

# “Where’s the Waste?, and Where are you Storing It?”

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# Container Management.



**What is a container?**

# Definition of a Container:

- 40 CFR 260.10 Subpart B:

A container mean any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.

Can you show me some examples????

# Most Common Container found:



# Other Containers Include:



# Other Containers Include:



# Other Containers Include:



# Other Containers Include:





# Other Containers Include:

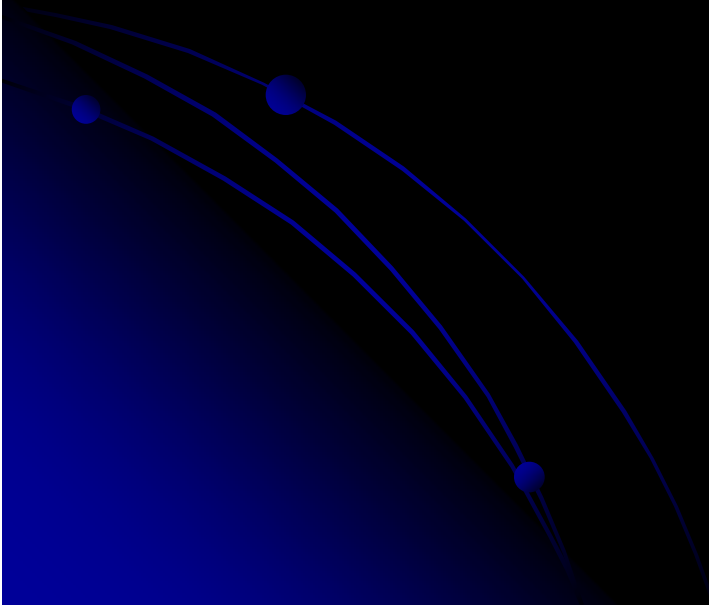


# Other Containers Include:



# Other Containers Include:

- Boxes (various sizes and materials)
- One cubic yard heavy duty cardboard boxes with a plastic liner (gaylord boxes)



# But what “kind” of container do you have?!?

- What the Department’s inspector means, is your hazardous waste container:

a) Satellite Accumulation Container?,  
OR

b) Hazardous Waste Storage  
Container?

# Satellite Accumulation Container




# Satellite Accumulation Container

- Typically the beginning of the hazardous waste container management cycle.

(Logical place to start)

- Most generators will have at least one (1), but may have more satellite accumulation containers accumulating waste onsite, before a storage drum is ever created.

Once an inspector sees a hazardous waste satellite accumulation container. What are we (the inspector) going to look for?



# Satellite Accumulation Container (SAC) Requirements:

- 40 CFR 262.34(c)1 – The generator does not accumulate more than **55 gallons** of hazardous waste or **one quart** of acutely hazardous waste (listed in §261.33(e) .
- The SAC is **at or near any point** of generation where wastes initially accumulate, **AND** is **under the control** of the operator of the process generating the waste.



# 40 CFR 262.34(c)1 continued:

If these requirements are met, then there is no limit on the amount of time waste can be stored in SAC.

(Excerpts from the Revised Satellite Accumulation Policy)

- The goal is that this temporary accumulation is performed responsibly and **safely**, with adequate oversight and control.
- The applicability of the satellite accumulation provision will always depend upon a generator's particular set of circumstances, which are site-specific.
- Therefore, any questions regarding specific wastes at specific facilities are best answered by the agency implementing the RCRA program for that particular facility

## However.....

If a generator accumulates waste **in excess of the amounts listed** in paragraph (c)(1) of this section, at or near any point of generation must, with respect to that amount of excess waste, must within **three days**:

- a) Mark the container holding the excess accumulation of hazardous waste with the **date the excess amount began**.
- b) During the three day period the generator must continue to comply with paragraphs (c)(1)(i) and (ii) of this section.

## Having said that.....

- The generator can continue to store the container or containers, containing the excess amounts of hazardous waste, at the satellite area for an additional three days.
- After three consecutive days the SAC(s) “MUST BE” moved to either a designated Hazardous Waste Storage Area (HWSA) on-site, be managed as a HWSA, or shipped off-site for disposal.

# Most Common Satellite Accumulation Container (SAC) Requirements:

- 40 CFR 262.34(c)1(ii) - Mark containers either with the words **“Hazardous Waste”** or with **other words that identify** the contents of the containers.
  - A label or tag on the container is acceptable.
  - Other acceptable wording for example is “Acetone Waste”, “Waste Paint” and “Spent Solvent Waste”.
  - The key is that the label or mark must indicate that the material is a hazardous waste and not a raw material or product.

# Common problems seen with 40 CFR 262.34(c)1(ii)



# How it should/can be done:



# SAC Excess Waste Handling:



# Secondary Containment

- The Department recommends Secondary Containment for the following containers in order to minimize the potential for breakage and to minimize the consequences in the event of breakage
  - Glass containers holding liquid hazardous waste kept on the floor.
  - Containers with capacity of less than 4 Liters, of liquid hazardous waste, regardless of storage location

**NOTE:** In general, secondary containment is to be used as a means of preventing incompatibles from interacting in the event of breakage and/or spillage. Hazardous waste are to be segregated by hazard class and stored in separate cabinets, trays, or pans.





# ACCEPTABLE SECONDARY CONTAINMENT OPTIONS



# Other SAC requirements

- **265.171 Conditions of Containers.** (If a container holding a hazardous waste is not in good condition or if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition ....)
- **265.172 Compatibility of Waste with Containers.** (Container used must be made of or lined with materials which will not react with and are otherwise compatible with the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.)
- **265.173(a) Management of Containers.** (Container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.)

Requirements for both Satellite Accumulation Containers, **AND** Hazardous Waste Storage Containers...to be discussed later as well !!!

# Hazardous Waste Storage Area



# Why were Container Management / Storage Regulations created?

May 19, 1980 preamble

- to minimize emissions of volatile wastes;
- help protect ignitable or reactive waste(s) from sources of ignition or reaction;
- Help prevent spills; and
- Reduce the potential from the mixing of incompatible waste and direct contact of facility personnel with waste(s)

Suggests that containers are closed with lids or some other closure device when adding or removing the waste from the container.

When an inspector visits a hazardous waste storage area, what are we going to look for?

That depends on the type of generator that you are:

- + Large Quantity Generator (LQG)
- + Small Quantity Generator (SQG)
- + Conditionally Exempt Small Quantity Generator (CESQG)

However, ALL Generators MUST  
comply with  
40 CFR 262.30

Before transporting hazardous waste or offering hazardous waste for transportation offsite, a generator must package the waste in accordance with applicable USDOT regulations, on packaging, under 49 CFR parts 173, 178, and 179.

