



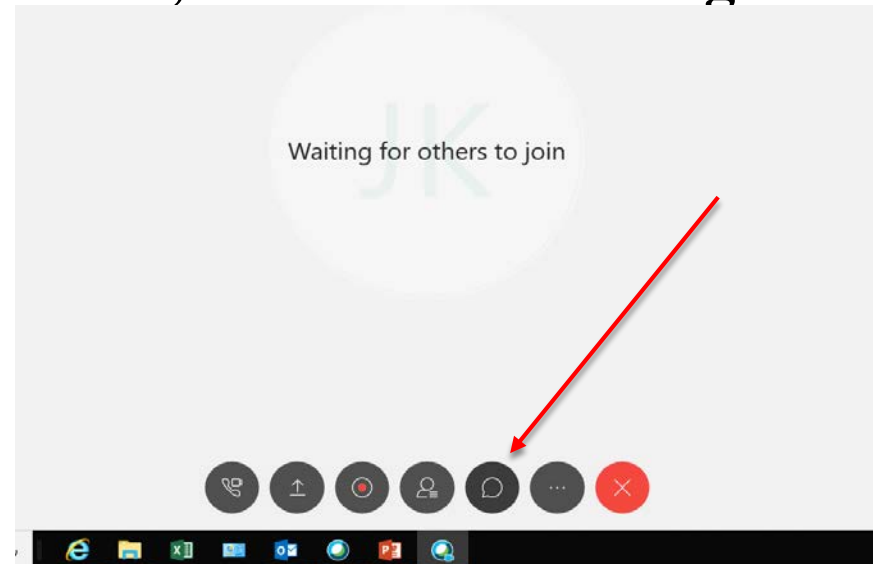
# WEBINAR AT 10:00 MST

## Housekeeping Issues:

**PLEASE PUT YOUR phone on “MUTE” background noise IS VERY disruptive. Papers shuffling, keyboard clicks, etc. are picked up on phones.**

**PLEASE DO NOT put your phone on “hold” during the webinar, as much as we all love music, it’s a bit distracting while conducting a webinar.**

**Please save all your questions until the end and use the chat the bubble on the bottom of the screen to ask questions.**





# New Mexico Environment Department

**Hazardous Waste Compliance for the Vaping Industry**

**Aaron Coffman**

**Environmental Scientist/State Inspector**

**Thursday, November 14, 2019**





# Agenda

- NMED regulation of industry, including nicotine vaping retailers and manufacturers
- Environmental impact of improper disposal
- Hazardous wastes generated by vaping industry
- Waste management and regulations to know
- Best practices, consumer education, and worker safety
- Resources







# NMED Authority

- NM Businesses and other entities are subject to the 1978 Hazardous Waste Act and 20.4 NMAC
- Requires facilities to properly manage and dispose of wastes per USEPA rules; gives NMED authority to inspect businesses and conduct enforcement
- These inspections are usually unannounced
  - \*You may request a Compliance Assistance Visit (CAV)





# Vaping industry, history and types

- E-cigarette patented 1963, commercially viable by 2007
- Domestic/Global sales of \$3.6/\$11.5 billion in 2018
- Currently over 60 vape shops in state of NM, not counting gas stations and general head shops
- 4 types of vaping-related businesses:
  - Retail only
  - Manufacturers
  - “House blenders”
  - E-cigarette service and repair





# The Hazardous Waste issue

- Resource Conservation and Recovery Act (RCRA)-  
passed in 1976, amended 1984
  - Defined “Hazardous Waste”, “cradle to grave” liability
- EPA memo to states 2015  
regulating e-liquid and e-cigarette cartridges as a  
listed hazardous waste- P075.
- E-liquid deemed “formulation in which nicotine is  
the sole active ingredient”  
\*Note: not concentration-based





# HW Code P075 for Nicotine

- Nicotine wastes are listed as acutely toxic hazardous waste under *40 CFR 261.33*
- Stringent volume limit, contact waste considerations
- Includes smoking-cessation products (e.g. nicotine gum), and nicotine-containing pesticides
- Unrinsed containers are hazardous waste per 40 CFR 261.7(b)(3)
- Rinsate becomes a hazardous waste as well





# E-cigarettes: pollution problems

- Most current environmental research is on air quality and consumer impacts
- Study of cigarette waste (e.g. butts) shows leaching of heavy metals, PAHs, and nicotine
- E-liquid may have high nicotine, easily discharged to environment if mismanaged
- E-cigarette devices are a growing urban waste problem:



