



E-cigarettes and Vaping Liquids Guidance

This document provides guidance on the management and disposal of electronic cigarettes (e-cigarettes) (including electronic nicotine delivery systems (ENDS)) and the vaping liquid or solution used in e-cigarettes which is also known as e-liquid, e-juice, or liquid nicotine. Discarded e-cigarettes and vaping liquid may present a significant risk to human health and the environment if improperly disposed.

Entities (including businesses, schools, and government agencies) handling these wastes must comply with the hazardous waste requirements administered by the North Carolina Department of Environmental Quality (NCDEQ) Hazardous Waste Section. The following Hazardous Waste Section website provides links to state hazardous waste rules and law: <https://deq.nc.gov/about/divisions/waste-management/hw/rules>

How are e-cigarettes and vaping liquids regulated?

Any e-cigarette or vaping liquid waste discarded by entities (including but not limited to businesses, schools, and government agencies) is considered an acute hazardous waste (specifically a P075 listed hazardous waste) in North Carolina. Examples of these wastes include:

- Vaping liquid that contains nicotine.
- Containers or e-cigarette cartridges that hold/held nicotine or nicotine-containing vaping liquid that have not been triple-rinsed, even if they look empty.
- Rinsewater from rinsing nicotine and vaping liquid containers.
- Vaping liquid spill cleanup materials.
- E-cigarettes, whether used or not, unless the vaping liquid reservoirs have been removed.

There is no minimal amount or concentration of nicotine-containing material that is exempt from regulation.

Is the site (or part of the site) a healthcare facility?

When a site (or part of a site) meets the definition of a healthcare facility defined in [40 CFR 266.500](#) (excerpted below), special management requirements may apply to the e-cigarettes and unused vaping liquid. These requirements are described at [40 CFR 266 Subpart P](#) ("Subpart P").

- When a site (or part of a site) is a health care facility, in addition to complying with all applicable requirements of 40 CFR 266 Subpart P for the management of hazardous waste pharmaceuticals, you should review the information at the following link for guidance on the management of hazardous waste pharmaceuticals at healthcare facilities: [Hazardous Waste Pharmaceuticals](#).
 - When a site (or part of a site) meets the definition of a healthcare facility (as defined in [40 CFR 266.500](#)), but the site falls into the very small quantity generator category (described in Step 2, page 2), the site may either opt to follow the steps described in this document or manage the e-cigarettes and unused vaping liquid under the requirements described in [40 CFR 266 Subpart P](#).
- When a site (or part of a site) is not a healthcare facility, the requirements of 40 CFR 266 Subpart P do not apply to your site and you may follow the guidance provided in this document.

A healthcare facility means any person that is lawfully authorized to:

- 1) Provide preventative, diagnostic, therapeutic, rehabilitative, maintenance or palliative care, and counseling, service, assessment, or procedure with respect to the physical or mental condition, or functional status, of a human or animal or that affects the structure or function of the human or animal body; or

- 2) Distributes, sell, or dispense pharmaceuticals (*as defined in [40 CFR 266.500](#) and excerpted below*), dietary supplements, homeopathic drugs, or prescription pharmaceuticals.

The definition of **healthcare facility** includes (but is not limited to):

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| - wholesale distributors, | - dental providers, |
| - third-party logistics providers that serve as forward distributors, | - chiropractors, |
| - military medical logistics facilities, | - long-term care facilities, |
| - hospitals, | - ambulance services, |
| - psychiatric hospitals, | - pharmacies, |
| - ambulatory surgical centers, | - long term care pharmacies, |
| - health clinics, physicians' offices, | - mail-order pharmacies, |
| - optical providers, | - retailers of pharmaceuticals, |
| | - veterinary clinics/veterinary hospitals. |

A healthcare facility may be part of a site ("co-located" at a site) so Subpart P provisions could apply to a portion of a site like a university or military base with a health clinic or a manufacturing or other type of site that has a healthcare component (e.g., nurse's office, clinic, a room with a first aid kit, area where employee blood monitoring is performed or vaccines are administered, etc.)

Pharmaceutical means any drug or dietary supplement for use by humans or other animals; any electronic nicotine delivery system (e.g., electronic cigarette or vaping pen); or any liquid nicotine (e-liquid) packaged for retail sale for use in electronic nicotine delivery systems (e.g., pre-filled cartridges or vials).

What hazardous waste requirements must be met?

- When a site does not meet the definition of a healthcare facility (as defined in [40 CFR 266.500](#)), follow the below six steps to determine what hazardous requirements apply to your site for the management of waste e-cigarettes and vaping liquids.
- When a site (or part of a site) meets the definition of a healthcare facility (as defined in [40 CFR 266.500](#)), but the site falls into the very small quantity generator category (described in Step 2, below), the site may either opt to follow the steps described in this document or manage the e-cigarettes and unused vaping liquid under the requirements described in 40 CFR 266 Subpart P.

