



Managing Solid Waste Contaminated with a Category A Infectious Substance (August 2019)

Summary of Key Points and Significant Changes

KEY POINTS

- A Category A infectious substance is a material known or reasonably expected to contain a pathogen that is in a form capable of causing permanent disability or life-threatening or fatal disease in otherwise healthy humans or animals who are exposed to it, consistent with international classification (United Nations [UN] 2814).
- Infectious waste, including materials contaminated with Category A infectious substances, can be managed safely.
- Leadership within healthcare facilities; laboratories; state, local, tribal, and/or territorial (SLTT) governments; waste management companies; and other entities that may or will need to manage Category A waste should ensure their organizations have plans to address the entire waste lifecycle, from initial generation of the infectious waste to final disposition of any treated byproducts (residuals).
- Hospital care of a person infected with certain pathogens classified as a Category A infectious substance, particularly Ebola or another hemorrhagic fever virus (HFV), can result in large volumes of potentially infectious waste, especially for diseases associated with severe illness and lengthy hospital stays.
- Outside of hospitals, people infected with certain pathogens classified as Category A infectious substances, such as Ebola and other HFVs, may contaminate their homes, vehicles in which they travel, and other environments before they are hospitalized. Category A waste may also originate from laboratories (e.g., research, clinical) that work with Category A pathogens, particularly when they intentionally cultivate these pathogens. Housing, care, and post-mortem management of animals infected with certain Category A pathogens also results in Category A waste.
- Every effort should be made to minimize the amount of Category A waste generated. Category A waste should be physically separated, if practical, from other solid waste at the point of origin. Similar considerations should be made for separating Category A waste from other, non-infectious hazardous materials.
- Throughout the waste lifecycle, employers must protect workers from occupational exposure to pathogens, chemicals, other hazardous materials, and other hazards that could cause injury and illness.
- The U.S. Department of Transportation (DOT)/Pipeline and Hazardous Materials Safety Administration (PHMSA) regulates movement and certain other aspects related to management of Category A infectious substances, including waste that is known or suspected to be

contaminated with them, through its *Hazardous Materials Regulations* (HMR). Additional federal and SLTT laws and regulations may apply to various aspects of waste management.

- Typically, the safest and best options for treating Category A waste so that it is no longer infectious—a process known as “inactivation”—are implemented on-site, where the waste is generated. Common inactivation methods include autoclaving and incineration. However, in specific circumstances where those options are not available, alternative treatment methods, including chemical disinfection and alkaline hydrolysis digesters, may also be appropriate.
- When waste cannot be treated on-site, it must be sent off-site to special facilities typically operated by commercial waste management companies. These facilities, regulated and permitted by SLTT authorities, primarily use autoclaves and incinerators to treat waste on a larger scale than what most hospitals, laboratories, and other entities are capable of doing on-site.
- Before offering it for transportation, individuals and entities responsible for generating infectious waste must classify it appropriately, including as Category A waste when required.
- Individuals and entities must classify waste as hazardous waste when required under *Resource Conservation and Recovery Act* (RCRA) requirements. These are set and enforced by the U.S. Environmental Protection Agency (EPA) or by states/territories authorized to implement the RCRA hazardous waste program in lieu of EPA.
- Category A waste may be safely transported off-site for inactivation in packaging meeting HMR requirements or the alternative packaging requirements of a DOT special permit. The HMR also require that waste transporters comply with certain labeling and paperwork requirements. Properly classifying (i.e., as Category A) and packaging waste begins at its point of origin.
- Management of waste that contains both a Category A infectious substance and certain other materials, such as those that are radioactive, must comply with regulations applicable to all substances in the waste. Such instances would need to be addressed on a case-by-case basis and may require issuance of a special permit to address the unique combination of potentially hazardous materials.
- Waste that has been inactivated through an effective treatment method, along with any materials left over after treatment (i.e., residuals), is no longer infectious, poses no risk of infection, and is not considered to be regulated medical waste (RMW) or a hazardous material (unless other types of regulated hazardous materials are present) under federal or SLTT laws and regulations. Such waste is no longer considered a Category A infectious substance subject to the HMR.
- Residuals, such as incinerator ash, must be evaluated to determine if the residual is still hazardous. Even though materials that have been properly incinerated are no longer infectious, ash may be categorized as hazardous waste due to its ability to concentrate certain toxic substances (e.g., metals) that may have been present in the original waste or in other waste incinerated at the same time.
- Residuals must be transported and disposed of in accordance with SLTT requirements and standard protocols for their disposal. Disposal options may vary depending on whether residuals contain hazardous materials.

- At all stages of waste management, all involved parties should ensure effective communication with one another about the nature and content of the waste to help ensure safe, effective management of waste all the way to ultimate disposal.

SIGNIFICANT CHANGES

This section summarizes significant changes in the August 2019 guidance compared to the January 2017 interim version. The August 2019 version:

- Updates the main guidance and most appendices to cover Category A infectious substances generally. Ebola-specific information is now in Appendix F (Pathogen-Specific Information).
- Restructures the main planning guidance around information and responsibilities for entities or individuals involved in various steps throughout the typical waste lifecycle, including during waste generation, transportation, treatment and disposal. The new structure also addresses roles and responsibilities of the United States Federal government and SLTT agencies and discusses overarching planning considerations and worker safety and health concerns relevant across the steps of the waste lifecycle.
- Expands the scope of the guidance to address additional potential sources of Category A waste associated with patient treatment beyond that which is generated during the management of patients in hospitals. Such sources include laboratories where infectious substances are handled for clinical or diagnostic purposes of infectious patients and residences where infectious patients have lived.
- Includes a robust glossary of terms to clarify waste-specific terminology and other key words used throughout the document, as well as a complete listing of acronyms.
- Adds discussion of alternative Category A waste treatment options, including chemical disinfection and alkaline hydrolysis digestion (i.e., tissue digestion), in situations in which autoclaving or incineration are not feasible.
- Expands discussion on compliance with the complex regulatory framework that may apply during various Category A waste management activities, including as a result of DOT, U.S. Department of Labor (DOL)/Occupational Safety and Health Administration (OSHA), U.S. Department of Health and Human Services (HHS), and U.S. Department of Agriculture (USDA) requirements.
- Discusses additional requirements for specific modes of transportation.
- Cross-references the list of UN 2814, Infectious Substances Affecting Humans, with the federal Select Agents lists, including for animal and plant pathogens, in an expanded Appendix B (Infectious Agent Categorization).
- Combines the former Appendix C (Decision Matrix for Waste Treatment) and Appendix D (Decision Tree for Treatment and Disposal of Category A Infectious Substances) into a single decision tool, now in Appendix C (Decision Matrix for Waste Treatment). The decision tool also addresses management of Category A waste resulting from terrorism or other incidents over which the Federal Bureau of Investigation (FBI) maintains jurisdiction.
- Simplifies and streamlines the questions and answers in Appendix D (Questions and Answers).