49 CFR 173 – Covers the General requirements for Shipments & Packaging of Hazardous Materials / Wastes.

49 CFR 178 – Covers the “Specifications for the Packaging” that the hazardous material/waste will be shipped in.

• 49 CFR 179 – Covers the “Specifications for Tank Cars”

(These to be covered under Transportation Section of the seminar!!)



## A Hazardous Waste Storage Area is:

An area where waste accumulation container(s) are of such distance from the process generating the waste, or in such a location, that it is **NOT** routinely within the control and cognizance of the operator of the process.

### Examples:

- a) Location of the accumulation container in another room where intervening walls or partitions block it from the view of the process operator for significant periods of time.
- b) Place the container in areas subject to other plant activities not under the control of the process operator where the risks of release or mismanagement may be greater.
- c) Location of the waste storage container outside a building in which the waste is generated may be regarded as placing it beyond the routine attention of the process operator, and therefore not legitimate satellite accumulation.

# Accumulation Time Limitations

CESQG's – NONE, as long as Hazardous Waste in storage does not exceed 1,000Kg, and maintain CESQG waste generation rates (<100 Kg/220 lbs/@30 gal. per mo.)

SQG's – must manifest/ship Hazardous Waste offsite within 180-days of being accumulated onsite (40 CFR 262.34(d))

# Exceptions to Accumulation Time Limitations:

- 40 CFR 262.34(e) –

If you are a SQG of hazardous waste, who must transport his waste, or offer his waste for transportation, over a distance of 200 miles or more for off-site treatment, storage or disposal may accumulate waste on-site for 270 days or less without a permit or without having interim status provided that he complies with the requirements of paragraph (d) of this section.

**NOTE:** The quantity of waste accumulated on-site may never exceed 6000 kilograms

# Exceptions to Accumulation Time Limitations:

- 40 CFR 262.34(f) –

If you are a SQG of hazardous waste, and has accumulated greater than 6000 Kg of hazardous waste onsite, or has stored hazardous waste onsite for greater than 180-days, the generator is considered an operator of a storage facility and is subject to the requirements of 40 CFR parts 264 & 265 (TSDF), and permit requirements of 40 CFR part 270 (TSDF), UNLESS the generator has been granted an extension to the 180-day period.

**NOTE:** An extension of up to 30-days may be granted by the Department, on a case-by-case basis.

# Common Storage Area Requirements:

40 CFR 262.34(a)3 – While being accumulated on-site, each container...must be clearly marked, and/or labeled with the words:

**“HAZARDOUS  
WASTE”**

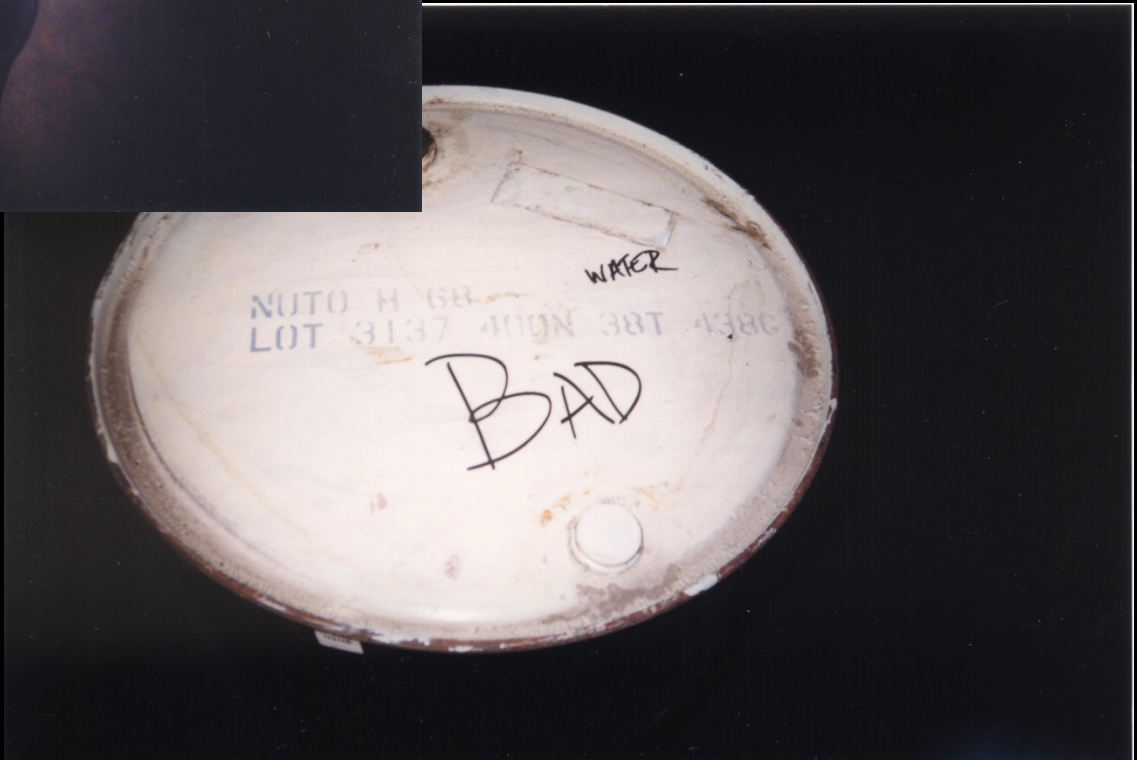
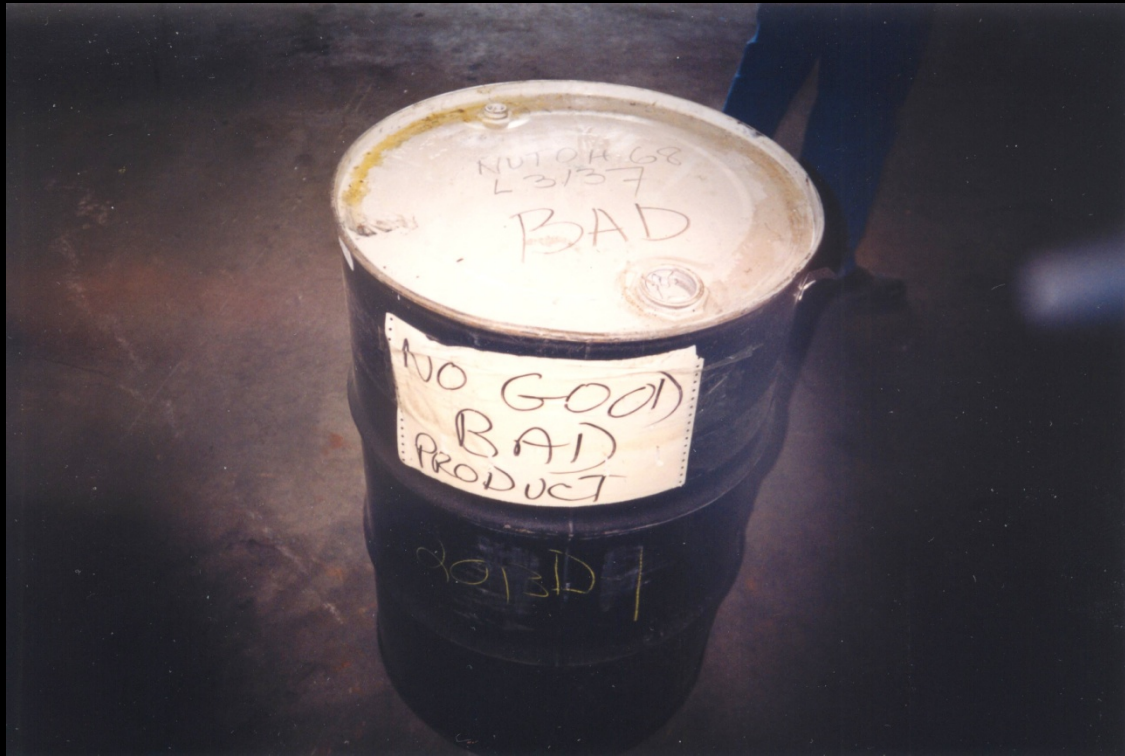
**(THERE ARE NO EXCEPTIONS!!!!)**