Step 1: Evaluate your waste.

You must either:

- Assume that each of e-cigarette and vaping liquid and any associated waste is a P075 acute hazardous waste.
- Examine each of the nicotine-containing wastes and document that it is not a hazardous waste. (It is rare to be able to evaluate a nicotine-containing waste as non-hazardous).

Step 2: Determine your generator category.

The length of time, amount of nicotine-containing waste you may accumulate and other requirements applicable to this waste are based on your site's hazardous waste generator category. Hazardous waste generator category is determined by counting the total amount of hazardous waste your site generates in a month. The site must account for all hazardous waste generated at all parts of the site when making a generator category determination. See the [Hazardous Waste Generator Category Guidance](#) for more information on the thresholds for the three hazardous waste generator categories: very small quantity generator (VSQG), small quantity generator (SQG), and large quantity generator (LQG).

The threshold for acute hazardous waste is very low (only 2.2 pounds). If a site exceeds this threshold, the site is automatically a LQG of hazardous waste and must meet all the LQG requirements described at [40 CFR 261.17](#).

When counting nicotine-containing waste, you only need to count the contents or residue in the container or e-cigarette; you do not count the weight of the container, e-cigarette, or packaging. It is the weight of the contents/residue that determines the generator category and not the percent by volume of nicotine.

If you generate in a calendar month:	Then:
1 kilogram (2.2 pounds or about 1 liter) or less of nicotine-containing waste AND never accumulate more than 1 kilogram (2.2 pounds) of nicotine-containing hazardous waste at any time.	Your site is a VSQG or SQG for nicotine-containing waste. However, you must evaluate all other hazardous waste generated at the site to further determine the site's generator category.
1 kilogram (2.2 pounds or about 1 liter) or less of nicotine containing waste BUT do accumulate more than 1 kilogram (2.2 pounds) of nicotine-containing hazardous waste at any time.	Your site must comply with the requirements applicable to LQGs of hazardous waste.
More than 1 kilogram (2.2 pounds or about 1 liter)	Your site is a LQG of hazardous waste.

Other locations at your facility where hazardous waste may be generated include (but are not limited to) maintenance shops (or areas where maintenance occurs -- painting, cleaning, lamp crushing, etc.), laboratories, vehicle shops, and/or nurses office (If a site has a nurse's office, the site may meet the definition of a healthcare facility on page 1 of this document).

Step 3: Obtain a Hazardous Waste Identification Number

Any site (including, but not limited to businesses, schools, or government agencies) operating as a SQG or a LQG of hazardous waste must have a Hazardous Waste Identification Number (also known as an EPA ID Number).

To request a new EPA ID number or make updates to site information for an existing EPA ID number, the site must be registered in EPA's RCRAInfo database and make any necessary updates electronically in the myRCRAid module. Link to RCRAInfo: <https://rcrainfo.epa.gov/rcrainfoprod/action/secured/login>

See the [Tutorial on Filing Electronic Notifications in RCRAInfo](#) for help with registering in RCRAInfo, requesting an EPA ID number, or making updates to an existing to the site information for an existing EPA ID number.

A LQG and SQG will be invoiced for an annual hazardous waste generator fee as follows:

- The annual fee for LQGs is \$1,400 plus \$0.70 per ton of hazardous waste generated during the year.
- The annual fee for SQGs is \$175.00

Step 4: Accumulate the nicotine-containing waste at your site.

A LQG and SQG must comply with specific requirements while nicotine-containing waste is accumulated onsite. A VSQG must place hazardous waste in a container, and it is recommended a VSQG label containers and keep containers closed. See the [Summary of Generator Requirements](#) for a general overview of requirements. More specific generator requirements can be viewed in the individual generator checklists linked below:

- [Very Small Quantity Generator \(VSQG\) Guidance](#)
- [Small Quantity Generator \(SQG\) Guidance](#)
- [Large Quantity Generator \(LQG\) Guidance](#)

Accumulate nicotine-containing waste in containers that are compatible with the waste and able to fully contain the waste even if the container is overturned. *Compatible* means the waste will not corrode or degrade the container. Keep the contain closed (with the lid securely closed) except when adding or removing waste from the container.

Label each container with:

- The words "Hazardous Waste" and
- A clear description of the waste that identifies it and the risks to employees and emergency responders. An example is: "Acutely Toxic Nicotine Waste."
- An accumulation start date (the date that waste first was placed in the container).

