environmental Health
555 Cordova Street
Anchorage, AK 99501
(907) 269-7644
<http://www.dec.state.ak.us/index.htm>

American Samoa Environmental Protection Agency
P.O. Box PPA
Pago Pago, American Samoa 96799
International: 684-633-2304
<http://americansamoa.gov/departments/agencies/epa.htm>

Arizona Department of Environmental Quality
Waste Programs Division
1110 W. Washington St.
Phoenix, AZ 85007
800-234-5677
<http://www.azdeq.gov/index.html>

Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118
501-682-0600
<http://www.adeq.state.ar.us/default.htm>

C California Environmental Protection Agency
1001 I Street
P.O. Box 2815
Sacramento, CA 95812
(916) 323-2514
<http://www.calepa.ca.gov/>

Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530
303-692-2000
<http://www.cdphe.state.co.us/>

Connecticut Department of Environmental Protection
79 Elm Street
Hartford, CT 06106
860-424-3000
<http://www.ct.gov/dep/site/default.asp>

D Delaware Department of Natural Resources and Environmental Control
89 Kings Highway
Dover, DE 19901
302-739-9403
<http://www.dnrec.delaware.gov/Pages/default.aspx>

District of Columbia Department of Health
Environmental Health Division
51 N Street, NE
Washington, DC 20002
202-535-2500
<http://doh.dc.gov/doh/cwp/view.asp?A=3&Q=573184>

F Florida Department of Environmental Protection
3900 Commonwealth Blvd. M.S. 49
Tallahassee, FL 32399
850-245-8705
<http://www.dep.state.fl.us/>

G Georgia Department of Natural Resources
Environmental Protection Division
2 Martin Luther King Jr. Drive
Suite 1152, East Tower
Atlanta, GA 30334
888-373-5947
<http://www.georgiaepd.org/index.html>

Guam Environmental Protection Agency
P.O. Box 22439 GMF
Barrigada, Guam 96921
International: 671-475-1658/9
<http://www.gepa.guam.gov/>

H Hawaii State Department of Health
Solid and Hazardous Waste Branch
919 Ala Moana Blvd, Room 212
Honolulu, HI 96814
808-586-4226
<http://hawaii.gov/health/environmental/>

I Idaho Division of Environmental Quality
1410 North Hilton
Boise, ID 83706
208-373-0502
<http://www.deq.state.id.us/>

Illinois Environmental Protection Agency
1021 North Grand Avenue East
Post Office Box 19276
Springfield, IL 62794
217-782-3397
<http://www.epa.state.il.us/>

Indiana Department of Environmental Management
Indiana Government Center North
100 N. Senate Ave.
Indianapolis, IN 46204
317-232-8603
<http://www.in.gov/idem/index.htm>

Iowa Department of Natural Resources
502 E. 9th Street
Des Moines, IA 50319
515-281-5918
<http://www.iowadnr.gov/index.html>

K Kansas Department of Health and Environment
Curtis State Office Building
1000 SW Jackson Street, Suite 320
Topeka, KS 66612
785-296-1500
<http://www.kdheks.gov/>

Kentucky Department for Environmental Protection
200 Fair Oaks Lane
Frankfort, KY 40601
502-564-2150
<http://www.dep.ky.gov/>

L Louisiana Department of Environmental Quality
602 N 5th Street
Baton Rouge, LA 70802
1-866-896-LDEQ
www.deq.state.la.us

M Maine Department of Environmental Protection
17 State House Station
Augusta, ME 04333-0017
800-452-1942
<http://www.maine.gov/dep/index.shtml>

Maryland Department of the Environment
1800 Washington Blvd
Baltimore, MD 21230
410-537-3000
<http://www.mde.state.md.us/Programs/index.asp>

Massachusetts Department of Environmental Protection
1 Winter Street
Boston, MA 02108
617-292-5500
www.state.ma.us/dep

Michigan Department of Environmental Quality
Constitution Hall
525 West Allegan Street
P.O. Box 30473
Lansing, MI 48909-7973
517-373-7917
<http://www.michigan.gov/deg>

Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, MN 55155-4194
800-657-3864
<http://www.pca.state.mn.us/>

Mississippi Department of Environmental Quality
Office of Pollution Control
P. O. Box 2261
Jackson, MS 39225
601-961-5171
<http://www.deq.state.ms.us/>

Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102
800-361-4827
<http://www.dnr.mo.gov/index.html>

Montana Department of Environmental Quality
1520 E. Sixth Avenue
P.O. Box 200901
Helena, MT 59620-0901
406-444-2544
<http://www.deq.state.mt.us/>

N Nebraska Department of Environmental Quality
1200 N Street, Suite 400
Lincoln, NE 68509
402-471-2186
<http://www.deq.state.ne.us/>

Nevada Department of Conservation and Natural Resources
Division of Environmental Protection
901 South Stewart Street, Suite 4001
Carson City, Nevada 89701-5249
702-687-4670
<http://ndep.nv.gov/index.htm>

New Hampshire Department of Environmental Services
29 Hazen Drive
PO Box 95
Concord, NH 03302-0095
(603) 271-3503
<http://des.nh.gov/index.htm>

New Jersey Department of Environmental Protection
P.O. Box 414
401 East State Street
Trenton, NJ 08625
609-633-1418
<http://www.state.nj.us/dep/>

New Mexico Environment Department
P.O. Box 5469
Santa Fe, New Mexico 87502-5469
505-827-0197
<http://www.nmenv.state.nm.us/index.html>

New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-0001
800-462-6553
<http://www.dec.ny.gov/index.html>

North Carolina Department of Environment and Natural Resources
1601 Mail Service Center
Raleigh, NC 27699-1601
919-733-4984
<http://www.enr.state.nc.us/html/enforcement.html>

O Ohio Environmental Protection Agency
P.O. Box 1049
Columbus, Ohio 43216-1049
614-644-3020
<http://www.epa.state.oh.us/>

Oklahoma Department of Environmental Quality
P.O. Box 1617
Oklahoma City, OK 73101-1677
405-702-1000
<http://www.deq.state.ok.us/lpdnew/index.htm>

Oregon Department of Environmental Quality
Land Quality Division
811 SW 6th Ave.
Portland, OR 97204-1390
800-452-4011
<http://www.oregon.gov/DEQ/>

P Pennsylvania Department of Environmental Protection
Bureau of Waste Management
Rachel Carson State Office Building
400 Market Street
Harrisburg, PA 17101
717-787-2814
<http://www.depweb.state.pa.us/dep/site/default.asp>

Puerto Rico Environmental Quality Board
Office of the Governor
P.O. Box 11488
San Juan, Puerto Rico 00910
787-767-8181
<http://www.gobierno.pr/JCA/Inicio/>

R State of Rhode Island
Department of Environmental Management
235 Promenade Street
Providence, RI 02908
401-222-6800
<http://www.dem.ri.gov/index.htm>

S SC Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201
803-898-3432
<http://www.scdhec.net/environment/lwm/>

South Dakota Department of Environment and Natural Resources
PMB 2020
SD DENR
523 East Capitol
Pierre, SD 57501
605-773-3151
<http://denr.sd.gov/>

T Tennessee Department of Environment and Conservation
L&C Tower
401 Church Street
Nashville, TN 37243
888-891-8332
<http://www.state.tn.us/environment/>

Texas Commission of Environmental Quality
Office of Waste Management
P.O. Box 13087
Austin, TX 78711
512-239-1000
<http://www.tceq.state.tx.us/>

U Utah Department of Environmental Quality
Division of Solid and Hazardous Waste
P.O. Box 144880
Salt Lake City, UT 84114
801-538-6170
<http://www.deq.utah.gov/>

V Vermont Department of Environmental Conservation
Commissioners Office
One South Building
103 South Main Street
Waterbury, VT 05671
802-241-3800
<http://www.anr.state.vt.us/dec/dec.htm>

Virginia Department of Environmental Quality
629 East Main Street
P.O. Box 1105
Richmond, VA 23218
804-698-4000
<http://www.deq.virginia.gov/>