# Common problems seen with 40 CFR 262.34(a)3

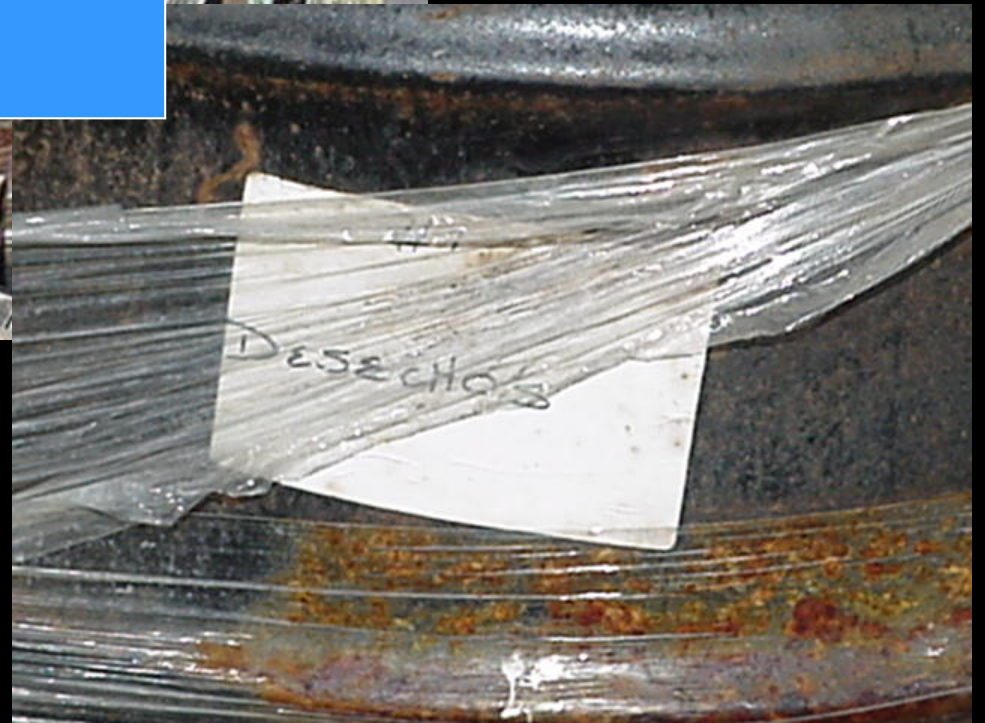


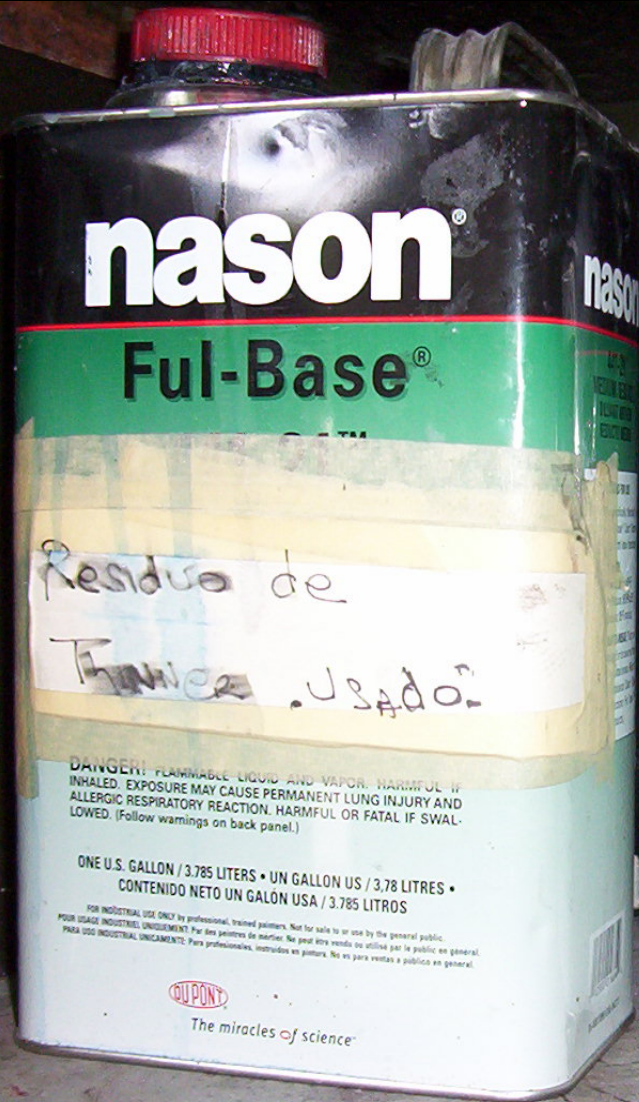
BAS WASH

07/17/2009









07/09/2008



How it should/can be done:





06/05/2008



# Common Storage Area Requirements:

- 40 CFR 262.34(a)2 – the date upon which each period of accumulation begins is clearly marked and visible for inspection on each container.

