

Epinephrine Auto-Injector Disposal Guide

Background

Public Act 187 of 2013 requires that all public schools have epinephrine auto-injectors (EAI) available in case of a medical emergency. There are both public health and environmental regulations that govern how EAI must be handled. This guide outlines how used and unused EAI must be handled to meet the waste regulations that apply when needing to dispose of the injectors. For more information see:

- [Drug Disposal Webpage](#) – See resources for non-household drug disposal at Michigan.gov/EGLEDrugDisposal
- [Medical Waste Webpage](#) – See resources for medical waste at Michigan.gov/EGLEMedWaste

For questions related to waste regulations, call 800-662-9278. For questions related to United States Department of Transportation (U.S. DOT) regulations, contact the Michigan State Police at 517-284-3250 or MSP-CVED-RCS@Michigan.gov.

Unused Epinephrine Auto-Injectors

While all EAI contain the active ingredient epinephrine, they do not all use the same chemical form of the drug. The U.S. Environmental Protection Agency (USEPA) has clarified that epinephrine salts are excluded from the P042 hazardous waste listing. Michigan has accepted this clarification for the purposes of classifying this waste.

When used in drug applications, epinephrine is usually administered in the salt form, diluted in a water solution. When administered in the salt form, epinephrine is considered non-hazardous waste, or liquid industrial by-product in Michigan. Please note, drugs containing epinephrine free base are specifically listed as P042 acutely hazardous waste. Schools and intermediate school districts (ISDs) need to review the manufacturers' insert or safety data sheet to confirm the formulation and document the [waste characterization determination](#).



Epinephrine Auto-Injector

Since **unused, expired** EAI contain both an injection needle and epinephrine waste, they are considered mixed medical waste and must be managed to meet both the medical waste regulations, and depending on formulation, the non-hazardous or hazardous waste regulations that apply to the EAI.

EAI cannot be treated in a medical waste autoclave. Autoclaves are not equipped to properly treat and dispose of the chemicals found in pharmaceuticals, nor do they possess the air permits authorizing the treatment of pharmaceuticals. Non-hazardous drugs that are also a medical waste, may be incinerated at a permitted medical waste incinerator authorized to accept pharmaceuticals, or managed as a mixed medical waste (also known as dual waste) and sent for hazardous waste incineration at an incinerator authorized to accept both hazardous waste and medical waste. Hazardous waste drugs that are also a medical waste must be sent for hazardous waste incineration at an incinerator authorized to accept both hazardous waste and medical waste.

As of July 23, 2024, Michigan law extended the maximum sharps container storage time limit. Sharps containers must be disposed of when they are 75 percent full or within 18-months from date of first accumulation, whichever occurs first. The waste accumulation time also varies depending on whether the waste is hazardous or non-hazardous. If it is a hazardous waste, the accumulation time limit varies based on the non-healthcare facility generator status, or for healthcare facilities, whether the waste is managed in accordance with the hazardous waste pharmaceuticals (HWP) and electronic nicotine delivery systems (ENDS) rules. When determining the appropriate accumulation duration, the school or ISD should defer to the most stringent timeframe or consult with a [local hazardous waste/liquid industrial by-products inspector](#) after reviewing this guide.

Non-hazardous Waste Pharmaceutical and Medical Waste

The following outlines how schools and ISDs can manage unused EAI to meet the applicable non-hazardous, liquid industrial by-product and medical waste regulations.