Virgin Island Division of Environmental Protection
Department of Planning and Natural Resources
Division of Environmental Protection
8100 Lindberg Bay, Ste. 61
Cyril E. King Airport, 2nd Floor
St. Thomas, US Virgin Islands 00802
340-774-3320
<http://www.dpnr.gov.vi/depro.htm>

W Washington Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600
360-407-6000
www.ecy.wa.gov

West Virginia Department of Environmental Protection
601 - 57th Street
Charleston, WV 25304
304-926-0495
<http://www.wvdep.org/>

Wisconsin Department of Natural Resources
101 S. Webster Street
PO Box 7921
Madison, Wisconsin 53707
608-266-2621
<http://www.dnr.state.wi.us/>

Wyoming Department of Environmental Quality
122 West 25th Street, Herschler Building
Cheyenne, WY 82002
307-777-7937
<http://deq.state.wy.us/>

APPENDIX C

CDC Biosafety Level 4 Etiologic Agents

Absettarov Virus	Hypr
Alkhumra Virus	Junin
Anthrax	Kumlinge Virus
Central European Encephalitis Viruses	Kyasanur Forest Disease (Presbytis spp.)
Central European Tick Borne Encephalitis Virus Complex	Lassa Virus
Congo-Crimean Hemorrhagic Fever	Machupo Virus
Ebola	Marburg
Far Eastern Subtypes	Omsk Hemorrhagic Fever
Guanarito Virus	Russian Spring-Summer Encephalitis
Hanzalova	Sabia Virus
Herpesvirus Simiae (Monkey B Virus)	Smallpox (and Smallpox-Like Cases)

*Source: Biosafety in Microbiological and Biomedical Laboratories (BMBL), U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Institutes of Health, Fifth Edition, Feb 2007, <http://www.cdc.gov/OD/ohs/biosfty/bmb15/bmb15toc.htm>.

This table will include other emerging pathogenic microorganisms when designated by the CDC or other Public Health officials.

A list of BSL 2 and 3 agents may be found on-line at the following CDC link: <http://www.cdc.gov/OD/ohs/biosfty/bmb15/bmb15toc.htm>, as well as at the American Biological Safety Association's Web site: <http://www.absa.org/riskgroups/>

Note: The World Health Organization (WHO) classifies etiological agents into four distinct risk groups. Those agents listed as Risk Group 4 usually cause serious human or animal diseases and can be readily transmitted from one individual to another, directly or indirectly, and for which effective treatments and preventive measures are not usually available. There is high risk to individuals and high risk to the community.

Many of the WHO Risk Group 4 agents are the same as those which the CDC places in the Biosafety Level 4 Group. Personnel using MEDCOM Regulation 40-35 should understand that a Biosafety Level 4 agent and a WHO Risk Group 4 agent has the same meaning for the purposes of this regulation.



GLOSSARY

AIDS

acquired immune deficiency syndrome

BMBL

Biosafety in Microbiological and Biomedical Laboratories

BSL

biosafety level

CDC

Centers for Disease Control and Prevention

CFR

Code of Federal Regulations

COR

contracting officer representative

CONUS

continental United States

DA

Department of the Army

DA Pam

Department of the Army Pamphlet

DD

Department of Defense

DOD

Department of Defense

DOT

Department of Transportation

EPA

Environmental Protection Agency

FGS

Final Governing Standards

HAZCOM

Hazardous Communication

HAZMAT

Hazardous Material

HAZWOPER

Hazardous Waste Operations and Emergency Response

HIV

human immunodeficiency virus

HW

hazardous waste

ICO

infection control officer

MEDCOM

U.S. Army Medical Command

MIDI

Military Item Disposal Instructions

MTF

military treatment facility

MWTA

Medical Waste Tracking Act

NIOSH

National Institute for Occupational Safety and Health

OEBGD

Overseas Environmental Baseline Guidance Document

OCONUS

outside the continental United States

OSHA

Occupational Safety and Health Administration

PPE

personal protective equipment

PVNTMED

Preventive Medicine

RMW

regulated medical waste

UN

United Nations

USACHPPM

U.S. Army Center for Health Promotion and Preventive Medicine

WHO

World Health Organization