EVD

Waste Management Plan

EVD Waste Management

Maximum Safety

Monitoring

Each autoclave is equipped with recording devices, which automatically and continuously monitor and record performance and process parameters throughout the autoclave cycle. The autoclave's programmable logic controller is programmed to achieve the prescribed time, temperature and the process is reinitiated through another complete cycle. Through the telecommunication system, San-I-Pak, Inc. is also able to monitor the system from our factory upon your request.

Making Sure It's Safe

The San-I-Pak sterilization process can be monitored with a biological indicator. The manufacturer recommends the use of the 3M 1276 Attest Steam Pack. This pack contains a biological indicator sample, indicator strips and a record-keeping card. The indicator strips on the label and within the pack will change color to show the pack was indeed steam processed. The biological indicator located within the pack will show the ability of the San-I-Pak to penetrate the barriers within the test pack, thus achieving sterilization.

What is Category A Waste

- 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).

- 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.

Stringent Rules

- 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.

Treating Waste

- 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.
- 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.

Managing Solid Waste Contaminated with a Category A Infectious Substance

Ebola virus	
Classification	Category A, always (until inactivated)
DOT Special Permit (SP) issued?	Yes, SP 16279
Packaging	Consult SP 16279 from the DOT/PHMSA database
Label as	United Nations (UN) 2814, Infectious substances, affecting humans (Ebola waste)
Inactivation methods (must be validated)	Autoclaving, incineration, chemical
Autoclaving	Validated cycle that reaches ≥121°C/250°F for ≥30 minutes; time and temperature depend on type, state, and volume of material
Incineration	Cycle must reduce materials to ash
Chemical	When required by operational considerations outside of fixed facilities; support effectiveness with objective data
Disinfectant(s)	Must have label claims against non-enveloped viruses; consult U.S. Environmental Protection Agency (EPA) List L

Classification

- Ebola virus is always considered a Category A infectious substance, regardless of whether or not it is cultured. It must be managed accordingly under the HMR.

Special Permit

- SP 16279 provides alternative requirements for packaging and transporting Ebola waste. The DOT/Pipeline and Hazardous Materials Safety Administration (PHMSA) special permits database contains records of the companies currently holding party status to SP 16279. To view the SP and entities that have held party status to it, enter “16279” in the “Special Permit Number” box and click “Search” on the page at: www.phmsa.dot.gov/approvals-and-permits/hazmat/special-permits-search.

Helpful Resources

Waste Management

• Department of Transportation Guidance for Transporting Ebola Contaminated Items, a Category A Infectious Substance. U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration, 2017.

• Guidance for the Proper Packaging of Ebola Suspected Waste. U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration, 2014.

• Ebola-Associated Waste Management. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2015.

• U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration "Packaging and Handling Ebola Virus Contaminated Infectious Waste for Transportation to Disposal Sites." *Federal Register* 79, no. 210 (October 30, 2014): 64646.

• Guidance for Collection, Transport, and Submission of Specimens for Ebola Virus Testing. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2015.

• Transporting Infectious Substances: Safety Advisory, Information on Infectious Substances Special Permits, and Information on Packaging of Ebola-Contaminated Waste. U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration, 2017.

• U.S. Department of Defense, Department of the Army, U.S. Army Public Health Command. *Ebola Virus Disease Waste Management in the Medical Treatment Facility.* Standard Operating Procedure EHE37-001. Aberdeen Proving Ground, Maryland, 2016. *Note: This document was developed for use by U.S. Department of the Army facilities and personnel. Different regulatory requirements may apply in other settings.*