



f a c t s h e e t

Epinephrine Management & Disposal Options for Schools

Are you disposing of expired epinephrine pens safely and legally?

Epinephrine, also known as adrenaline, is primarily used as a cardiac stimulant and a relaxer of bronchial smooth muscles. It is used to help offset allergic reactions to insect bites, stings, food or drugs. Epinephrine, which is often prescribed to people with severe allergies who are at risk for anaphylactic shock, is frequently used in the form of an auto-injector, such as an EpiPen™, which contains a spring-loaded needle that shoots through a membrane in the tip and into the recipient's body to deliver the medication. Epinephrine can also be delivered through a syringe.

The active ingredient in EpiPens, epinephrine, is a listed “acutely hazardous waste” (P042) under the Massachusetts Hazardous Waste Regulations (310 CMR 30.136) because, even at low doses, improper or unknowing use or exposure can cause death or irreversible illness. Schools typically become subject to the Hazardous Waste Regulations by generating more “traditional” waste such as waste oil or solvents. However, in many schools, the school nurse is responsible for managing and administering students’ prescription medications, including epinephrine. It is important for school administrators and school nurses to know the hazardous waste regulatory requirements that apply to epinephrine and associated containers, such as syringes and EpiPens. If your school has such a program and you have to dispose of an epinephrine product, you may need to follow MassDEP’s regulations for a “Small Quantity Generator” of hazardous waste, depending on the formulation of the product which is explained below in the section entitled “*Unused Epinephrine*”.

Management Options for Epinephrine Waste at Schools

- **Used Epinephrine Syringes:** Epinephrine syringes that have been used for their intended purpose and contain only epinephrine residue are not a commercial chemical product and therefore are not a hazardous waste. Such syringes should be disposed of as medical waste in a sharps container.
- **Unused Epinephrine** (e.g., unopened syringes or EpiPens that are still fit for their intended purpose): EpiPens typically have a shelf life of 20 months, but schools may choose to conduct yearly clean-outs of stored medications. There are three options:
 - Determine if your EpiPens contain Epinephrine Salts. In a U.S. Environmental Protection Agency (EPA) memorandum dated October 15, 2007, EPA stated (and MassDEP concurs) that Epinephrine Salts are not a P-Listed waste. Therefore, the P042 (acutely hazardous) waste code does not apply to EpiPens with epinephrine that exists within solution as a salt, e.g. epinephrine hydrochloride. (Generally, if the manufacturer’s description of the solution in the EpiPen includes epinephrine hydrochloride, sodium chloride or sodium metabisulfite, then the EpiPen is not a P-listed waste.) EpiPens that contain epinephrine in the form of a salt that are not otherwise hazardous (e.g., for the ignitability characteristic) are not a hazardous waste and can be disposed as medical waste in a sharps container.¹

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¹ The P042 waste code does apply to epinephrine that is not in the form of a salt.

- Use a Reverse Distribution program if one is available: Before the product's expiration date, check with the manufacturer, wholesaler or other retailer to determine whether there is a take-back program to return unused EpiPens to the manufacturer.
- Manage as a hazardous waste: If you need to dispose of unopened syringes or EpiPens, and the unopened syringes or EpiPens are not subject to the Epinephrine Salts exemption referenced above, you can manage them as a hazardous waste and dispose of them using a "hazardous waste manifest" and "licensed hazardous waste transporter" (See links below for information about how to do this).
- **An unused, ruptured container of Epinephrine:** If a container of epinephrine breaks, drops, or ruptures, the material must be managed as a hazardous waste. The material in question is still considered a "commercial chemical product". The container, epinephrine residue, spill cleanup material, contaminated soil, and other debris resulting from the cleanup of the spill is a "hazardous waste" (P042) and must be disposed of by a licensed hazardous waste transporter using a hazardous waste manifest. MassDEP recommends that waste resulting from cleaning up a spill should be disposed of immediately and not held until it can be disposed of via a municipal Household Hazardous Waste Collection Event if the collection center will accept the waste.

For additional information

- Visit MassDEP's web site for information about hazardous waste management regulations (310 CMR 30.000) and "Small Quantity Generator" requirements: <http://www.mass.gov/eea/agencies/massdep/recycle/hazardous/hwgen.html>
- For information on the U.S. Environmental Protection Agency (EPA) regulatory classification of residual epinephrine in used syringes, visit: <http://yosemite.epa.gov/osw/rcra.nsf/0c994248c239947e85256d090071175f/6a5dedf2fba24fe68525744b0045b4af!OpenDocument>. Please note that MassDEP concurs with this determination.
- For information on the EPA regulatory classification of epinephrine salts, visit: [http://yosemite.epa.gov/osw/rcra.nsf/0c994248c239947e85256d090071175f/9C30209E1466F980852579EA0067CD97/\\$file/14778.pdf](http://yosemite.epa.gov/osw/rcra.nsf/0c994248c239947e85256d090071175f/9C30209E1466F980852579EA0067CD97/$file/14778.pdf). Please note that MassDEP concurs with this determination.
- EPA has recognized "reverse distribution" take-back programs for unused epinephrine syringes. For more information, visit: <http://yosemite.epa.gov/osw/rcra.nsf/0c994248c239947e85256d090071175f/a3a7a7a8f297438b8525670f006be5d8!OpenDocument>
- If you have questions about managing this hazardous waste, contact James Paterson in MassDEP's Bureau of Waste Prevention at james.paterson@state.ma.us or 617-556-1096

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