Reason:

+ SQG – has 180-day storage limit (40 CFR 262.34(d))

# Common problems seen with 40 CFR 262.34(a)2



A close-up photograph of a yellow and red hazardous waste label. The label features a diamond-patterned border and the following text:

**HAZARDOUS WASTE**  
**FEDERAL AND/OR STATE LAWS PROHIBIT IMPROPER DISPOSAL**  
IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY, THE U.S. ENVIRONMENTAL PROTECTION AGENCY OR THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION 2-5624

GENERATOR INFORMATION:  
NAME ZINSSER CO., INC. PHONE 732/658-  
ADDRESS 480 FRELINGHUYSEN AVENUE STATE NJ ZIP 07114  
CITY NEWARK  
EPA ID NO. / MANIFEST DOCUMENT NO. NJD002149789 STATE NJ ZIP 07114  
STATE MANIFEST DOCUMENT NO. NJA5109254  
ACCUMULATION START DATE    /   / EPA WASTE NO. D001  
RQ ; WASTE RESIN SOLUTION,  
3, UN1866, PGII, ERG#127.

D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX IF APPLICABLE

**HAZARDOUS WASTE**  
**HANDLE WITH CARE!**

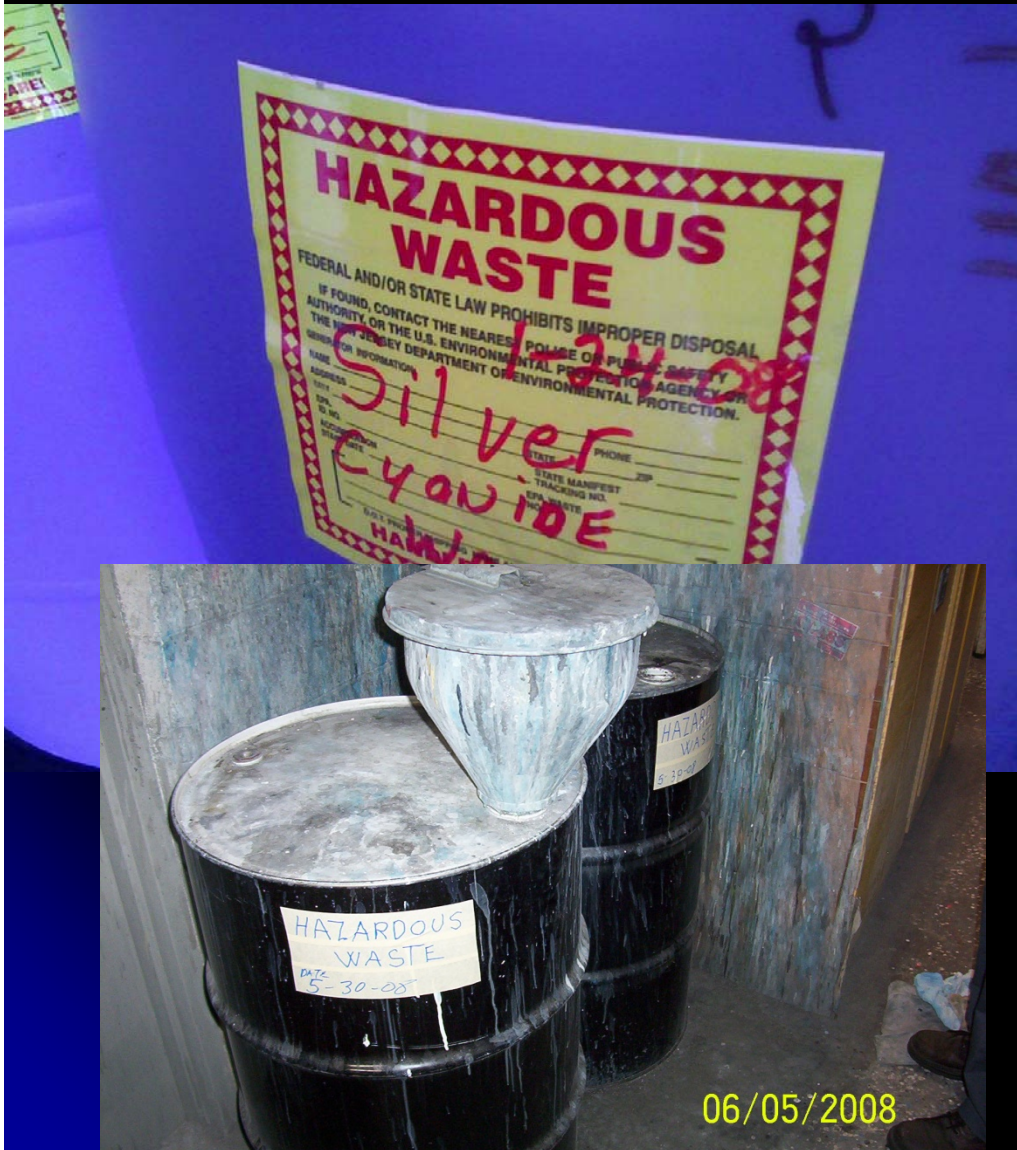
A blue arrow points from the photograph of the boxes to this label. A date stamp "12/19/2005" is visible in the bottom right corner of the label.







# How it should/can be done:



# Common Storage Area Requirements:

- 40 CFR 265.173(a) – A container holding hazardous waste must always be securely closed during storage, except when it is necessary to add or remove waste

Reason: To prevent the release of hazardous waste, and/or its vapors.

Again, to prevent a spill from occurring, and protect workers from hazardous vapors, fumes, etc...

(Satellite Accumulation Container Requirement)

# Common problems seen with 40 CFR 265.173(a)





# HAZARDOUS WASTE

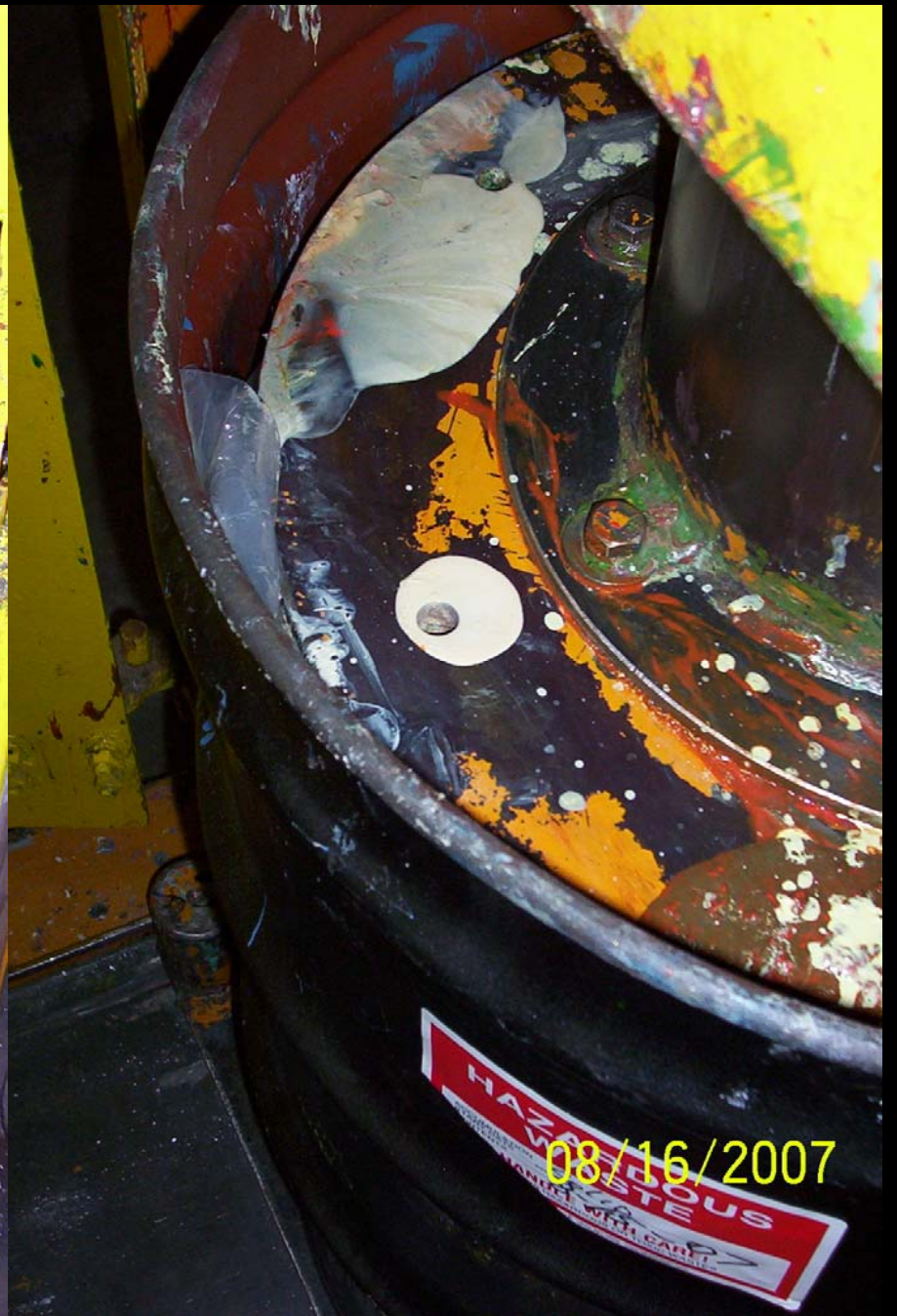
FEDERAL LAWS PROHIBIT IMPROPER DISPOSAL  
IF FOUND, CONTACT THE NEAREST POLICE OR  
PUBLIC SAFETY AUTHORITY OR THE  
U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERATOR INFORMATION:

NAME: NICK STADT McELLER INC  
ADDRESS: 1169 EDGEWATER AVE  
CITY: RIDGE FIELD STATE: IN ZIP: 47667  
EPA ID NO.: FOOS, D001  
ACCOUNT NO.: 121501 ESTABLISHMENT NO.:

[ Inorganic Waste ]  
[ Flammable Liquid ]

HANDLE WITH CARE!









04/



04/24/2007



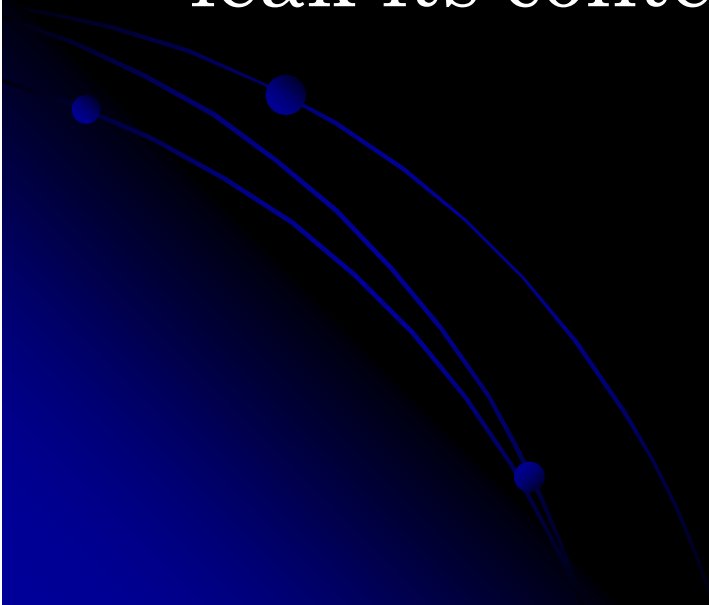
How it should,  
and can be  
done:

(and maybe not!)



# Common Storage Area Requirements:

- 40 CFR 265.173(b) – A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak its contents



# Common problems seen with 40 CFR 265.173(b)

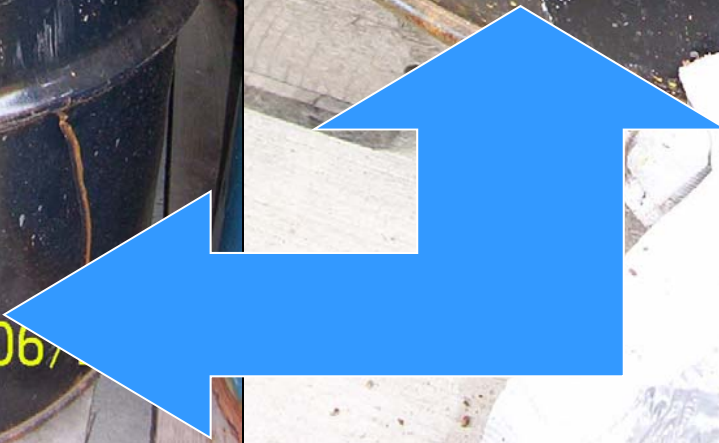
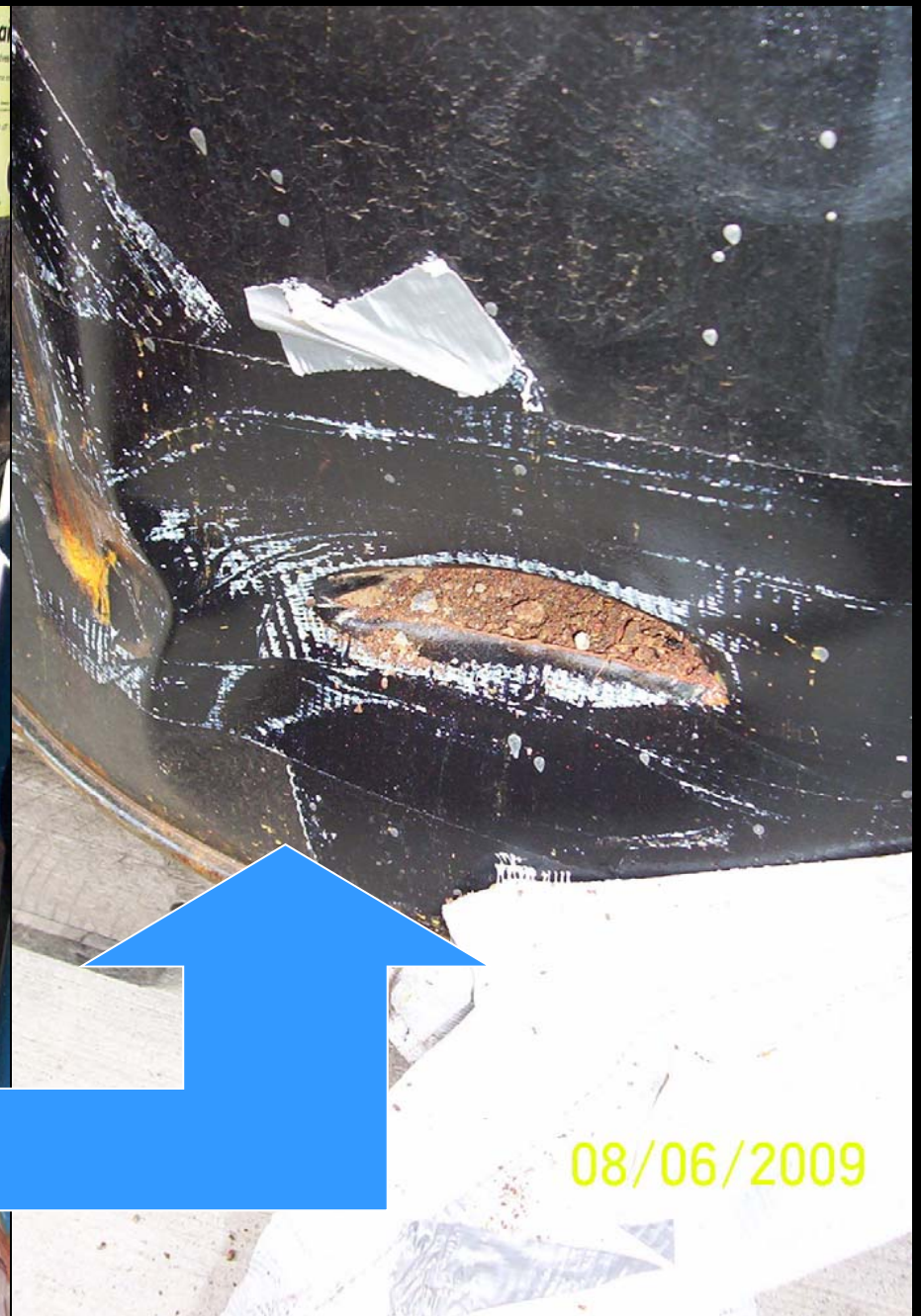




10/15/2008



10/15/2008



## In addition to 40 CFR 265.173(b)

40 CFR 265.171 also mandates that if generator's have containers holding hazardous waste that is not in good condition, or if it begins to leak, the owner or operator (generator) must transfer the hazardous waste from this container to container that is in good condition; or manage the waste in some other way that complies with this requirement.

Both 40 CFR 265.173(b) and 40 CFR 265.171 go hand-in-hand with each other.

**(Satellite Accumulation Container Requirement)**







# Common Storage Area Requirements:

- 40 CFR 265.35 – Required Aisle Space

An owner or operator (generator) must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency (Example – DEP requires 18” for single-stacked 55-gallon drums)

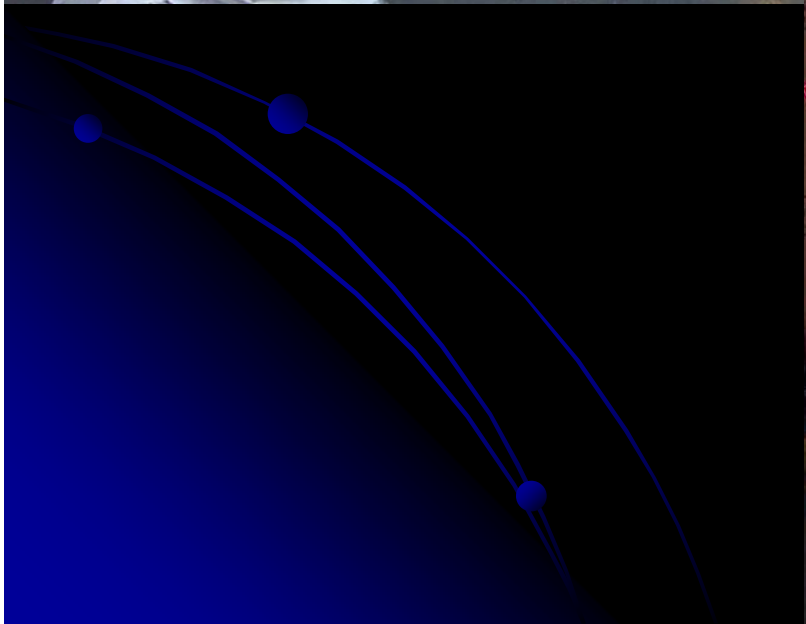




12/19/2005



10/26/2005





**DANGER**  
HAZARDOUS WASTE  
STORAGE AREA  
UNAUTHORIZED PERSONS  
KEEP OUT

05/05/2010

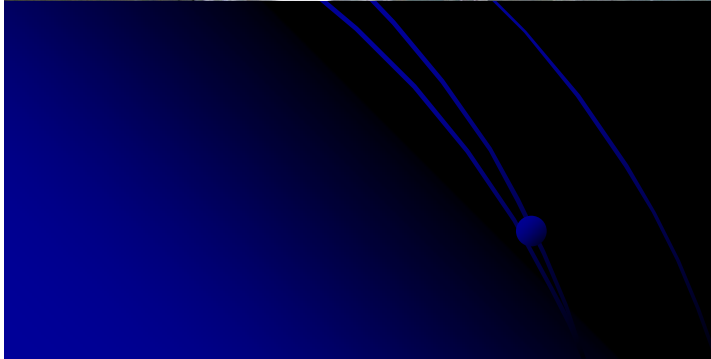
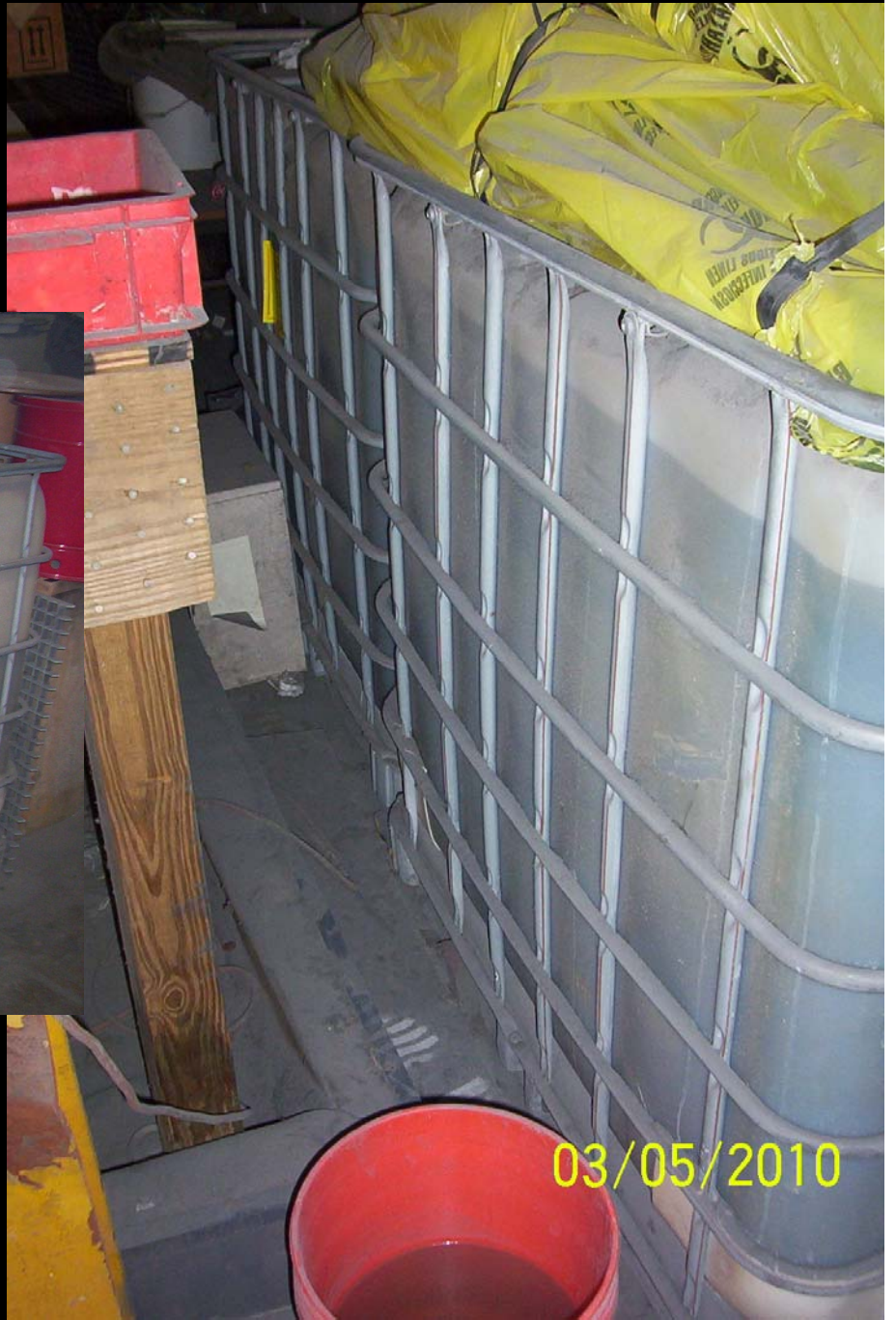


05/05/20



05/05/2010





How it should/can be done:





# Common Storage Area Requirements:

- 40 CFR 265.34(a) – Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee.

## REMEMBER!!!

Hazardous Waste Storage Area description, is:

An area where waste accumulation container(s) are of such distance from the process generating the waste, or in such a location, that is not routinely within the control and cognizance of the operator of the process.

Storage areas are usually well removed from the active parts of a facility, and the only means of communications is through some type of communications device – phone, alarm, 2-way radio, etc...



**WASTE  
SOLVENT**

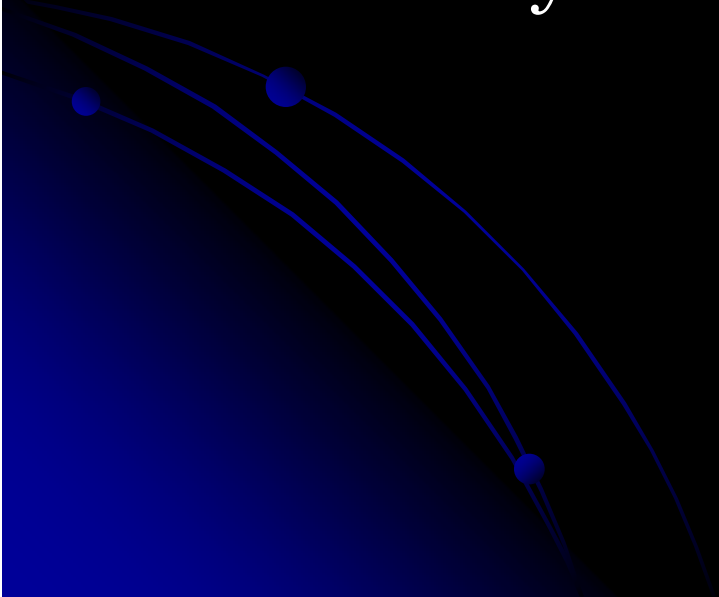
**WASTE  
OIL**

ALL DRUMS  
MUST BE CAPPED  
AT ALL TIMES.



# Common Storage Area Requirements:

- 40 CFR 265.174 – the owner or operator (generator) must inspect area where containers are stored, at least weekly, looking for leaks and for deterioration caused by corrosion or other factors.





