



# Infectious waste

## Management guidance for on-site treatment

### What is infectious waste?

**Infectious waste** poses an environmental danger due to its *biological* risk. **Pathological waste** also poses a *biological* risk and is regulated the same as infectious waste. Both are different from **hazardous waste**, which poses an environmental danger due to its *chemical* risk.

### Infectious and pathological waste

**Infectious waste** includes the following wastes generated in Minnesota by a business or governmental entity:

- liquid blood or body fluids from humans or research animals
- wastes that will release blood or body fluids when compressed
- contaminated sharps from human or any animal use
- live or attenuated human vaccines
- infectious cultures and contaminated laboratory items used to manipulate those cultures

**Pathological waste** includes human body parts or tissue (except teeth) removed and intended for disposal.

**Hazardous waste** includes waste with chemical qualities that make it harmful to human health and the environment. For more detailed discussion regarding identifying infectious and non-infectious wastes in Minnesota, see Minnesota Pollution Control Agency (MPCA) solid waste fact sheet #w-sw4-30, [Infectious Waste: Management Guidance for Generators](http://www.pca.state.mn.us/publications/w-sw4-30.pdf), at <http://www.pca.state.mn.us/publications/w-sw4-30.pdf>.

Some wastes can be both infectious and hazardous. The MPCA refers to such wastes by the term-of-convenience **dual waste**. When storing and treating dual waste, you must comply with both infectious and hazardous waste requirements.

Note: Placing pharmaceutical or laboratory wastes into infectious waste containers, including sharps containers, can inadvertently create a dual waste that may be difficult and costly to dispose of.

This document is intended to provide guidance only on requirements under Minnesota Infectious Waste Statutes and Rules found at Minn. Stat. § Ch. 116, and Minn. R. Ch. 7035, administered by the MPCA. Infectious waste may also be regulated concurrently as both:

- waste regulated under the Federal Bloodborne Pathogens standard (BBP) found at 29 CFR 1910.1030 and administered by the Minnesota Department of Labor and Industry, Occupational Safety and Health Division (MNOSHA)
- medical waste regulated under the Federal Hazardous Materials Regulations (HMR) found at 49 CFR 173.134, administered by the U.S. Department of Transportation (DOT).

The BBP and HMR may also regulate wastes that are not included in the definition of infectious waste as used in this document. For example, the HMR regulates all animal-generated veterinary waste, while 'infectious waste' includes only veterinary sharps. Although this document does not discuss other regulations, generators of infectious waste must ensure they meet all applicable requirements.

## Treating only infectious waste on site

As a generator, you may decontaminate infectious waste that you generated on a site you control. If the infectious waste does not contain sharps or any unevaluated or hazardous pharmaceuticals or laboratory wastes, no MPCA review or approval of the treatment system is needed; however, you are responsible for verifying that the waste has been decontaminated before disposal.

If the waste contains sharps, you may only use a treatment system that has been reviewed and issued an infectious waste approval and number by the MPCA. Obtain a copy of the system's MPCA approval from the distributor of the system and follow all conditions of the approval. You are still responsible for verifying that your treated infectious waste has been decontaminated before disposal.

**Decontamination** means to treat an infectious or pathological waste that does not contain sharps in a way that will make it safe to manage as an industrial solid waste. Decontamination must be verified by standard biological indicators. Ensure the indicators are equivalent in resiliency to any infectious agents that reasonably might be expected in your infectious waste. Simply enclosing an infectious waste in a container or binding it into a matrix is not decontamination.

Regulated **sharps** are any contaminated or potentially contaminated items from human or animal care that can cause sub-dermal inoculation, including, but not limited to needles, scalpel blades, pipettes, lancets, and glass or rigid vials that contained infectious agents. Needles, pipettes, and other items used only in a sterile process are not regulated sharps in Minnesota.

Note: Sharps with engineered sharps injury protection (SESIPs) remain regulated sharps in Minnesota if contaminated or potentially contaminated. Manage infectious waste containing used SESIPs as any other infectious waste containing sharps.

For more information on who is included as an infectious waste generator in Minnesota, see MPCA solid waste fact sheet #w-sw4-30, [Infectious Waste: Management Guidance for Generators](http://www.pca.state.mn.us/publications/w-sw4-30.pdf), at <http://www.pca.state.mn.us/publications/w-sw4-30.pdf>.

## Treating dual waste on site

If your infectious waste contains unevaluated or hazardous pharmaceuticals or laboratory wastes, you may be able to treat that dual waste in a container at your site, however you must ensure that:

- the treatment method will be performed in a completely closed container or you obtain preapproval from your hazardous waste regulator;
- you verify after treatment that your waste has been chemically or physically changed to render it non-hazardous under the Minnesota Hazardous Waste Rules;
- you report the original volume of the untreated waste to your hazardous waste regulator.

Note: On-site treatment systems that advertise that they 'inactivate' pharmaceuticals may not actually render those wastes non-hazardous. In addition, dilution of hazardous waste and evaporation of non-aqueous liquids are not allowed hazardous waste treatment methods.

For more information on evaluating your pharmaceutical waste, see MPCA hazardous waste fact sheet #w-sw4-45a, [Evaluating Pharmaceutical Wastes](http://www.pca.state.mn.us/publications/w-hw4-45a.pdf), at <http://www.pca.state.mn.us/publications/w-hw4-45a.pdf>.