Container and Labeling

The container must be:

- Compatible with the waste
- Spill, leak, and puncture-proof
- Marked with the biohazard symbol
- Labeled with words describing the container contents, such as “Epinephrine Auto Injectors”
- Dated with the date when medical waste is first added to container
- Kept closed except when adding or removing waste
- Containing only compatible materials (no aerosols, nitroglycerin, silver nitrate creams, etc.)
- Managed to meet U.S. DOT packaging regulations
- Secured from weather, fire, physical damage, and vandals



Biohazard Symbol

Transportation

Transportation to the disposal facility must be:

- Within 18 months of the date when the first EIA waste was added to container, or when the container is 75 percent full, whichever occurs first
- In compliance with the U.S. DOT requirements
- Offered by a school or school district system registered as a medical waste producer
- Accompanied by a shipping document. See liquid industrial by-product generator guidance and frequently asked questions for additional shipping details
- Performed by a permitted/registered liquid industrial waste transporter, unless the school self-transportes using school district staff and transport vehicle for the transport

Disposal

Disposal must occur at:

- A medical waste incinerator with an air permit authorizing it to accept/destroy pharmaceuticals; or
- A licensed hazardous waste disposal facility, preferably an incinerator, also authorized to manage medical waste and/or unused sharps/needles

Hazardous Waste Pharmaceutical and Medical Waste

Determining how the school must manage this waste will depend on whether or not the school meets the definition of a “healthcare facility”.

For schools that **meet** the definition of a healthcare facility, the simplest approach for handling this mixed hazardous and medical waste is to manage it under streamlined HWP and ENDS rules, found in Part 8 of the Part 111 Rules, which are the administrative rules promulgated pursuant to Part 111, Hazardous Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended), specifically Rules 824 through 833, and sending it for hazardous waste incineration at a facility that is also authorized to manage medical waste or unused sharps/needles.

For schools that **do not meet** the definition of a healthcare facility, managing it in accordance with the applicable hazardous waste generator category requirements, and sending it for hazardous waste incineration at a facility that is also authorized to manage medical waste or unused sharps/needles.

Note that schools that meet the definition of a healthcare facility and generate small quantity generator (SQG) or large quantity generator (LQG) quantities of hazardous waste when counting all of their hazardous waste streams are required to manage these wastes in accordance with the HWP and ENDS rules. Schools that meet the definition of a healthcare facility and generate very small

quantity generator (VSQG) quantities of hazardous waste may choose to manage their HWP in accordance with the HWP and ENDS rules, or in accordance with the VSQG requirements (Part 111, Rule 304). See the [HWP and ENDS Rules guidance](#) and [Hazardous Waste Generator Category and Accumulation Requirements guidance](#) to learn more and contact your [local hazardous waste/liquid industrial by-products inspector](#) with questions.

The following outlines how schools and intermediate school districts (ISDs) can manage this waste.

Container and Labeling

The container must be:

- Compatible with the waste
- Spill, leak, and puncture-proof
- Marked with the biohazard symbol
- Dated with the date when medical waste was first added to container
- Kept closed except when adding or removing waste
- Containing only compatible materials
- Managed to meet U.S. DOT packaging regulations
- Secured from weather, fire, physical damage, and vandals



Medical Waste Container

Labeling to meet the applicable hazardous waste regulations will depend on how the school is managing its hazardous waste pharmaceuticals.

- HWP and ENDS rules: “Hazardous Waste Pharmaceuticals”. The school must be able to demonstrate the length of time the HWP has been accumulated, which may include labeling the container with the date HWP was first added to the container.
- VSQG: The contents of the container, such as “Epinephrine Auto Injectors”
- Non healthcare facility, SQG or LQG: The words “Hazardous Waste”, an indication of the hazard, and the start date of accumulation

Transportation

Transportation to the disposal facility must be:

- Shipped within the following timeframes, depending on how the school is managing the waste:
 - HWP and ENDS rules: Within one year of the date when the first EIA waste was added to the container, or when the container is 75 percent full, whichever occurs first
 - VSQG: Within 18 months of the date when the first EIA waste was added to the container, or when the container is 75 percent full, whichever occurs first