You may accumulate nicotine-containing waste on-site based on the following time limits and/or volume threshold.

If your site is a:	You may accumulate up to:	For up to:
VSQG	1 kilogram of nicotine-containing waste	Indefinitely (<i>Be sure to stay within the VSQG thresholds.</i>)
SQG	1 kilogram of nicotine-containing waste	180 days
LQG	Any amount of nicotine-containing waste	90 days

Step 5: Dispose of your nicotine-containing waste for disposal.

Never place nicotine-containing waste into the regular trash or rinse/flush nicotine down the drain.

If your site is a:	Then you may dispose of your nicotine-containing waste by:
VSQG	<ul style="list-style-type: none"> - Using a hazardous waste transporter to pick up hazardous waste at your site and transport it a commercial hazardous waste treatment, storage, and disposal facility. - Self-transporting it to a commercial hazardous waste treatment, storage, and disposal facility. You must make arrangements for delivery acceptance prior to self-transporting. - Self-transporting it to a LQG that is under the control of the same person as the VSQG. The LQG must have notified the Hazardous Waste Section of this consolidation activity. See Consolidation Provision Guidance for more information. - Must comply with any applicable US Department of Transportation Hazardous Materials requirements when self-transporting.
SQG / LQG	<ul style="list-style-type: none"> - Must use a hazardous waste transporter to pick up hazardous waste at your site and transport it to a commercial hazardous waste treatment, storage, and disposal facility.

A VSQG is not required to use a uniform hazardous waste manifest when self-transporting/shipping hazardous waste. However, it is recommended the VSQG maintain shipping papers to show when, where, and how much hazardous waste was disposed.

An SQG and LQG are required to use a uniform hazardous waste manifest when shipping hazardous waste and must retain the manifest for three years.

Step 6: Training Employees, Emergency Response Planning, and Recordkeeping

If your site is a SQG or LQG, other requirements apply to the hazardous waste generated at your site. Your site's requirements for training, emergency planning, and recordkeeping depend on the generator category determined in Step 2.

If your site is a:	Then the following is required:
VSQG	- Very Small Quantity Generator (VSQG) Guidance
SQG	- Small Quantity Generator (SQG) Guidance
LQG	- Large Quantity Generator (LQG) Guidance

Frequent Questions

Are the regulations for managing e-cigarettes and vaping liquids as a hazardous waste new?

EPA made the determination in 2015 that e-cigarettes and vaping liquids specifically are a hazardous waste due to nicotine. However, the hazardous waste regulations have been around since the 1980's and nicotine has been a listed hazardous waste since that time.

How are other parts of e-cigarettes regulated?

Batteries that can be removed from e-cigarettes without compromising the integrity of the e-cigarette, can be managed separately as a universal waste battery.

What about "empty" containers that held vaping liquid or nicotine solution?

The residues in containers that held nicotine-containing vaping liquid or nicotine solution remain regulated as hazardous waste until the containers have been rinsed three times (called triple rinsing) even if they look empty or nothing drips out of them. The rinsewater from triple rinsing is regulated nicotine-containing waste and must be counted towards the hazardous waste generator category.

How can nicotine-free vaping liquid be managed?

You may examine each of the nicotine-containing wastes and document that it is not a hazardous waste if it is determined to be nicotine free. For vaping liquid that you are uncertain whether it contains nicotine, you should assume that it contains nicotine and is an acute hazardous waste unless you are able to document that it does not.

What about e-cigarettes and vaping solution I use at home?

E-cigarettes and vaping solution that are derived from a household are excluded from regulation as a hazardous waste under the household hazardous waste exclusion described at 40 CFR 261.4(b)(1), adopted by reference at 15A NCAC 13A .0106(a).

- "Household waste" means any material (including garbage, trash, and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds and day-use recreation areas). Household waste, including household waste that has been collected, transported, stored, treated, disposed, recovered (e.g., refuse-derived fuel) or reused is a solid waste but not a hazardous waste (even if the household waste exhibits a characteristic of hazardous waste).
- In order for household waste to be exempt from regulation, it must meet two criteria: the waste has to be generated by individuals on the premises of a temporary or permanent residence, and the waste must be composed primarily of materials found in the waste generated by consumers in their homes. (49 FR 44978, November 13, 1984)

Who do I contact if I have questions?

Contact your Hazardous Waste Section Inspector (contact information and region provided on the map at this link): <https://deq.nc.gov/media/29250/download?attachment>

Additional Hazardous Waste Section guidance documents can be found at this link: <https://deq.nc.gov/about/divisions/waste-management/hazardous-waste-section/technical-assistance-and-guidance-documents>