## Approval of on-site sharps treatment systems

On-site treatment systems for infectious waste which contains sharps may be approved by the MPCA under either of two standards:

**1. Systems that prevent exposure during transportation and disposal after on-site decontamination**

An example is a system that treats the waste and then seals the treated waste in puncture-proof containers that are secured from the time of treatment through final disposal. Waste treated by this type of system may only be transported by an infectious waste transporter registered with the MPCA. The waste must go to a specific solid waste disposal facility that has the waste stream approved as an acceptable waste in its Industrial Solid Waste Management Plan; the facility must be identified in the generator's Infectious Waste Management Plan.

**2. Systems that make sharps within the treated waste physically unable to puncture skin in conjunction with on-site decontamination**

An example is a system that would finely grind or melt the sharps themselves. Another example is a system that encases the sharps in a material that prevents them from being exposed despite any type of compacting, crushing, or crumbling reasonably expected during solid waste handling. Waste treated by this type of system may be managed as or mixed with standard industrial solid waste, suitable for any disposal or processing allowed for general industrial wastes from the generator site.

### Criteria for systems that prevent exposure during transportation and disposal

To apply for approval of a system that prevents exposure during transportation and disposal, submit a description of how the system will enclose the waste continuously from decontamination through transportation and disposal, or otherwise prevent exposure to the public and generator site, transport, and disposal facility employees. For any system, submit a description of how the system prevents inadvertent or deliberate misuse by the operator or ensures that the treated waste is secured despite such operator error or misuse.

### Criteria for systems that make sharps unable to puncture skin

To apply for approval of a system that will make sharps physically incapable of puncturing skin, submit a description of the physical treatment process used by the system. For any system, submit a description of how the system prevents inadvertent or deliberate misuse by the operator. In addition:

- If the system finely grinds or melts the sharps, submit documentation of tests verifying that the sharps are made incapable of piercing human skin.
- If the system encases the sharps in a solid material, submit documentation of tests verifying the integrity of the encased mass and the resistance of that mass to the compacting, crushing, or crumbling that is reasonably expected during solid waste handling, including hammer-mill processing at a refuse-derived fuel facility. Sharps either should not be exposed on the exterior of the mass following such impact, or, if exposed, should not be detached or able to penetrate human skin.
- If the system functions in whole or part by enclosing the sharps in a puncture-proof container, submit documentation of tests verifying the ability of the container to hold and prevent exposure to the waste following any reasonably expected solid waste handling described above, including hammer-mill processing at a refuse-derived fuel facility.

### Submitting on-site sharps treatment systems for review and approval

A system's manufacturer or distributor may submit descriptions and technical specifications for on-site infectious waste treatment systems for MPCA review and approval. Do not send equipment or components to the MPCA. However, the MPCA will only review systems that have an actual user or

bona-fide potential user in Minnesota. Identify your actual or specific potential Minnesota customer to the MPCA.

The MPCA does not provide or require a standardized application form. Submit information addressing the criteria above to the MPCA in hard copy form or electronically via fax or e-mail. Contact the MPCA to determine the current staff person to whom information should be sent. There is no approval application fee.

Ensure you provide a copy of the issued approval, including all attendant conditions, to each Minnesota user of the on-site system.

## Approved on-site treatment systems used off site

On-site infectious waste treatment system approvals are valid only when used on a site controlled by the original generator of the infectious waste and only for that generator's waste. If you plan to use an approved on-site system to treat other generators' infectious waste or at a site you do not control, you must obtain a separate certification of that system from the MPCA for that specific off-site location. The process for doing that is described in MPCA solid waste fact sheet #w-sw4-32, [Infectious Waste: Management Guidance for Storage, Decontamination and Disposal Facilities](http://www.pca.state.mn.us/publications/w-sw4-32.pdf) at <http://www.pca.state.mn.us/publications/w-sw4-32.pdf>

## More information

Guidance and requirements in this fact sheet were compiled from Minnesota Statutes, Chapter §116, and Minnesota Rules, Chapter 7035. Visit the Office of the Revisor of Statutes at <https://www.revisor.mn.gov/pubs> to review the Minnesota Statutes and Rules.

For more information on hazardous waste, see the Minnesota Pollution Control Agency (MPCA) hazardous waste publications website at <http://www.pca.state.mn.us/waste/pubs/business.html>.

Address questions regarding the Bloodborne Pathogens standard (BBP) to MNOSHA.

Address questions regarding the Federal Hazardous Materials Regulations (HMR) to the U.S. DOT or Minnesota DOT.

### Minnesota Pollution Control Agency

Toll free (outstate only) ..... 1-800-657-3864  
Metro ..... 651-296-6300  
Website ..... <http://www.pca.state.mn.us>

### Minnesota Technical Assistance Program

Toll free (outstate only) ..... 1-800-247-0015  
Metro ..... 612-624-1300  
Website ..... <http://www.mntap.umn.edu/healthcarehw/index.html>

### Minnesota OSHA

Toll free (statewide) ..... 1-800-342-5354  
Metro ..... 612-284-5005  
Website <http://www.dli.mn.gov/mnosha.asp>

### Minnesota Department of Transportation

Hazardous materials..... 651-215-6330  
Website ..... <http://www.dot.state.mn.us/cvo/hazmat.html>

### U.S. Department of Transportation

Hazardous materials..... 1-800-467-4922  
Website <http://www.phmsa.dot.gov/hazmat>