<https://www.theguardian.com/society/2019/aug/26/vapings-other-problem-are-e-cigarettes-creating-a-recycling-disaster>





# Nicotine can be toxic... in high concentrations

- ❑ Nicotine's status as a Haz Waste is based on its toxicity
- ❑ Spills of very high-concentration nicotine solution on skin can cause serious injury or death
- ❑ Impact of chronic exposure to nicotine in non-smokers is not known





# Waste Streams found at vape shops

- Four primary waste types:
  1. Waste e-liquid
  2. Empty nicotine and e-liquid containers
  3. Spill cleanup materials
  4. E-cigarette components



# Waste E-liquid

- E-liquid (or any other solution containing nicotine) is regulated as P075 hazardous waste once it is either:
  - Expired,
  - Disposed, or
  - For any reason not returnable to manufacturer for credit
- Includes raw nicotine if blending on-site
- Zero-nicotine products/blends  
*DO NOT* carry the P075 hazardous waste code
- If at all possible, recommend returning unsold/returned retail e-liquid to manufacturer  
**\*before expiration\***





# Empty containers



- ❑ As an acutely toxic waste (P075), empty containers that once held e-liquid or raw nicotine are hazardous waste
- ❑ ***Does not matter what concentration of nicotine is present*** (\*except zero)
- ❑ Can be triple-rinsed, but rinsate would be a hazardous waste
- ❑ **INCLUDES E-CIG CARTRIDGES**
- ❑ Some vendors offer returnable containers for house blend nicotine stock.







# Spill cleanup wastes

- Materials/debris coming into contact with nicotine “resulting from the cleanup of a spill”
  - Paper towels/wipes,
  - Absorbent,
  - Debris
  - Soil (please no)
- Less stringent volume limit, but still P075
- Businesses are required to prevent, report, & mitigate releases to the environment
  - For spills on soil, in watercourses/drainage
  - 505-827-9329 for emergencies, 866-428-6535 otherwise
  - Must report within 24 hrs





# E-cigarette components



- E-cigarettes contain electronics, which may contain heavy metals such as lead, silver, chromium, etc.
  - Metals regulated under RCRA, may be managed as e-waste (e.g. CPUs)
  - Two other components replaced by some vape shops for consumers:
    - Lithium-ion batteries: regulated as Universal Waste
    - Heating coils: Contain chromium and other metals
- may be managed as hazardous or recycled





# Do's and Dont's of E-cigarette waste management

- Basic steps for compliance
- Potential issues with waste management
- Regulations to know



# 6 Basic steps for compliance and responsible waste management

1. Identify all hazardous wastes generated by your business
2. Identify means of waste minimization (loss prevention, recycling, proper reverse distribution)
3. Select hazardous waste disposal vendor(s)
4. Determine generator status (see slide 21) and adhere accordingly





# 6 Basic Steps (continued)

5. Ensure employees receive adequate training
6. Ensure all locations properly equipped with container, spill control, PPE, and emergency plans





# Things that are illegal (no joke)

- ❑ Disposing of any hazardous waste, as a business, in the regular garbage or sending any such waste to a normal landfill (yes that includes old e-cigs).
- ❑ Dumping hazardous waste anywhere
- ❑ Burning stock nicotine containers
- ❑ Collecting waste from a different business without notifying NMED, may require permit
- ❑ Dumping e-liquid or stock nicotine down the drain  
**\*or any residue or rinsate  
from an e-liquid container\***  
without notifying local water utility.





# Defend the green chile



- Please be aware that all wastewater ends up in NM rivers eventually, which our farmers depend on to irrigate
- Crops can take on nicotine from soil
- NMED Surface Water Bureau regulates NM wastewater treatment plants, which don't have standards/treatment for nicotine in wastewater
- Per 40 CFR 261.3(a)(2)(iv)(D): wastewater from rinsing out e-liquid containers or glassware is not exempt from hazardous waste rules, unless and until facility has notified the local water utility in writing of the discharges



# Regulations to know

- Hazardous Waste regulations are found in Chapter 40 of the Code of Federal Regulations (CFR), and Chapter 20.4.1 of the NM Administrative Code (NMAC).

- [www.ecfr.gov](http://www.ecfr.gov);
- <https://www.env.nm.gov/wp-content/uploads/2016/11/20.4.1-NMAC-12-1-2018.pdf>

- Definition of hazardous wastes: 40 CFR 261
- Generator standards: 40 CFR 262
  - Especially 40 CFR 262.14 and 262.17
- Universal waste standards: 40 CFR 273





# Waste Determination and Determining Generator Status

- Two important regulations:  
*40 CFR 262.11* and *40 CFR 262.13*
- 262.11 requires any business generating waste to determine which are regulated as hazardous.
  - This is one of our most common violations, especially for vape shops
- 262.13 determines your generator category, which impacts what other requirements you have
  - Very Small Quantity Generator (VSQG)- few requirements
  - Small Quantity Generator (SQG)- more requirements
  - Large Quantity Generator (LQG)- numerous requirements



# Generator Category

- VSQG status is the goal. Very few, if any vape shops will be SQGs, but it's easy to become an LQG (the regulations...not so easy)
- Wastes counted, by weight, on a per month basis
- 3 types of waste for counting:
  1. E-liquid and empty containers
  2. Spill cleanup materials
  3. Any other hazardous wastes (recycled exempt from count)



Waste	<u>VSQG</u>	<u>SQG</u>	<u>LQG</u>
1	<2.2 lbs.; and	<2.2 lbs.; and	>2.2 lbs.; OR
2	<220 lbs.; and	<220 lbs.; and	>220 lbs.; OR
3	<220 lbs.	220-2,200 lbs.	>2,200 lbs.



1 quart



2.2 lbs.

**\*Please Note: Storing either >2.2 lbs. or >220 lbs. of wastes #s 1 or 2, respectively, at any time, would also subject your business to LQG regulations**



# VSQG vs. LQG requirements

## VSQG

- ❑ Perform hazardous waste determinations
- ❑ Keep to volume limits (<2.2 lbs. e-liquid/containers and <220 lbs. spill cleanup)
- ❑ Dispose of wastes only through approved facilities/vendors
- ❑ Report and clean up any releases to the environment
- ❑ THAT'S ALL!



## LQG

- ❑ The VSQG requirements, plus:
  - ❑ Manifest system
  - ❑ Robust training program
  - ❑ Contingency Plan
  - ❑ Emergency Coordinator/Equip.
  - ❑ 90-day storage time limit
  - ❑ Container: labeling, closure, condition, aisle space, inspections
  - ❑ Letters to authorities
  - ❑ Biennial Reports





# Shipping Hazardous Waste

- In most cases, your waste vendor will have you sign a hazardous waste manifest, like this one →
- You are legally responsible for everything above the red line, check before you sign
- If you have an EPA ID#, make sure it is correct at the top of page
- If you are shipping less than 2.2 lbs., make sure actual weight is reflected either on the line item or in box 14, or keep a log on-site
- Only use a Transporter/Disposal Facility with an valid EPA ID#
  - <https://www.env.nm.gov/wp-content/uploads/2016/11/Consolidated-Vendors-List-Nov-2017.pdf>

ASL SK SHIP# 226196477

006181858SKS  
Form Approved, OMB No. 2050-0039

Please print or type. (Form designed for use on a 12-pitch typewriter.)

**UNIFORM HAZARDOUS WASTE MANIFEST**

1. Generator ID Number: NMR000024406  
2. Page No: 1  
3. Emergency Response Phone No: 1-800-468-1760  
4. Manifest Tracking Number: 006181858 SKS

5. Generator's Name and Mailing Address:  
Oasis Vape Midtown  
3500 Menaul Blvd NE Ste 7  
ALBUQUERQUE NM 87107-1847  
Generator's Phone: 505-880-8273

6. Transporter 1 Company Name: SAFETY-KLEEN SYSTEMS INC  
U.S. EPA ID Number: TXR000091205

7. Transporter 2 Company Name: *Clean Harbors Environmental Serv*  
U.S. EPA ID Number: *TX00039322250*

8. Designated Facility Name and Site Address:  
CLEAN HARBORS DEER PARK  
2027 INDEPENDENCE PARKWAY SOUTH  
LA PORTE, TX 77571  
U.S. EPA ID Number: TXD055141378  
Facility's Phone: 281-930-2300

9. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)):

HAZ	HAZ	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt/Vol	13. Waste Codes	
						1	2
X	UN1654, WASTE NICOTINE, 6.1, PG II	001	DM	020	P	0075	OUTS

14. Special Handling Instructions and Additional Information: TSD:DE 77456893 0A11125 C561

1) ERG#151;  
2) 24H EMERGENCY#800-468-1760-CH/SK/TFI-Contract retained by generator confers agency authority on initial transporter to add or substitute additional transporters on generator's behalf.

15. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/packaged, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.

16. Generator's Office (Printed/Typed Name): *Gabriel Quesada*  
Signature: *[Signature]*  
Month Day Year: 08/15/18

17. Transporter Acknowledgment of Receipt of Materials:  
Transporter 1 (Printed/Typed Name): *Michael Ceballos*  
Signature: *[Signature]*  
Month Day Year: 08/15/18  
Transporter 2 (Printed/Typed Name): *Michael Ceballos*  
Signature: *[Signature]*  
Month Day Year: 08/20/18

18. Discrepancy Indication Space:  Quantity  Type  Residue  Partial Rejection  Full Rejection

19. Alternate Facility (or Generator):  
Facility's Name: *H840*  
Signature of Alternate Facility (or Generator): *[Signature]*  
Month Day Year: 08/20/18

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in item 19.  
Printed Name: *Dwina Dans*  
Signature: *[Signature]*  
Month Day Year: 08/20/18

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.  
1) 80099532/1560304

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)





# Universal Waste Requirements

- ❑ Lithium-ion batteries are in a special class of wastes: under 40 CFR 273 as Universal Waste
- ❑ Only applies if being recycled
- ❑ Others: light bulbs, recalled pesticides, mercury-containing devices, and aerosol cans (in NM)
- ❑ Requirements:
  1. Labeled as “Universal Waste” or similar
  2. Container is dated from first waste in, stored < 1yr
  3. Good condition, any releases must be cleaned up
  4. Stored safely (tip: tape terminals)
  5. Legitimately recycled





# How do I...not be an LQG?

- ❑ Use loss prevention strategies to prevent spills and breakage of e-liquid containers or other stock
- ❑ Reverse distribute unexpired retail e-liquid
- ❑ Automate blending processes (e.g. nicotine dispenser/blending at POS)
- ❑ NMED recommends *not* house blending e-liquid
- ❑ Minimize use of glassware or rinsing containers
- ❑ Hold employees and managers accountable
  - Check waste containers regularly
- ❑ Monitor generator status, recommend storing spill cleanup waste/waste e-liquid and containers separately





# Returns and Household use

- Households are exempt from RCRA requirements (40 CFR 261.4(b)(1))
- **Any Returns accepted at your business become part of your waste stream, and are no longer exempt. You are free to decline accepting any returns and direct customers to use HHW collection centers to dispose**
- Unexpired returns may also be reverse distributed





# NMED Technical Assistance

- Request a Compliance Assistance Visit (CAV) from the Hazardous Waste Bureau, by calling (505) 476-6000
  - Inspection on your schedule
  - Useful Pollution Prevention Tips from experienced inspectors
  - NMED works with you to correct Conditions out of Compliance
    - \*Must be a VSQG to qualify
  
- Check with NMED to vet potential waste vendors
  - See the NMED vendor's list
  
- NMED Hazardous Waste guidance documents:  
<https://www.env.nm.gov/hazardous-waste/guidance-documents/>



# Final Recommendations

- Be aware of expiration dates and any planned events where a large amount of e-liquid would become waste.
  - You are allowed 1 planned episodic event per year
  - Avoids LQG status
  - Contact NMED at least 30 days prior to event
  - An unplanned event: contact within 72 hrs (water damage, fire or similar emergency event)
  - Still some extra regulatory requirements
- If you have potential to become an LQG at any time, NMED recommends voluntarily meeting LQG standards
- NMED does not recommend house blending practices
- Reverse distribute if at all possible, but once something expires it is a regulated hazardous waste



# Summary

1. Vape shops are regulated by NMED under EPA, State requirements
2. Nicotine/E-liquid is an acutely toxic hazardous waste
3. So are the containers
4. E-cigarettes have hazardous components
5. Rinsing containers requires a permit from water utility
6. VSQG status eases regulatory requirements
7. Waste minimization can be important
8. Customers may use HHW Collection Centers
9. Compliance Assistance Visits are offered free of charge





# Questions?

**Aaron Coffman**

**Environmental Scientist**

**Compliance and Technical Assistance Program-HWB**

**Contact: 505-476-6019**