- Non healthcare facility, SQG: Within 180 days of the date when the first EIA waste was added to the container, or when the container is 75 percent full, whichever occurs first
 - Non healthcare facility, LQG: Within 90 days of the date when the first EIA waste was added to the container, or when the container is 75 percent full, whichever occurs first
- In compliance with the U.S. DOT requirements
- Offered by a school or school district system:
 - Accompanied by a Uniform Hazardous Waste Manifest, if subject to the HWP and ENDS rules or generated by a non-healthcare facility SQG or LQG
 - Accompanied by a shipping document if generated by a non-healthcare facility VSQG or self-transported. See liquid industrial by-product generator guidance and frequently asked questions for additional VSQG details for self-transport
 - Performed by a permitted/registered liquid industrial waste transporter, if generated by a VSQG and offered for transport
 - Performed by a permitted/registered hazardous waste transporter, if subject to the HWP and ENDS rules or generated by a non-healthcare facility SQG or LQG

Disposal

If subject to the HWP and ENDS rules or generated by a non-healthcare facility SQG or LQG, disposal must include destruction at a licensed hazardous waste incinerator also authorized to manage medical waste and/or unused sharps/needles.

If generated by a VSQG not subject to the HWP and ENDS rules, disposal must occur at:

- A medical waste incinerator with an air permit authorizing it to accept/destroy pharmaceuticals; or
- A licensed hazardous waste disposal facility, preferably an incinerator, also authorized to manage medical waste and/or unused sharps/needles

Used Epinephrine Auto-Injectors - Medical Waste

Used EAls contain an injection needle that has been exposed to blood and body fluids and are medical waste that must be managed in accordance with the medical waste regulations. Once the contents have been removed by normal means, they are considered “empty” containers and no longer subject to the liquid industrial by-product or hazardous waste regulations. The following outlines how schools and ISDs can manage used EAI to meet the medical waste regulations.

Container and Labeling

The container must be:

- Compatible with the waste
- Spill, leak, and puncture-proof
- Marked with the biohazard symbol
- Dated with the date when the medical waste is first added to the container
- Containing only medical waste
- Managed to meet U.S. DOT packaging regulations
- Secured from weather, fire, physical damage, and vandals

Transportation

Transportation to a [medical waste vendor](#) or approving landfill must be:

- Within 18 months of the date when the first EIA waste first added to the container, or when the container is 75 percent full, whichever occurs first
- In compliance with the U.S. DOT requirements
- Offered by a school or school district system [registered as a medical waste producer](#)

Disposal

Disposal of used sharps must:

- Include treatment/destruction at a licensed [medical waste facility](#); or
- Include transport directly to a municipal solid waste [landfill](#) that has approved acceptance of this waste for burial in a separate disposal cell designed specifically for medical waste

Additional Resources

To learn more, consider reviewing the following:

- Handling Unwanted Pharmaceuticals and their Containers
- Hazardous Waste Pharmaceuticals and Electronic Nicotine Delivery System Rules Guidance
- Hazardous Waste Generator Category and Summary Accumulation Requirements Guidance

Search online to find disposal options. You may also refer to this list of vendors that assist with [pharmaceutical waste disposal](#), [medical waste disposal](#), or contact your local [household hazardous waste coordinator](#). You may also contact EGLE's Environmental Assistance Center at 800- 662-9278 or EGLE-Assist@Michigan.gov and ask for medical waste program staff or hazardous waste program staff in your county or find your local contact on the [Hazardous Waste Program Staff Map](#).

This publication is intended for guidance only and may be impacted by changes in legislation, rules, policies, and procedures adopted after the date of publication. Although this publication makes every effort to teach users how to meet applicable compliance obligations, use of this publication does not constitute the rendering of legal advice.

EGLE does not discriminate on the basis of race, sex, religion, age, national origin, color, marital status, disability, political beliefs, height, weight, genetic information, or sexual orientation in the administration of any of its programs or activities, and prohibits intimidation and retaliation, as required by applicable laws and regulations.

Individuals with disabilities may request this material in an alternative format by emailing EGLE-Accessibility@Michigan.gov or calling 800-662-9278.



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY