Common Hazardous Waste Issues

ESI Conference

September 23, 2020

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Division of Waste Management

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336-767-0031

North Carolina Department of Environmental Quality
Division of Waste Management
Hazardous Waste Section - Compliance Branch

REGIONAL INSPECTOR MAP

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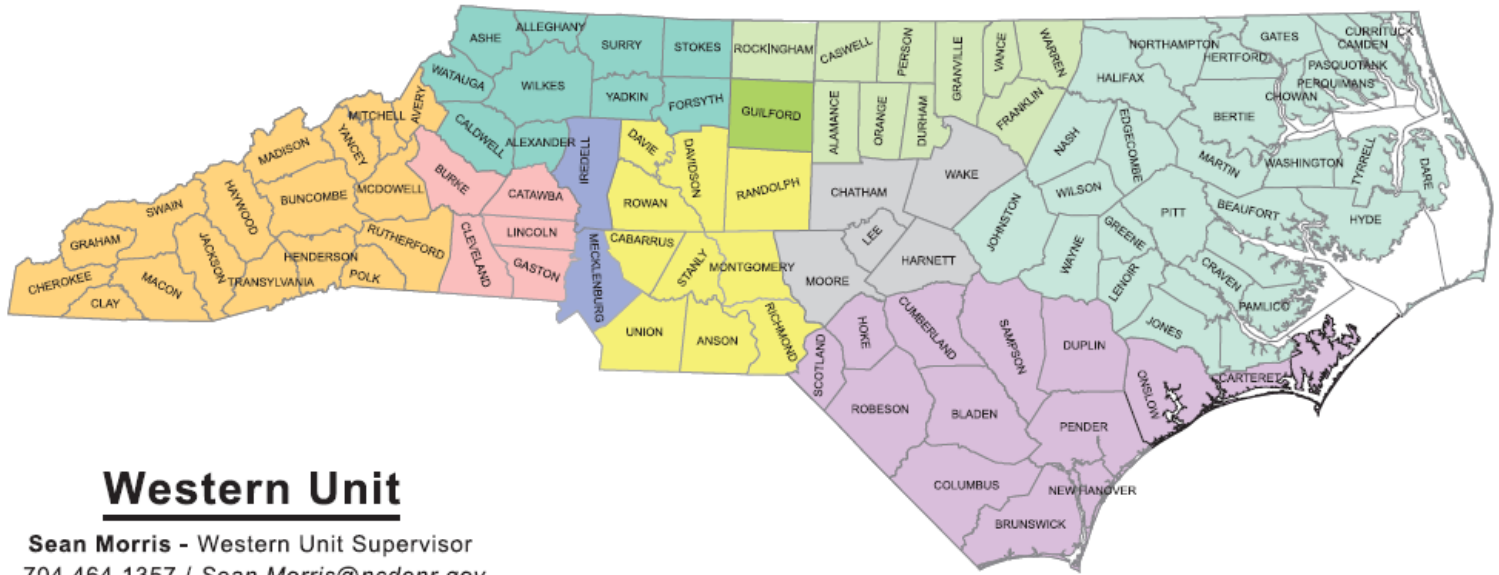

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https://files.nc.gov/ncdeq/Waste+Management/DWM/HW/Compliance/Compliance_Map_by_Inspector.pdf

What will be covered?

- Common Hazardous Waste Issues
- NCDEQ Hazardous Waste Updates

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Disclaimer

- This presentation was created to be an overview and is not all inclusive of all the hazardous waste rules and requirements. This presentation should only be used as guidance.

Acronyms and Abbreviations Used

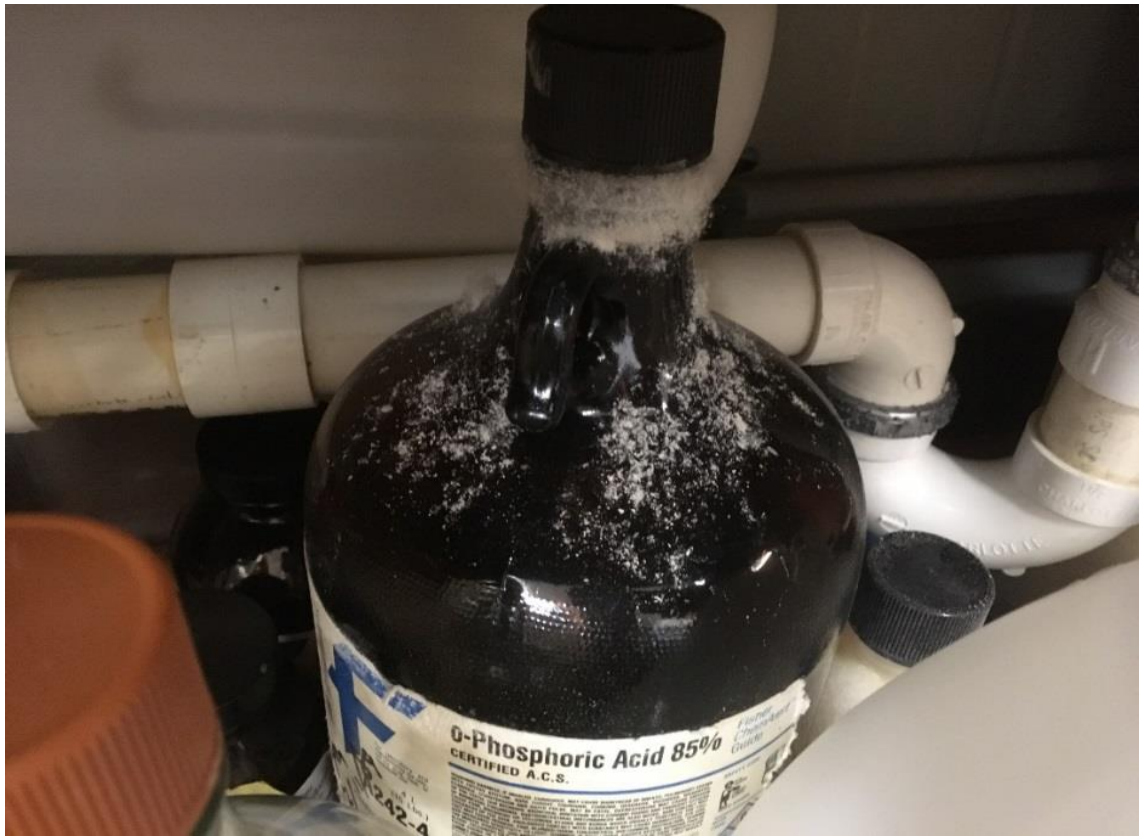
A few abbreviations will be used the presentations:

- HW = Hazardous Waste
- HWS = Hazardous Waste Section
- EPA = Environmental Protection Agency
- VSQG = Very Small Quantity Generator
- SQG = Small Quantity Generator
- LQG = Large Quantity Generator
- CAA = Central Accumulation Area
- SAA = Satellite Accumulation Area
- RCRA = Resource Conservation and Recovery Act
- TSD = Treatment, Storage, and Disposal

#10

Hazardous Waste Not in Containers


UR70
R-M
VR0
HAZARDOUS WASTE


O-Phosphoric Acid 85%
CERTIFIED A.C.S.

Aerosol Can Puncturing Device

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Keep containers clean and keep all waste inside containers.

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9

Emergency Preparedness and Prevention (SQGs and LQGs)

Small Quantity Generator Emergency Information

(Post next to telephones or in areas directly involved in the generation and accumulation of hazardous waste as required by 40 CFR 262.16(b)(9)(ii))

Emergency Coordinator(s)
with Telephone Numbers: _____

_____

Locations of:
Fire Extinguisher(s) _____

_____

Spill Control Material _____

_____

Fire Alarm(s) _____

_____

Fire Department Phone Number: _____

The Emergency Coordinator or his designee must respond to any emergencies that arise. The applicable responses are as follows:

FIRE: Call Fire Department or attempt to extinguish fire using a fire extinguisher.

SPILL: Contain the flow of hazardous waste to the extent possible, and as is practicable, clean up the hazardous waste and any contaminated material or soil.

In the event of a fire, explosion, or other release which could threaten human health outside the facility or when the generator has knowledge that a spill has reached surface water, the generator must immediately notify the National Response Center (24-hour hotline) at 1-800-424-8802 and notify the appropriate agency at _____
_____.

The information must include the following information:

1) Name, address, and facility USEPA Identification Number;
2) Date, time and type of incident (e.g. spill or fire);
3) Quantity and type of hazardous waste involved in incident;
4) Extent of injuries, if any; and
5) Estimated quantity and disposition of recovered materials, if any.

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Emergency Preparedness and Prevention & Emergency Procedures

- Requirements now apply to HW Satellite Accumulation Areas (SAAs) and not just Central Accumulation Areas (CAAs)
  - 40 CFR 262.15(a)(7): All SAAs operated by a SQG must meet the preparedness and prevention regulations of 40 CFR 262.16(b)(8) and emergency procedures of 40 CFR 262.16(b)(9)
  - 40 CFR 262.15(a)(8): All SAAs operated by a LQG must meet the Preparedness, Prevention and Emergency Procedures in 40 CFR 262 Subpart M
- 40 CFR 262 Subpart M applicability for LQGs includes areas where hazardous waste is generated and accumulated (both satellite and central accumulation areas)

Emergency Preparedness and Prevention & Emergency Procedures

What requirements now apply to both SAAs and CAAs (for SQGs and LQGs):

- Maintenance and Operation of the Facility
- Required Equipment (internal communications/alarm, communication device, fire extinguishers, water with adequate volume/pressure)
- Testing and Maintenance of Equipment
- Access to Communication/Alarm Systems
- Required Aisle Space
- Arrangements with Local Emergency Authorities
- Emergency Procedures and Emergency Coordinator

Also for LQGs: Contingency Plan and Quick Reference Guide

EXAMPLE

(Letters to assist with making Arrangements with the local Emergency Authorities (for SQG and LQG) For Hospital)

(Insert Company Letterhead)

(Date)

(Name of Hospital)
Attn: (Hospital Contact)
Street
City, State, Zip code

Dear (Hospital Contact):

This letter is written as a requirement of the Hazardous Waste Rules adopted by the State of North Carolina. The purpose of this letter is to document arrangements to familiarize (Name of Hospital) with the layout of the facility, types, quantities, and properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, possible evacuation routes, and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

(Name of Facility) is located at (Address of Facility). (Name of the Facility) (include a description of the activities/processes that occur at the site). Hazardous waste is generated as a result of (describe the process generating hazardous waste), and is accumulated at this facility. In accordance with (**select which applies:** 40 CFR 262.16(b)(8)(vi) **[for SQGs]** or 40 CFR 262.256 **[for LQGs]**), we are providing your facility with the following information:

1) A layout of the facility showing areas where hazardous waste is generated and accumulated, places where facility personnel would normally be working, entrances to roads inside the facility and possible evacuation routes. (**Attach information)**

2) A description of the types, quantities, and properties of hazardous waste handled at the facility and the associated hazards. (**Attach information or describe here**)

3) A description of the types of injuries or illnesses which could result from fires, explosions, or releases at the facility. (**Attach information or describe here**).

We are requesting that your facility provide the following services in the event of an emergency regarding hazardous waste generation and accumulation at the facility:

- **(Describe/Specify the requested Services)**

If you do not agree with the arrangements, have questions, or need additional information please call me at (Phone Number of Facility).

Sincerely,

(Facility Contact Signature)

(Facility Contact Name)

Example letters to help make arrangements with the local emergency authorities can be found at this link:

https://deq.nc.gov/about/divisions/waste-management/hw/technical-assistance-education-guidance/documents#hazardous-waste-generator-improvements-rule

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Quick Reference Guide for LQGs
40 CFR 262.262

- Types/names of hazardous wastes (HW) in layman's terms & associated hazard of each HW present at any one time;
- Estimated maximum amount of each HW that may be present at any one time;
- Identification of any HW where exposure would require unique or special treatment by medical or hospital staff;
- Map of facility showing where HWs are generated, accumulated & treated and routes for accessing these wastes;
- Street map of facility in relation to surrounding businesses, schools, residential areas to understand how best to get to facility and also evacuate citizens and workers;
- Locations of water supply (e.g., fire hydrant and its flow rate);
- The identification of on-site notification systems (e.g., a fire alarm that rings off site, smoke alarms); and
- Name of the emergency coordinator(s) and 7/24-hour emergency telephone number(s).

Must update quick reference guide whenever contingency plan must be updated.

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Documentation

Documentation

- LQG:
  - Documentation of annual RCRA training
  - LQG contingency plan submittal

- LQG and SQG:
  - Arrangements with local emergency authorities
  - Weekly inspections of hazardous waste central accumulation area(s)
  - Waste determinations (40 CFR 262.11)

LQG, SQG and VSQG:

- Claims that materials are not solid waste or are conditionally exempt (40 CFR 261.2(f))

7

Used Oil


USED OIL

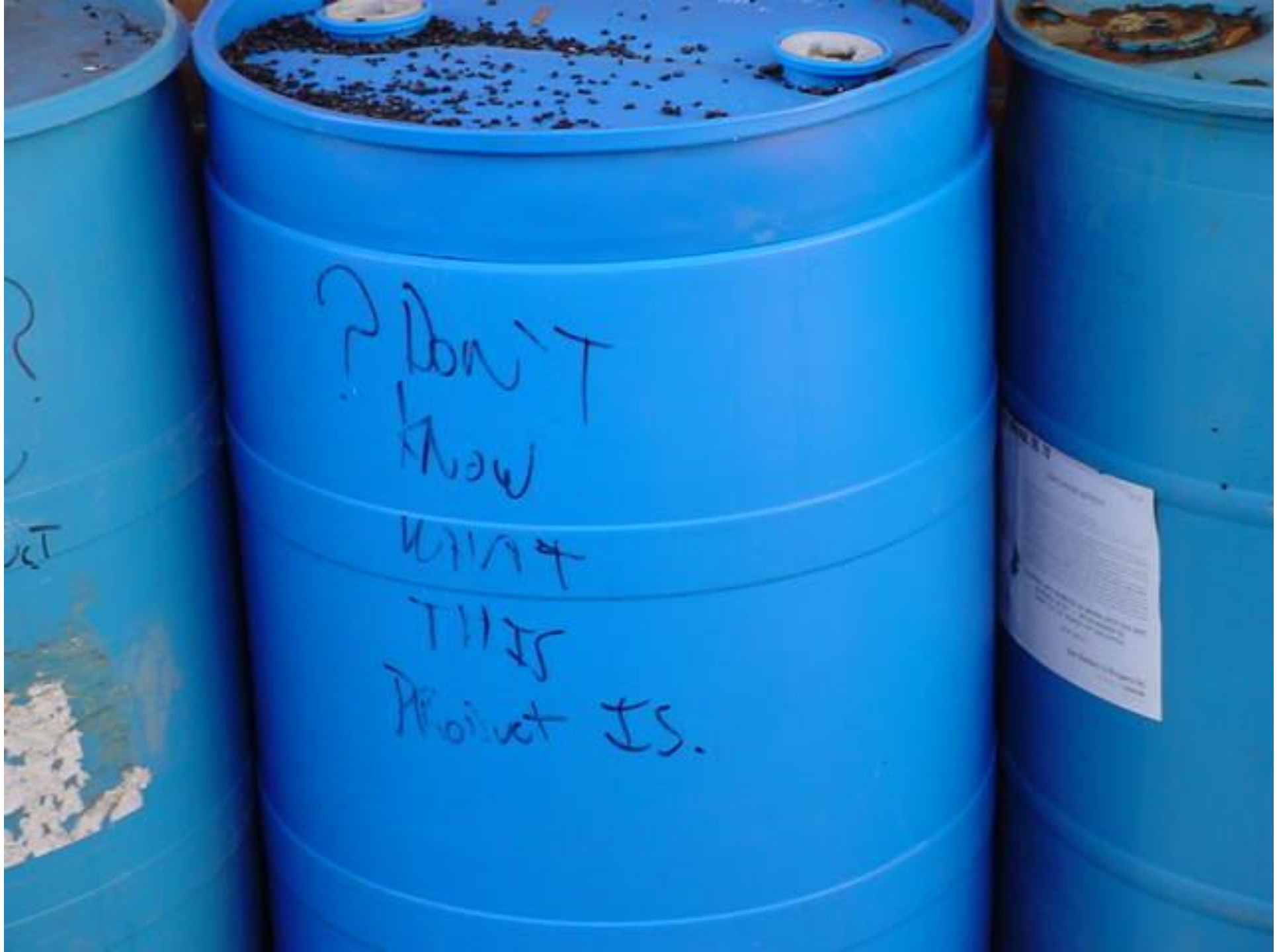

MUST BE
KEPT
UPRIGHT


61
PLEASE
RECYCLE
CORRECTLY
CLEAN SCRAP ONLY
CAUTION
DO NOT
PARK

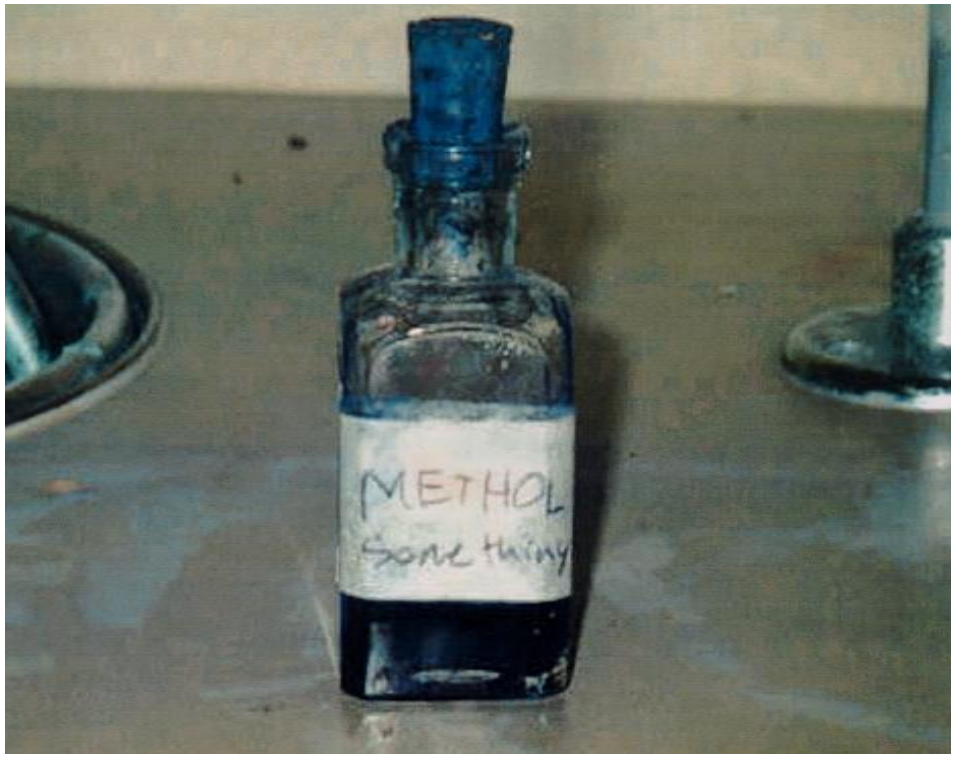
6

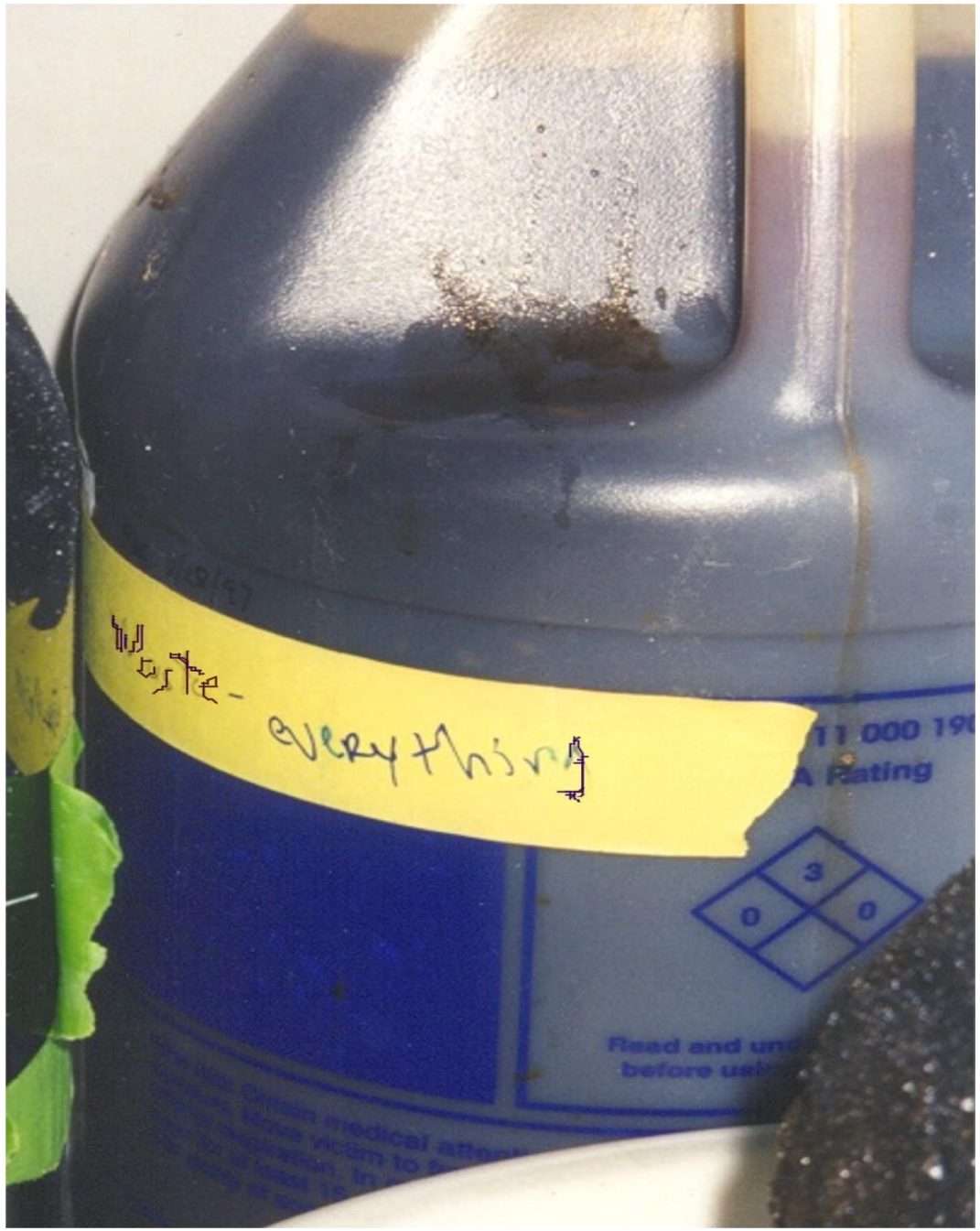
Waste Determination


?UNKNOWN?


? Don't
know
what
this
product is.

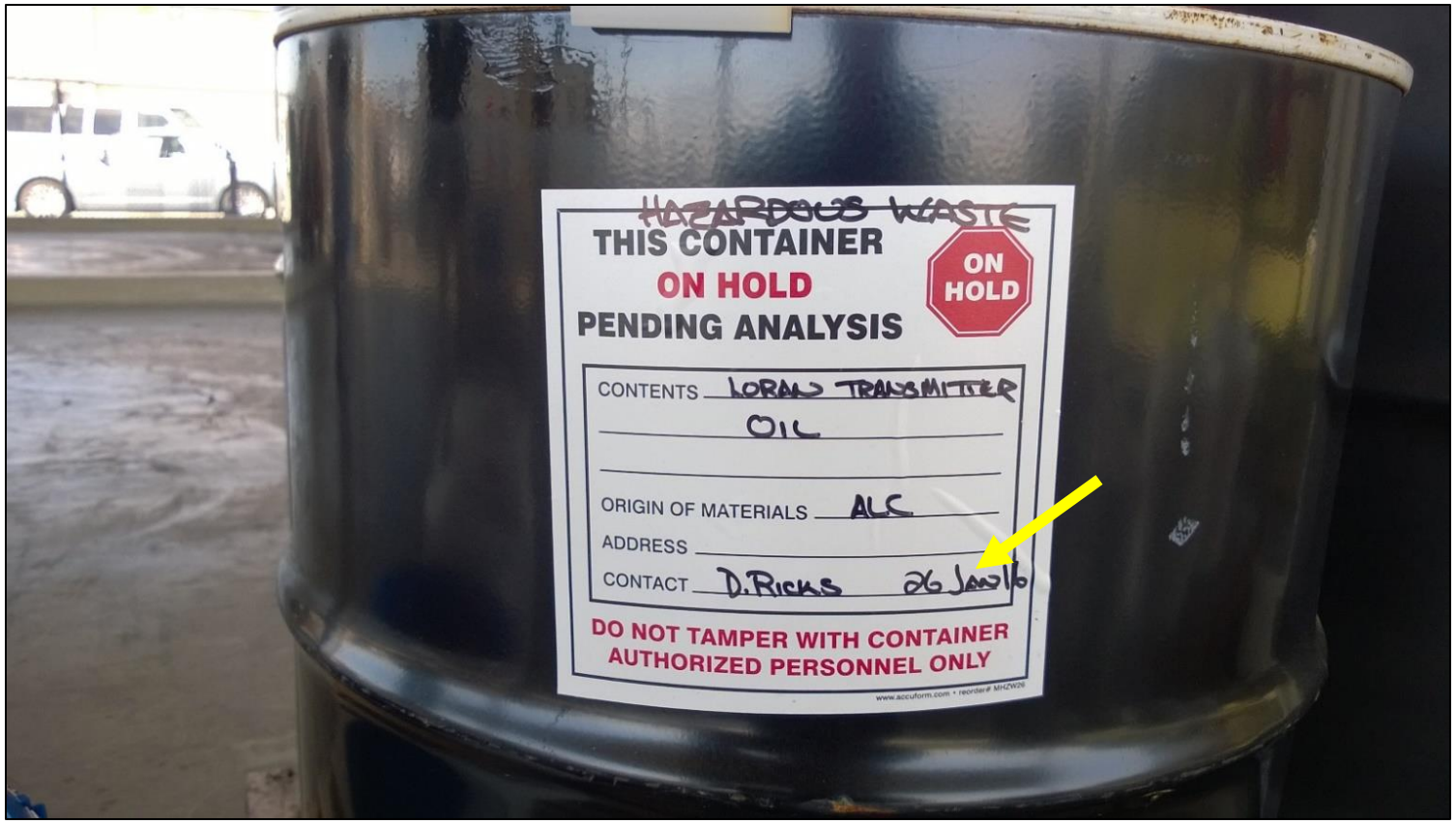

EXIT
FLAMMABLE
INFLAMMABLE
INFLAMMABLE


METHOL
Something


everything
3
0
0


I am,
for disposal
4/10/02
4230

"Unknown Waste"



- Use Proper Labels or Marking
  - "Hazardous Waste Pending Analysis"
- Do not forget to date the container
- Determination and accumulation must be concluded in 90-days (for LQG) or 180 days for SQG

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5

Aisle Space


POISON
FULL DRUM
CORROSIVE
AISLE


EXIT


HCL
HEALTH
FLAMMABILITY
HAZARDOUS WASTE
LOT NUMBER

And ALL labels must be visible

Aisle space violation. Remember any size containers must be at least 2 feet apart at a Central Accumulation Area

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4

Time Frames

Time Frames

- Weekly inspections = not to exceed 7 days between inspections
- Annual RCRA training = 365 days
- Manifests back to generator
  - LQG: after 35 days contact transporter/TSD

    after 45 days file exception report
  - SQG: after 60 days file "exception report"

RCRA Training For LQGs

- Today's training may meet only *part* of your annual RCRA training
  - 40 CFR 262.17(a)(7) - training…must include instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation)
  - Training must include site specific components

Time Frames

Accumulation time limit extension for LQG/SQG:

- A LQG/SQG that accumulates HW for longer than 90/180 days is subject to TSD requirements unless an extension has been granted.
- An extension of up to 30 days may be granted at the discretion of the Hazardous Waste Section on a case-by-case basis.
- An extension may be granted by the HWS if HW must remain on site for longer than 90/180 days due to unforeseen, temporary, and uncontrollable circumstances.

Time Frames

- A SQG may accumulate HW on site for up to 270 days if the HW must be transported over a distance of 200 miles or more for off-site treatment, storage or disposal.

- There are also special extended time frames for LQGs that accumulate F006 (wastewater treatment sludges from electroplating operations).

  - Specific conditions apply (40 CFR 262.17(c), (d), (e)) to gain the extension

Episodic Generation
40 CFR 262 Subpart L

Allows SQG and VSQGs to maintain their generator category if temporarily generating more HW due to an episodic event provided that:

- Planned/unplanned episodic event is limited to one per calendar year
  - Or two events if petition is approved by HWS
- Generator must notify:
  - At least **30 calendar days** prior to initiating a planned episodic event (electronically using myRCRAid) or
  - Within **72 hours** after an unplanned episodic event (by phone, fax, email, and then provide notification electronically using myRCRAid by the end to the event)
- Episodic event must be initiated and completed within **60 days**
- Must meet conditions specified in 40 CFR 262 Subpart L

Notification for SQG and LQG 40 CFR 262.18

- Requires re-notification (8700-12) for SQGs and LQGs;
  - SQGs every four years starting in 2021
    - Must be submitted to the Hazardous Waste Section by September 1 of each year the re-notification is required
  - LQGs by March 1 of each even numbered year (can use biennial report to notify)

3

Used Lamps

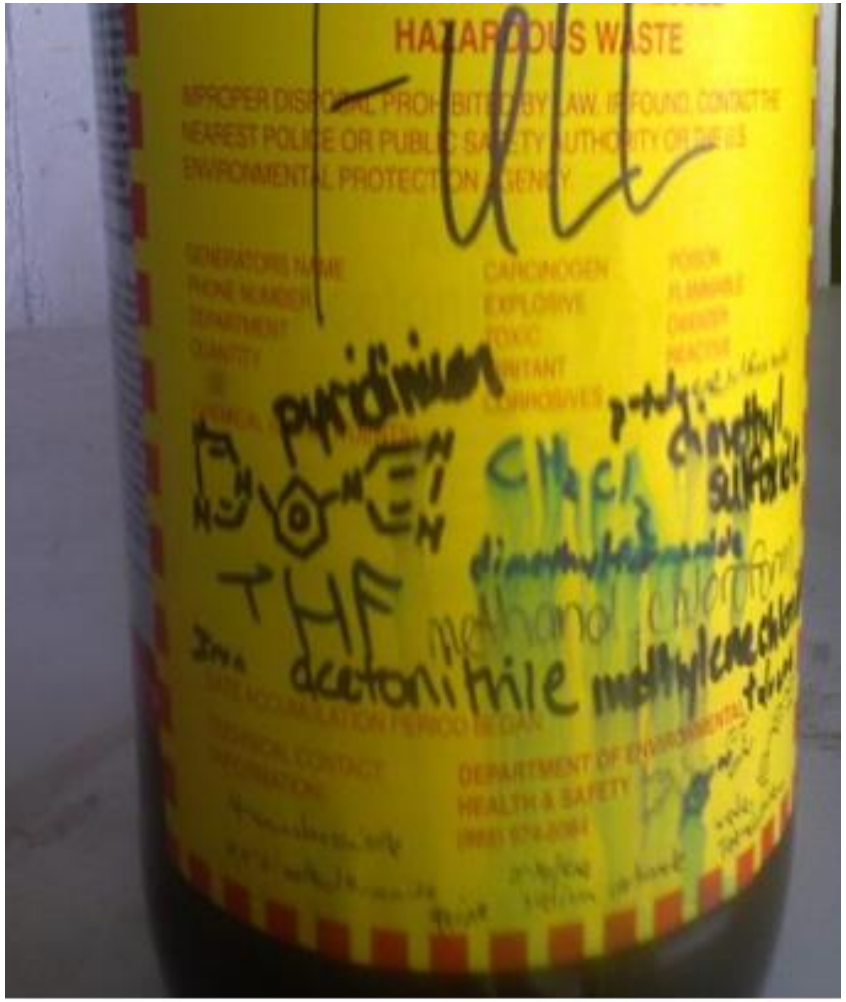

GLASS
HANDLE WITH CARE
UNIVERSAL WASTE

2

Labeling


FLAMMABLE LIQUID
3
HAZARDOUS WASTE
HANDLE WITH CARE!


HAZARDOUS
WASTE
STORAGE
AREA
NO
SMOKING
RECEIVING
DOCK



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SATELLITE
AREA
HAZARDOUS
WASTE

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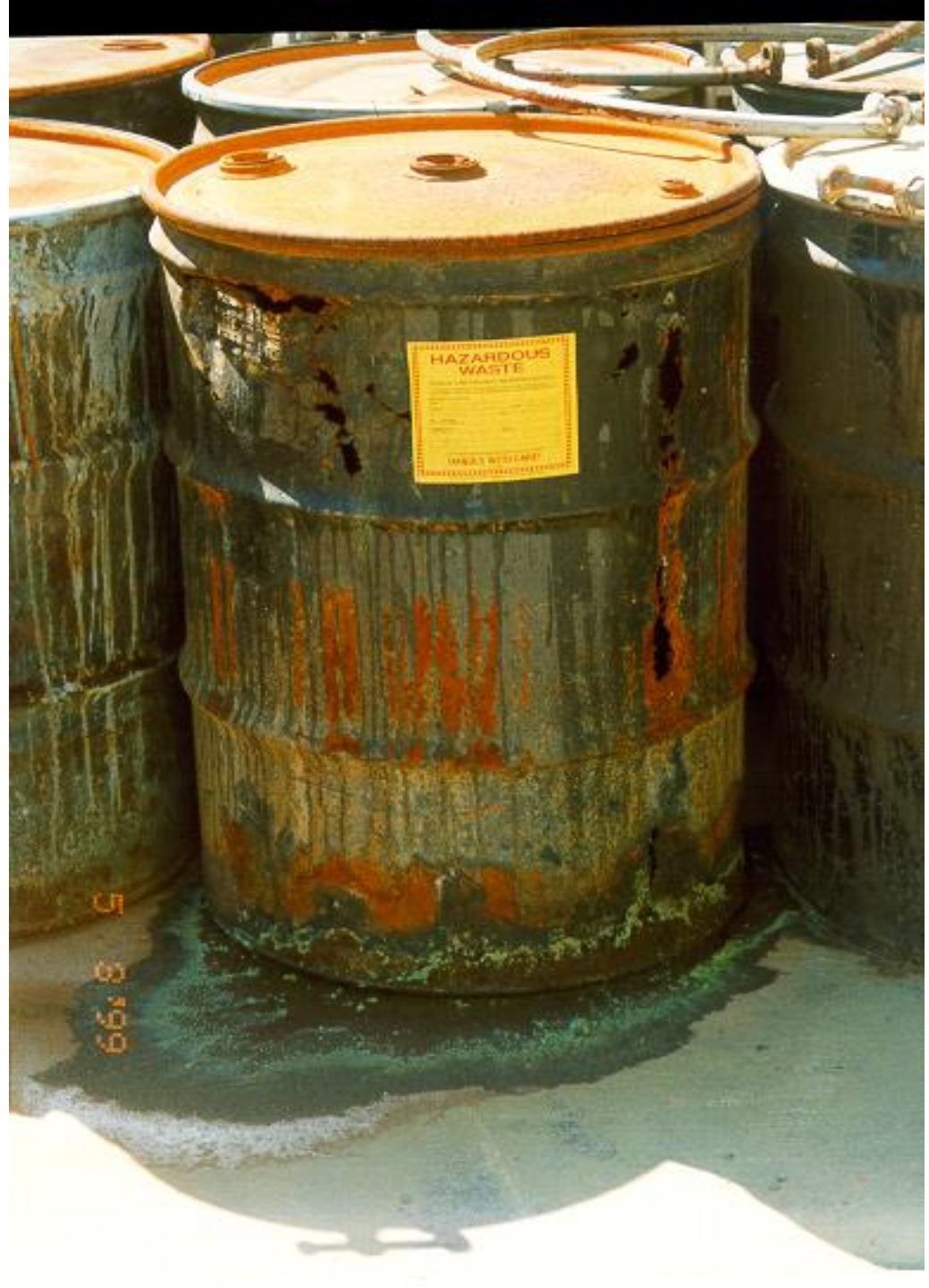
HAZARDOUS
WASTE
6 '99

Examples of Labels that indicate the "Hazards"

The applicable hazardous waste characteristic (i.e**., ignitable, corrosive, reactive, toxic**):

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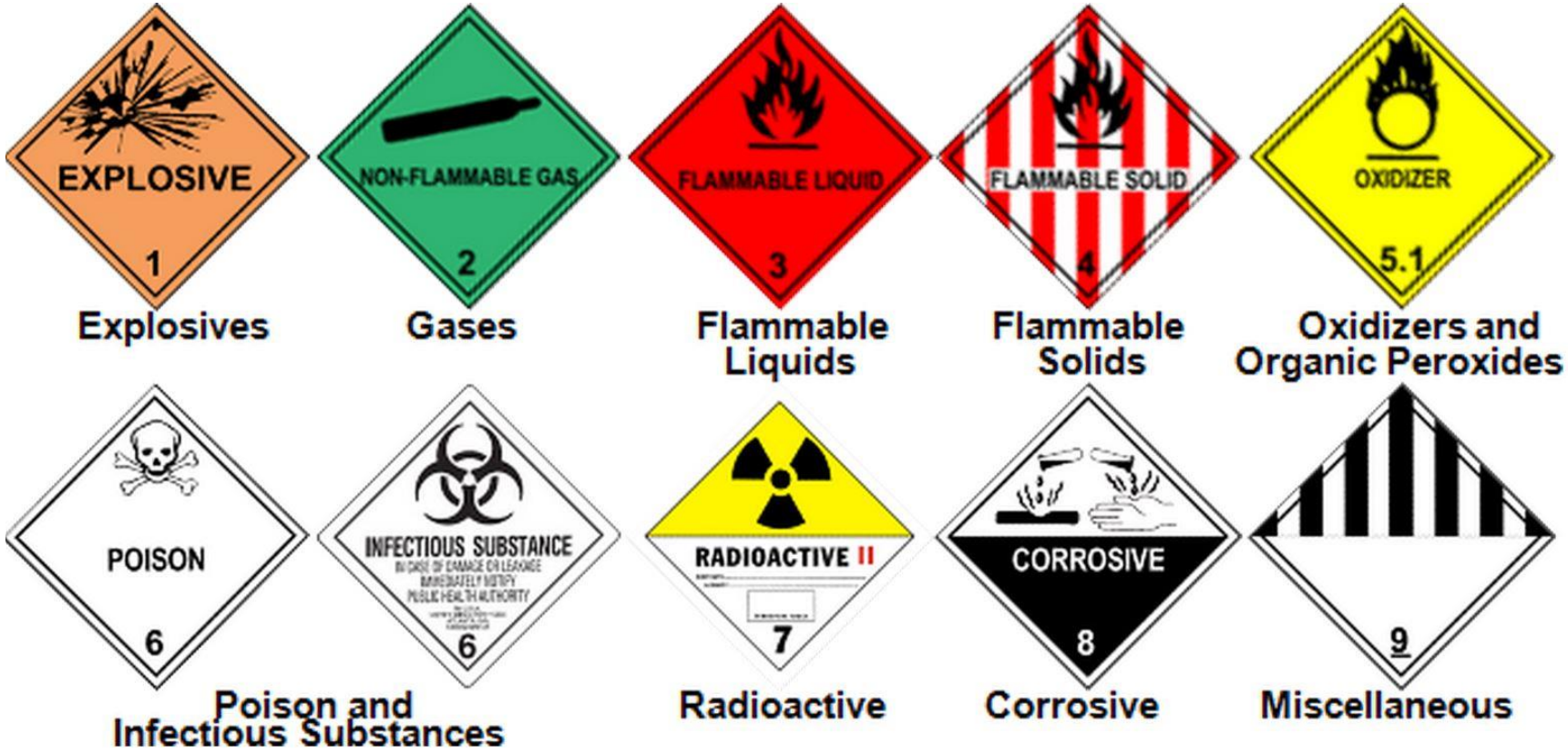
Examples of Labels that indicate the "Hazards"

There are 9 DOT hazard classes. Hazard communication consistent with DOT (49 CFR part 172 Subpart E – Labeling or Subpart F – Placarding)



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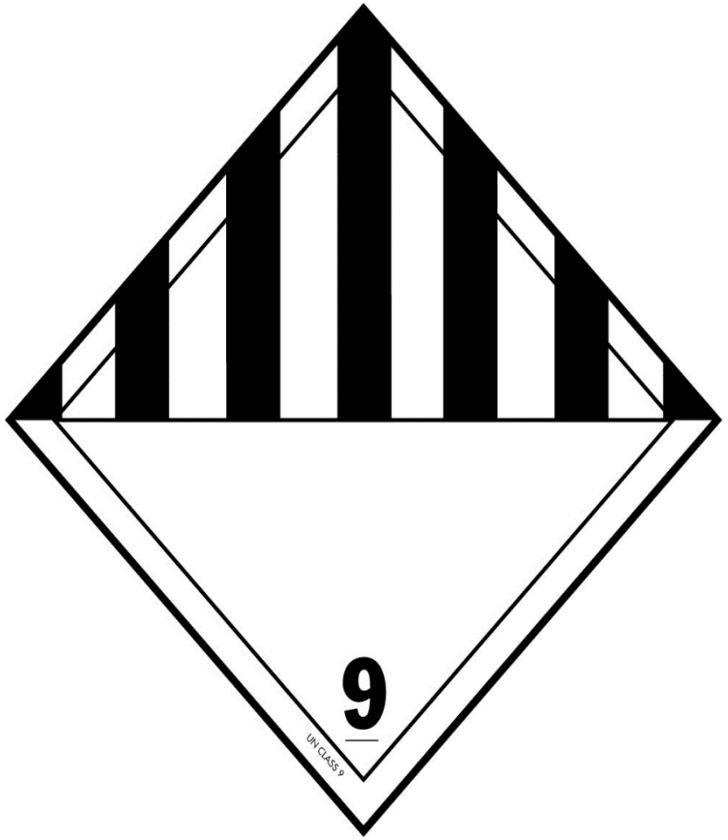
Example of a Label that <u>does not</u> indicate the "Hazards"



DOT Class 9 miscellaneous dangerous goods.

- Not enough info to describe the hazards. Only that it doesn’t meet the other 8 DOT classes.
- Use only with another descriptive term on the container.

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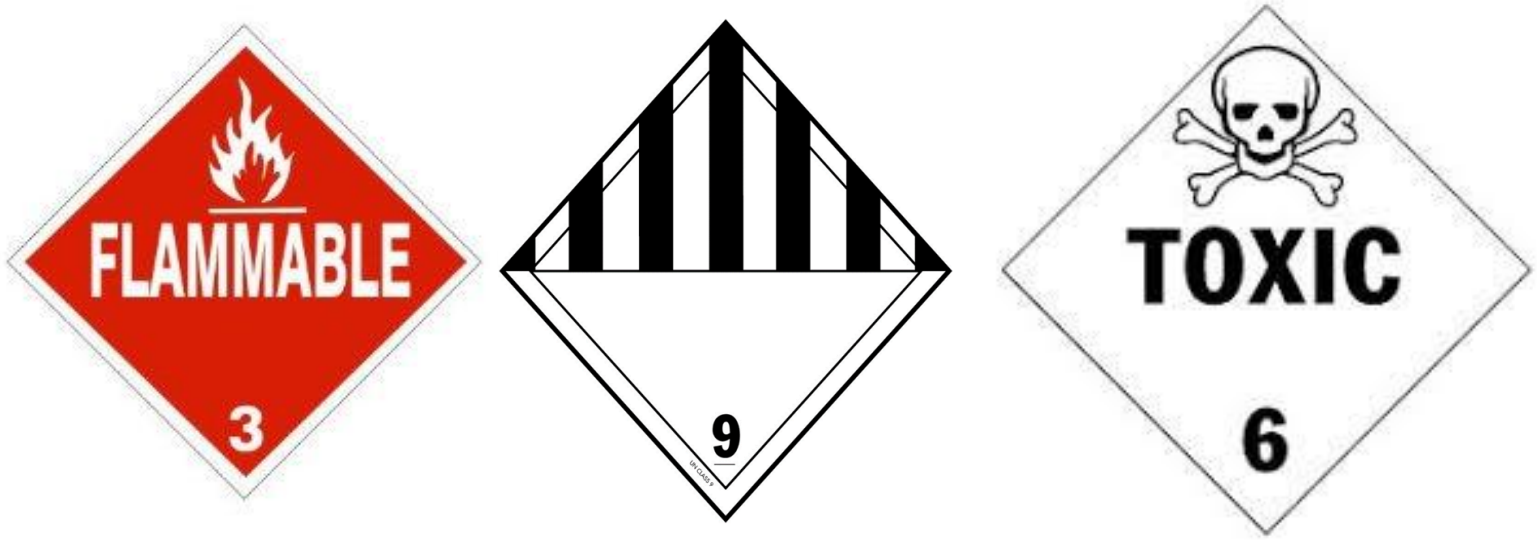
Conflicts using of RCRA Labels and DOT Labels



F005 – Spent non-halogenated solvent

- RCRA requires both an Ignitable and Toxic Indications
- RCRA requires indication for all hazards
- DOT may require Class 3 or Class 3 & 9

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Examples of Labels that indicate the "Hazards"

Hazard statement or pictogram consistent with OSHA (29 CFR 1910.1200). Ex. Globally harmonized system (GHS)

Acute Toxicity – *harmful*

Toxic – *fatal*

Corrosive

Flammable

Self-Reactive

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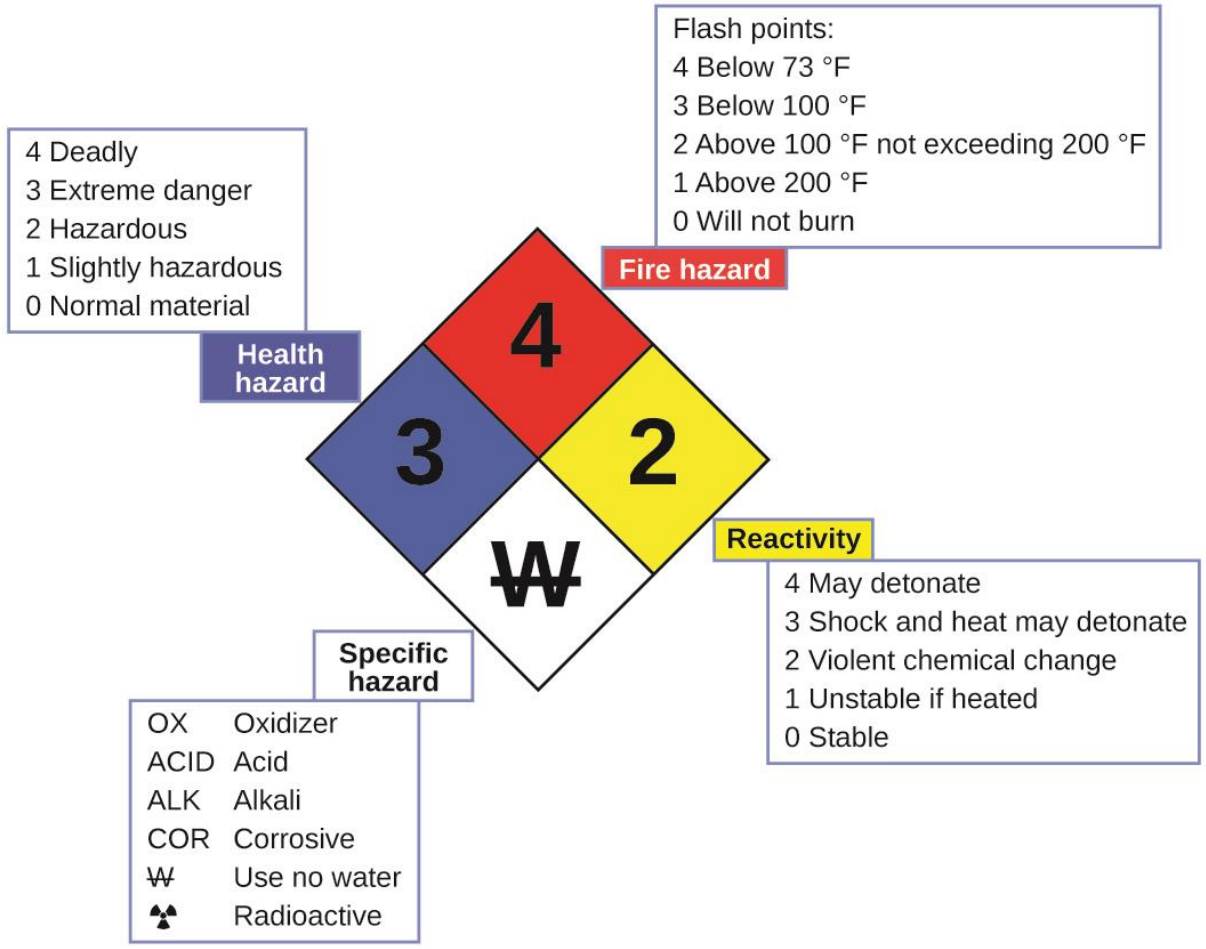
Examples of Labels that indicate the "Hazards"

Chemical hazard label consistent with the National Fire Protection Association code 704



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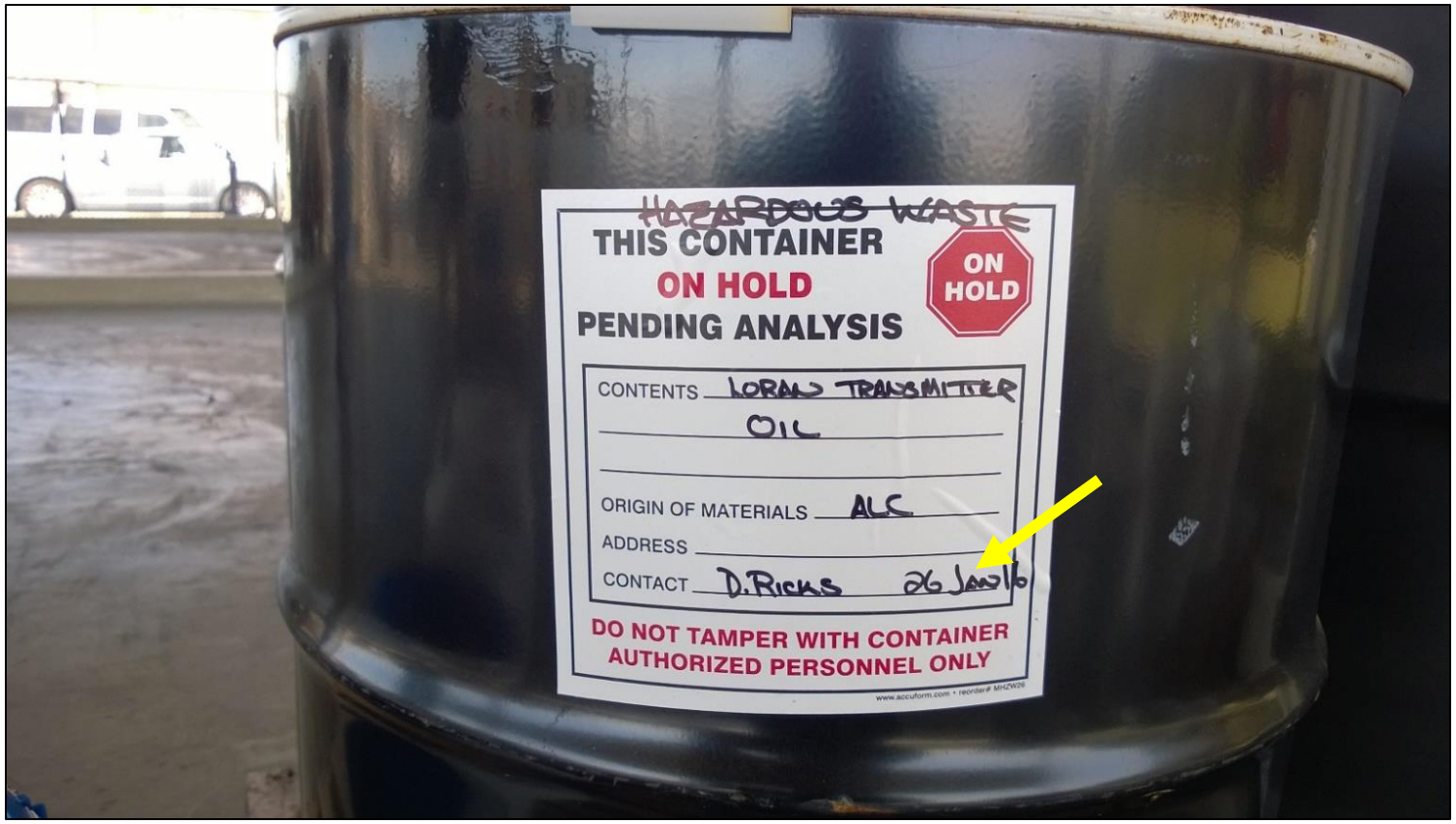
Multiple Hazards

Indication of ALL hazards of the contents


A.D.S.

"Unknown Waste"



- Use Proper Labels or Marking
  - "Hazardous Waste Pending Analysis"
- Do not forget to date the container
- Determination and accumulation must be concluded in 90-days (for LQG) or 180 days for SQG

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Solvent-Contaminated Wipes Labeling

REQUIRED

Bonus Information

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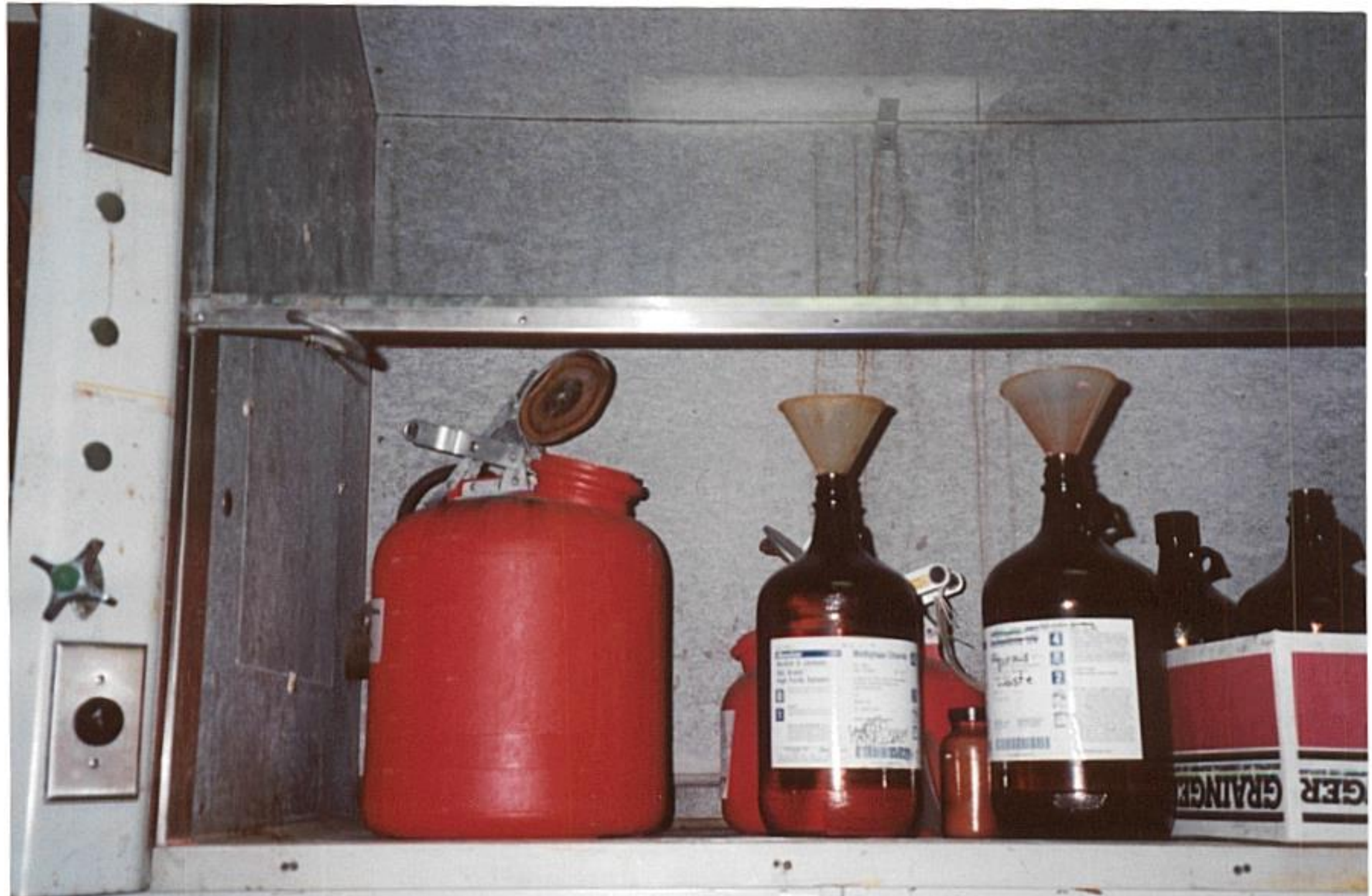
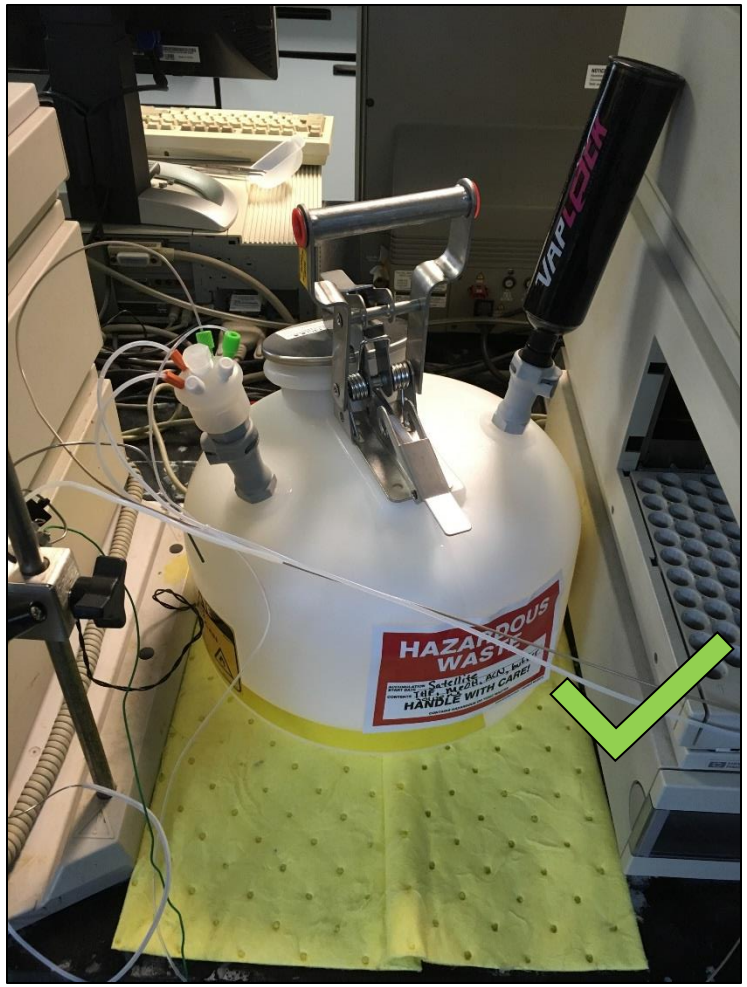
1

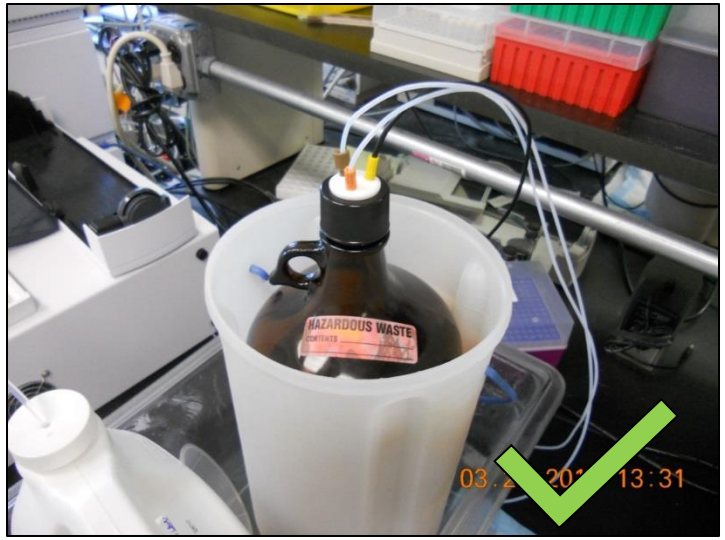
Open Containers

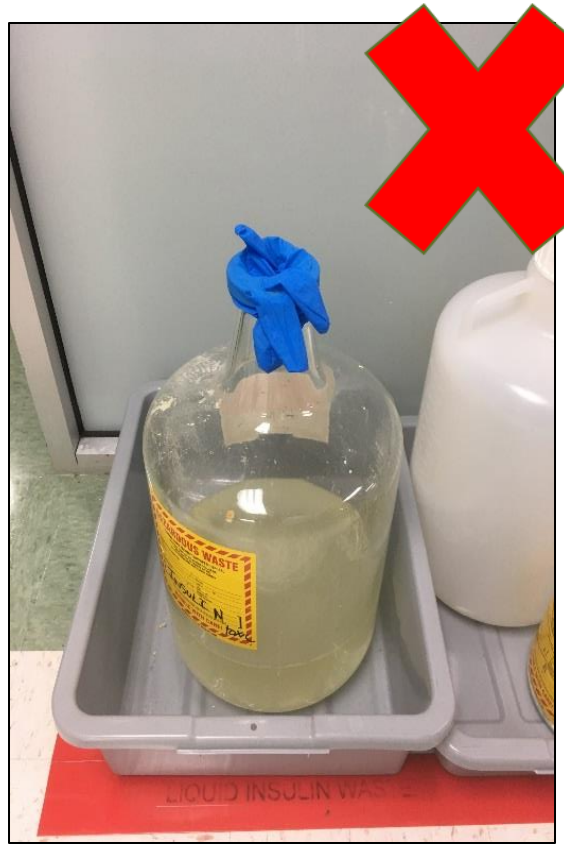

HAZARDOUS
WASTE
HANDLE WITH CARE!


ROACH CONVEYORS




HAZARDOUS WASTE
HANDLE WITH CARE!


HAZARDOUS WASTE




HAZARDOUS WASTE

Lids designed to ensure a closed drum

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Training

Ensure the team knows what requirements are expected to look like.

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VIOLATIONS:

- Open Container
- More than 55 gallons
- No Label

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Guess how far they had to go to find the next EMPTY DRUM??!

BE MINDFUL of level indicators

Old devices may lead to an Open Container violation

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Bonus Tip

Accurately Determine Site's Hazardous Waste Generator Category

Determine Your Hazardous Waste Generator Category Accurately
40 CFR 262.13

- Hazardous waste generator category is determined based on monthly generation of hazardous waste
- Also can hinge on amount of hazardous waste on-site at any time
- Make sure ALL hazardous waste at the site is accounted for

Hazardous Waste Generator Category Guidance

Category of Generator	Quantity of non-acute HW generated in a calendar month	Quantity of acute HW generated in a calendar month	Quantity of residues from a clean-up of acute HW generated in a calendar month	Maximum Accumulation Time	Maximum On-Site Waste Accumulation Amount
Very Small Quantity Generator (VSQG)	≤ 220 lbs. (100 kg)	≤ 2.2 lbs. (1 kg)	≤ 220 lbs. (100 kg)	No time limit	• 2,200 lbs. (1000 kg) non-acute HW at any time (approximately equal to five 55-gallon containers) • ≤ 2.2 lbs. (1 kg) acute HW at any time • ≤ 220 lbs. (100 kg) acute HW from a clean-up at any time
Small Quantity Generator (SQG)	> 220 lbs. (100 kg) but < 2200 lbs. (1000 kg)	≤ 2.2 lbs. (1 kg)	≤ 220 lbs. (100 kg)	180 days; 270 days if TSDF is 200 miles or more from the facility	• 13,200 lbs. (6000 kg) non-acute HW at any time (approximately equal to thirty 55-gallon containers)
Large Quantity Generator (LQG)	≥ 2,200 lbs. (1000 kg)	> 2.2 lbs. (1 kg)	> 220 lbs. (100 kg)	90 days	No quantity limit

Bonus Tip

Hazardous Waste Treatment

Treatment
(N.C.G.S. 130A-290)

"Treatment" means any method, technique or process, including neutralization, designed to:

- change the physical,
- chemical or
- biological character or
- composition

of any hazardous waste so as to neutralize such waste or so as to render such waste nonhazardous, safer for transport, amenable for recovery, amenable for storage or reduced in volume.

"Treatment" includes any activity or processing designed to change the physical form or chemical composition of hazardous waste so as to render it nonhazardous.

Treatment
N.C.G.S. 130A-290

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"Treatment" includes any activity or processing designed to change the physical form or chemical composition of hazardous waste so as to render it nonhazardous.

Allowable Treatment Without Permit
40 CFR 270.1(c)(2)

Here are a few forms of treatment allowed without a permit (list not all inclusive) but **USE CAUTION (recommend contacting HWS to ensure compliance)**:

- Treatment in Elementary Neutralization Unit
  - Must meet definition in 40 CFR 260.10
  - Waste must only be characteristic for pH
  - Must meet Land Disposal Restrictions (Universal Treatment Standards for D002)
- Treatment in a Wastewater Treatment Unit
  - Must meet definition in 40 CFR 260.10 (HW must be treated in tank that has CWA permit)
- SQG and LQGs may treat in a container or tank meeting 180-day (for SQG) or 90-day (for LQG) meeting central accumulation area requirements.

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Allowable Treatment Without Permit

40 CFR 270.1(c)(2)

Here are a [redacted] all inclusive) but **USE CA[redacted]npliance)**:

- Treatmen[redacted]
  - Must m[redacted]
  - Waste[redacted]
  - Must m[redacted]rds for D002)
- Treatmen[redacted]
  - Must m[redacted] that has CWA permit)
- SQG and LQGs may treat in a container or tank meeting 180-day (for SQG) or 90-day (for LQG) meeting central accumulation area requirements.

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Evaporation= Treatment

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Solidification = Treatment

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Lamp Crushing = Treatment

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Compaction = Treatment

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Bonus Tip

Organization


2 HEALTH
2 FLAMMABILITY
REACTIVITY
B PROTECTIVE EQUIPMENT


APR 28 2004

North Carolina Hazardous Waste Rule Updates

What is covered?

- Aerosol Cans as Universal Waste
- Management of Hazardous Waste Pharmaceuticals and Amendment of P075 Nicotine Listing
- Modernizing Ignitable Liquids Determination

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Adding Aerosol Cans to the Universal Waste Regulations

Adding Aerosol Cans to the Universal Waste Regulations

- Final Federal Rule effective February 7, 2020
- Also effective in North Carolina on February 7, 2020
- Adds aerosol cans to 40 CFR 273 Universal Waste Regulations

"Aerosol can means a non-refillable receptacle containing a gas compressed, liquefied, or dissolved under pressure, the sole purpose of which is to expel a liquid, paste, or powder and fitted with a self-closing release device allowing the contents to be ejected by the gas."

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Allowed Activities involving Universal Waste Aerosol Cans

- *Intact* container in which gas is under pressure
  - May be sorted into type
  - May be mixed in one container
  - May remove actuators to reduce risk of release

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Adding Aerosol Cans to the Universal Waste Regulations

Universal Waste Aerosol Cans must be (not all inclusive of all requirements):

- Managed in a way that prevents releases of the UW or any component
- Accumulated in a container that is structurally sound, compatible with the contents and lacks evidence of leakage, spillage, or damage and protected from sources of heat
- Labeled (each aerosol can or container in which the cans are contained) with one of the following phrases:
  - "Universal Waste – Aerosol Can(s)"
  - "Waste Aerosol Can(s)"
  - "Used Aerosol Can(s)"
- May not be accumulated on-site for more than one year

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Puncturing and Draining Aerosol Cans

If cans are *<u>punctured and drained</u>*:

- The empty can must be recycled
- A device must be used that is specifically designed to safely puncture cans & effectively contain the residual contents and any emissions

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Puncturing and Draining Aerosol Cans

If cans are *punctured and drained (not all inclusive of all requirements):*

- A written procedure must be established detailing how to safely puncture & drain cans
- Ensure puncturing of cans is done in a manner designed to prevent fires and releases of any component to the environment; maintain copy of manufacture's specs
- Immediately transfer contents from the waste aerosol can, or puncturing device, if applicable, to a container or tank that meets the applicable requirements (for VSQG, SQG, LQG or satellite accumulation)
- Conduct a HW determination on the emptied aerosol can and its contents per 40 CFR 262.11
- Any HW generated as a result of puncturing/draining is subject to all applicable HW rules and must be managed accordingly
- A written procedure must be in place in the event of a spill or release and a spill clean-up kit must be provided
- A spill or releases of the contents must be cleaned up promptly

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Adding Aerosol Cans to the Universal Waste Regulations

For More Information:

https://www.epa.gov/hw/increasing-recycling-adding-aerosol-cans-universal-waste-regulations

NCDEQ, Hazardous Waste Section Guidance:

https://deq.nc.gov/about/divisions/waste-management/hw/technical-assistance-education-guidance/documents

Go to "Aerosol Cans"

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Management Standards for Hazardous Waste Pharmaceuticals and Amendment to the P075 Listing for Nicotine Final Rule

Management Standards for Hazardous Waste Pharmaceuticals

- Effective on the federal level August 21, 2019
- Two parts of the Rule are effective in NC at the same time as the federal rule effective date (August 21, 2019):
  - Amendment of the nicotine listing (40 CFR 261.33)
    - This is applicable to all facilities and independent of whether the facility is a healthcare or reverse distributor
  - Prohibition on sewering of HW pharmaceuticals
- North Carolina had to adopt provisions 40 CFR 266 subpart P
  - Effective date in NC was July 1, 2020
  - Remember the two provisions that are already in effect in NC (mentioned above)

Management Standards for Hazardous Waste Pharmaceuticals

For more information on the federal rule (including FAQs and history):

https://www.epa.gov/hwgenerators/final-rule-management-standards-hazardous-waste-pharmaceuticals-and-amendment-p075

Direct Link to Frequent Questions:

https://www.epa.gov/hwgenerators/frequent-questions-about-management-standards-hazardous-waste-pharmaceuticals-and

Amendment to the P075 Listing for Nicotine

- Effective in North Carolina on August 21, 2019
- The P075 listing for nicotine is amended such that FDA-approved over-the-counter nicotine replacement therapies are no longer included under the P075 listing as an acute hazardous waste
  - This includes nicotine patches, gums and lozenges
- Nicotine patches, gums and lozenges can be discarded as nonhazardous waste

≠ P075

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What was the P075 listing and how did it change?

P075 Listing in 40 CFR 261.33(e) **effective August 21, 2019**:

Hazardous waste No.	Chemical abstracts No.	Substance
P075	154-11-5	Nicotine, & salts (this listing does not include patches, gums and lozenges that are FDA-approved over-the-counter nicotine replacement therapies).
P075	154-11-5	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts (this listing does not include patches, gums and lozenges that are FDA-approved over-the-counter nicotine replacement therapies).

Nicotine is still listed as P075

- Nicotine continues to be a listed, acute hazardous waste with the hazardous waste code P075
  - Other unused formulations of nicotine will still be considered P075 when discarded, including
  - E-liquids/e-juices in e-cigarettes, cartridges, or vials
  - Legacy pesticides containing nicotine
  - Nicotine used in research and manufacturing

= P075

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Sewer Prohibition

- Hazardous waste pharmaceuticals may not be sewered (e.g., no disposal down the drain and no flushing)
- The sewer prohibition applies to:
  - All healthcare facilities, including healthcare facilities that are VSQGs
  - All reverse distributors
  - Hazardous wastes that are DEA controlled substances are also subject to the sewer prohibition
- EPA strongly discourages sewering of any pharmaceuticals by any entity
- The sewer prohibition was effective in ALL states on August 21, 2019
- EPA will administer and enforce this provision until NC adopts it

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Management Standards for Hazardous Waste Pharmaceuticals 40 CFR 266 subpart P

- Applies to hazardous waste pharmaceuticals generated at a healthcare facility and reverse distributors
- Does not apply to pharmaceutical manufacturers (***but does apply to a nurse's office/clinic at the facility***)
- Requirements are found in 40 CFR 266 subpart P ("subpart P")
  - Considered to be more stringent… so not optional unless facility is VSQG when counting TOTAL hazardous waste generated at facility
  - The sewer prohibition is mandatory (even if facility is VSQG)

Applicability Summary

Are you a healthcare facility or reverse distributor?
(Applies if only a portion of the facility is a healthcare facility)

Do you generate pharmaceutical waste?

Is it a hazardous waste?

Sewer Prohibition Applies
Effective Aug. 21, 2019

Determine whether
Subpart P applies

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What is a Healthcare Facility?
40 CFR 266.500

Healthcare facility means any person that is lawfully authorized to:

- 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.
- Distribute, sell, or dispense pharmaceuticals, including OTC pharmaceuticals, dietary supplements, homeopathic drugs, or prescription pharmaceuticals.

Examples of Healthcare Facilities

- Hospitals
- Psychiatric Hospitals
- Ambulatory Surgical Centers
- Health Clinics
- Physicians Offices
- Optical & Dental Providers
- Chiropractors
- Long-term Care Facilities
- Ambulance Services
- Pharmacies
- Retailers of OTC Medications
- Veterinary Clinics/ Hospitals

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What is a Healthcare Facility?
40 CFR 266.500

- Healthcare facility may be part of a site ("co-located" at a site) so these provisions could apply to a manufacturing (or other) site that has a healthcare component (e.g., nurse's office, clinic, a room with a first aid kit).
- Subpart P can apply to any hazardous waste pharmaceuticals generated from employee blood monitoring or from administration of vaccines.
- Tips:
  - Track inventory and ensure any hazardous waste pharmaceuticals are legitimately used for intended purpose so it won't have to be disposed.
  - Carefully evaluate any events that can cause a portion of the site to be considered a healthcare facility.

What is a Pharmaceutical?

Pharmaceutical:

- Any drug or dietary supplement for use by humans or other animals, any electronic nicotine delivery system, or any liquid nicotine packaged for retail for use in electronic nicotine delivery systems (e.g., pre-filled cartridges or vials).

Examples of Pharmaceuticals

- Dietary Supplements
- Prescription Drugs
- OTC Drugs
- Homeopathic Drugs
- Compounded Drugs
- Investigational Drugs
- Pharmaceuticals Remaining in Containers
- Personal Protective Equipment (contaminated)
- Clean-up Materials from Pharmaceutical Spills

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What is a Hazardous Waste Pharmaceutical?

A pharmaceutical that is a solid waste (per 40 CFR 261.2), and

- Exhibits one or more characteristic (40 CFR 261 Subpart C) and/or
  - Ignitable, corrosive, reactive, and/or toxic
- Is a listed hazardous waste (40 CFR 261 Subpart D)
  - F, K, P, and U lists

- A pharmaceutical is not a solid waste if it is legitimately used/reused or reclaimed.
- OTC pharmaceuticals are not solid wastes if it has a reasonable expectation of being legitimately used/reused or reclaimed.

What is not considered Hazardous Waste?

These are not hazardous waste unless they have been mixed with hazardous waste:

- Medical Waste
  - Link to the NCDEQ, Solid Waste Section website for information about medical waste: https://deq.nc.gov/about/divisions/waste-management/medical-waste
- Biohazards
- Radioactive Material/Waste
- Household Hazardous Waste
- Asbestos
- PCBs

How do you know if 40 CFR 266 subpart P applies?

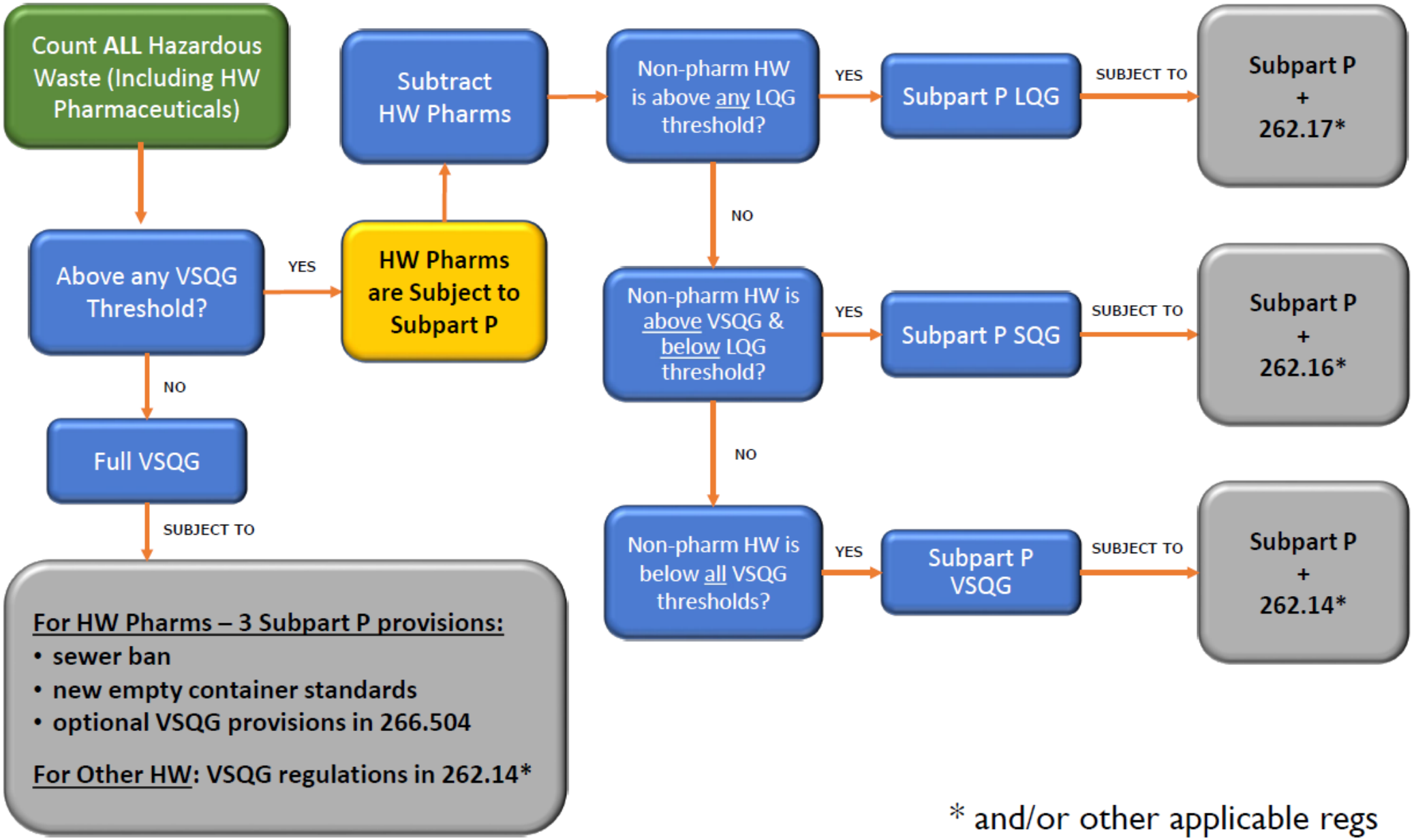
40 CFR subpart P applies to:

- Facilities (both healthcare facilities and when a portion of the facility is a healthcare facility) that generate SQG or LQG **total** amounts of hazardous waste

  Total HW at facility = HW pharmaceuticals + non-pharmaceutical HW

- All Reverse Distributors (regardless of HW generator category)
- Healthcare facilities that generate VSQG **total** amounts of HW (HW pharm + non-pharm HW) must comply with sewer prohibition, but have the option to either comply with 40 CFR 262.14 or subpart P.

Applicability Flow Chart for Healthcare Facilities



* and/or other applicable regs

Management Standards for Hazardous Waste Pharmaceuticals

- Hazardous waste pharmaceuticals must be managed under Part 266 subpart P by:
  - Healthcare facilities that generate above VSQG amounts of hazardous waste
  - All reverse distributors
- Part 266 subpart P is both waste-specific and sector-specific; it does NOT apply to the management of:
  - Non-pharmaceutical hazardous waste
  - Hazardous waste pharmaceuticals by facilities other than healthcare facilities and reverse distributors
  - Over the counter pharmaceuticals (and other unsold retail items) from healthcare facilities with reasonable expectation of legitimate use/reuse that are sent to reverse logistics center
- Healthcare facilities and reverse distributors are still subject to
  - Part 262 for the management of non-pharmaceutical hazardous wastes
  - Part 273 for the management of universal wastes,
  - Other Parts, as applicable

Categories for Hazardous Waste Pharmaceuticals in Subpart P

- Potentially Creditable HW Pharmaceuticals
  - Unused or un-administered; and
  - Unexpired or less than one year past expiration date

- Non-creditable HW Pharmaceuticals
  - Hazardous waste pharmaceutical that is not expected to be eligible for manufacturer's credit

- Evaluated HW Pharmaceuticals
  - No further evaluation or verification of manufacturer credit is necessary

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Hazardous Waste Pharmaceutical Management Standards

- Conditional exemption for HW pharmaceuticals that are also controlled substances (under DEA) as long as they are managed/disposed under DEA
- "RCRA Empty" for HW pharmaceutical containers added to 40 CFR 261.7

Modernizing Ignitable Liquids Determinations

Modernizing Ignitable Liquids Determinations

- Final Federal Rule effective September 8, 2020
- Also effective in North Carolina on September 8, 2020
- Amends the Test Methods and RCRA Definition of Ignitability

Modernizing Ignitable Liquids Determinations

- Updated the test methods under 40 CFR 261.21 required for measuring the flash point of a liquid waste when determining if that waste is an ignitable hazardous waste
- EPA codified existing guidance regarding the definition of aqueous for purposes of 40 CFR 261.21(a)(1).
- Updated cross references to Department of Transportation (DOT) regulations and also made other conforming amendments and technical corrections.
- Added mercury thermometer alternatives in the air sampling and stack emissions test methods.

Modernizing Ignitable Liquids Determinations

Old definition for RCRA ignitable liquids (40 CFR 261.21(a)(1)):

It is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume and has flash point less than 60 °C (140 °F), as determined by a Pensky-Martens Closed Cup Tester, using the test method specified in ASTM Standard D 93-79 or D 93-80 (incorporated by reference, see §260.11), or a Setaflash Closed Cup Tester, using the test method specified in ASTM Standard D 3278-78 (incorporated by reference, see §260.11).

Modernizing Ignitable Liquids Determinations

New definition for RCRA ignitable liquids (40 CFR 261.21(a)(1)):

It is a liquid, other than a solution containing less than 24 percent alcohol by volume and at least 50 percent water by weight, that has a flash point less than 60 °C (140 °F), as determined by using one of the following ASTM standards: ASTM D 93–79, D 93–80, D 3278–78, D 8174–18 or D 8175–18 as specified in SW–846 Test Methods 1010B or 1020C (incorporated by reference, see § 260.11 of this subchapter).

Modernizing Ignitable Liquids Determinations

Old definition for RCRA compressed gas (40 CFR 261.21(a)(3)(ii)):

(ii) A compressed gas shall be characterized as ignitable if any one of the following occurs:

(A) Either a mixture of 13 percent or less (by volume) with air forms a flammable mixture or the flammable range with air is wider than 12 percent regardless of the lower limit. These limits shall be determined at atmospheric temperature and pressure. The method of sampling and test procedure shall be acceptable to the Bureau of Explosives and approved by the director, Pipeline and Hazardous Materials Technology, U.S. Department of Transportation (see Note 2).

(B) Using the Bureau of Explosives' Flame Projection Apparatus (see Note 1), the flame projects more than 18 inches beyond the ignition source with valve opened fully, or, the flame flashes back and burns at the valve with any degree of valve opening.

NORTH CAROLINA
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Modernizing Ignitable Liquids Determinations

New definition for RCRA compressed gas (40 CFR 261.21(a)(5)):

(ii) A compressed gas shall be characterized as ignitable if any one of the following occurs:

A) Either a mixture of 13 percent or less (by volume) with air forms a flammable mixture or the flammable range with air is wider than 12 percent regardless of the lower limit. These limits shall be determined at atmospheric temperature and pressure. The method of sampling and test procedure shall be the ASTM E 681–85 (incorporated by reference, see § 260.11 of this subchapter), or other equivalent methods approved by the Associate Administrator, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation.

(B) It is determined to be flammable or extremely flammable using 49 CFR 173.115(l).

Modernizing Ignitable Liquids Determinations

Old definition for RCRA oxidizer (40 CFR 261.21(a)(4)):

(4) It is an oxidizer. An oxidizer for the purpose of this subchapter is a substance such as a chlorate, permanganate, inorganic peroxide, or a nitrate, that yields oxygen readily to stimulate the combustion of organic matter (see Note 4).

(i)(A) The material meets the definition of a Class A explosive or a Class B explosive, as defined in §261.23(a)(8), in which case it must be classed as an explosive,

* * * * *

(i)(D) According to data on file with the Pipeline and Hazardous Materials Safety Administration in the U.S. Department of Transportation (see Note 3), it has been determined that the material does not present a hazard in transportation.

Modernizing Ignitable Liquids Determinations

New definition for RCRA oxidizer (40 CFR 261.21(a)(4)):

(4) It is an oxidizer. An oxidizer for the purpose of this subchapter is a substance such as a chlorate, permanganate, inorganic peroxide, or a nitrate, that yields oxygen readily to stimulate the combustion of organic matter ~~(see Note 4)~~.

(i)(A) The material meets the definition of a Division 1.1, 1.2, or 1.3 explosive, as defined in § 261.23(a)(8), in which case it must be classed as an explosive,

* * * * *

(i)(D) According to data on file with the Pipeline and Hazardous Materials Safety Administration in the U.S. Department of Transportation ~~(see Note 3)~~, it has been determined that the material does not present a hazard in transportation.

- Notes 1- 4 were removed from 40 CFR 261.21

Modernizing Ignitable Liquids Determinations

For More Information:

https://www.epa.gov/hw-sw846/final-rule-modernizing-ignitable-liquids-determinations

Questions?

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North Carolina Department of Environmental Quality
Division of Waste Management
Hazardous Waste Section - Compliance Branch

REGIONAL INSPECTOR MAP

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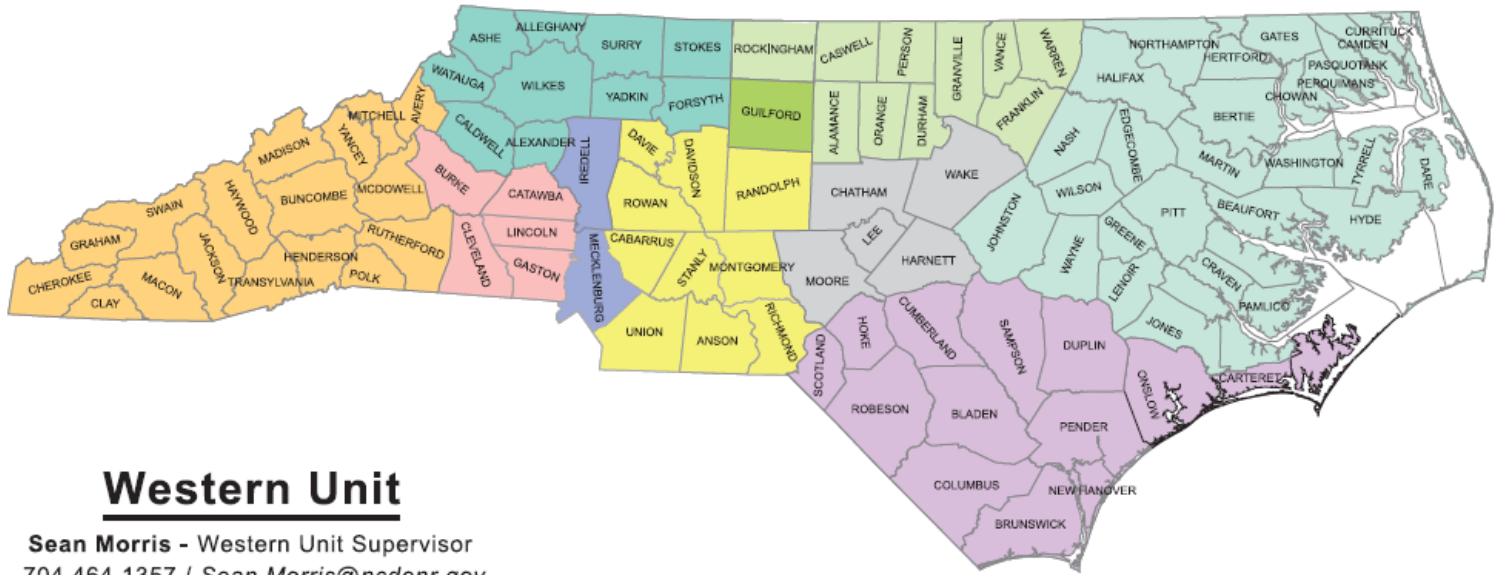

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