# Things to remember about inspections:

- Container Management and weekly inspections go hand-in-hand.
- Ensures hazardous waste storage containers are being properly managed.
- Ensures any problems that are found, are/can be addressed in a prompt manner before any serious injury or property damage can occur.
- Written inspection log not required for SQG/LQG, but highly recommended to show that the required inspections are being conducted.

## WEEKLY CONTAINER STORAGE AREA INSPECTION LOG

ITEM/WEEK	WEEK OF _____	WEEK OF _____	WEEK OF _____	WEEK OF _____	WEEK OF _____
Containers in good condition, not leaking?					
Containers closed when not in use?					
Containers properly marked?					
Container markings visible?					
Containers stored longer than allowed?					
Containers segregated by waste type?					
Ignitable or reactive waste stored >50' from property line?					
Adequate aisle space?					
Spill control, communication, safety, & fire equipment present?					
Name, date, and time of performing inspection					
Corrective action taken (Use separate sheet as necessary)					

09/30/2011

Great, but where can I get one of those?

**COMPLIANCE ASSISTANCE  
PACKET**

FOR

**HAZARDOUS WASTE  
GENERATORS**



NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF HAZARDOUS WASTE COMPLIANCE AND ENFORCEMENT

# Where can I find that online?

- The whole Compliance Assistance Packet

[www.nj.gov/dep/enforcement/CAVPacket%20Master.pdf](http://www.nj.gov/dep/enforcement/CAVPacket%20Master.pdf)

- Just the Sample Inspection Log

[www.nj.gov/dep/enforcement/hw-inspection.pdf](http://www.nj.gov/dep/enforcement/hw-inspection.pdf)

# Commonly Overlooked Storage Area Requirements:

## Storage of Incompatible Hazardous Wastes

as per 40 CFR 260.10 – an incompatible waste is a hazardous waste which is unsuitable for placement in a particular device because it may cause corrosion or decay of containment materials (i.e., container inner liners), OR commingling with another waste or material under un-controlled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases, or flammable fumes or gases.

# Storage of Incompatible Hazardous Waste

40 CFR 265.177 – states “...incompatible waste, or incompatible wastes and materials must not be placed in the same container... hazardous waste must not be placed in an unwashed container that previously held incompatible waste or material... or a storage container holding hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, must be separated from the other materials or protected from them by means of dike, berm, wall, or other device.

**NOTE:** Appendix V shows examples of incompatible waste, and materials.

# Appendix V

## 40 CFR 265

### Environmental Protection Agency

Pt. 265, App. V

Formulae for calculation of the t-statistic and tables for t-test of significance can be found in most introductory statistics texts.

#### APPENDIX V TO PART 265—EXAMPLES OF POTENTIALLY INCOMPATIBLE WASTE

Many hazardous wastes, when mixed with other waste or materials at a hazardous waste facility, can produce effects which are harmful to human health and the environment, such as (1) heat or pressure, (2) fire or explosion, (3) violent reaction, (4) toxic dusts, mists, fumes, or gases, or (5) flammable fumes or gases.

Below are examples of potentially incompatible wastes, waste components, and materials, along with the harmful consequences which result from mixing materials in one group with materials in another group. The list is intended as a guide to owners or operators of treatment, storage, and disposal facilities, and to enforcement and permit granting officials, to indicate the need for special precautions when managing these potentially incompatible waste materials or components.

This list is not intended to be exhaustive. An owner or operator must, as the regulations require, adequately analyze his wastes so that he can avoid creating uncontrolled substances or reactions of the type listed below, whether they are listed below or not.

It is possible for potentially incompatible wastes to be mixed in a way that precludes a reaction (e.g., adding acid to water rather than water to acid) or that neutralizes them (e.g., a strong acid mixed with a strong base), or that controls substances produced (e.g., by generating flammable gases in a closed tank equipped so that ignition cannot occur, and burning the gases in an incinerator).

In the lists below, the mixing of a Group A material with a Group B material may have the potential consequence as noted.

Group 1-A	Group 1-B
Acetylene sludge	Acid sludge
Alkaline caustic liquids	Acid and water
Alkaline cleaner	Battery acid
Alkaline corrosive liquids	Chemical cleaners
Alkaline corrosive battery fluid	Electrolyte, acid
Caustic wastewater	Etching acid liquid or solvent
Lime sludge and other corrosive alkalies	Pickling liquor and other corrosive acids
Lime wastewater	Spent acid
Lime and water	Spent mixed acid
Spent caustic	Spent sulfuric acid

Potential consequences: Heat generation; violent reaction.

Group 2-A	Group 2-B
Aluminum	Any waste in Group 1-A or 1-B
Beryllium	
Calcium	
Lithium	
Magnesium	
Potassium	
Sodium	
Zinc powder	
Other reactive metals and metal hydrides	

Potential consequences: Fire or explosion; generation of flammable hydrogen gas.

Group 3-A	Group 3-B
Alcohols	Any concentrated waste in Groups 1-A or 1-B
Water	Calcium Lithium Metal hydrides Potassium SO <sub>2</sub> Cl <sub>2</sub> , SOCl <sub>2</sub> , PCl <sub>3</sub> , CH <sub>2</sub> SiCl <sub>3</sub> , Other water-reactive waste

Potential consequences: Fire, explosion, or heat generation; generation of flammable or toxic gases.

Group 4-A	Group 4-B
Alcohols	Concentrated Group 1-A or 1-B wastes
Aldehydes	Group 2-A wastes
Halogenated hydrocarbons	
Nitrated hydrocarbons	
Unsaturated hydrocarbons	
Other reactive organic compounds and solvents	

Potential consequences: Fire, explosion, or violent reaction.

Group 5-A	Group 5-B
Spent cyanide and sulfide solutions	Group 1-B wastes

Potential consequences: Generation of toxic hydrogen cyanide or hydrogen sulfide gas.

Group 6-A	Group 6-B
Chlorates	Acetic acid and other organic acids
Chlorine	Concentrated mineral acids
Chlorites	Group 2-A wastes
Chromic acid	Group 4-A wastes

Pt. 265, App. VI

Group 4-B	Group 6-A	Group 6-B
Concentrated wastes in Groups 1-A or 2-A	Chlorates	Acetic acid and other organic acids
	Chlorine	Concentrated mineral acids
	Chlorites	Group 2-A wastes
	Chromic acid	Group 4-A wastes
	Hyphochlorites	Other flammable and combustible wastes
	Nitrates	
	Nitric acid, fuming	
	Perchlorates	
	Peroxides	
	Other strong oxidizers	

Potential consequences: Fire, explosion, or violent reaction.

SOURCE: "Law, Regulations, and Guidelines

03/30/2011





# Common problems seen with 40 CFR 265.177

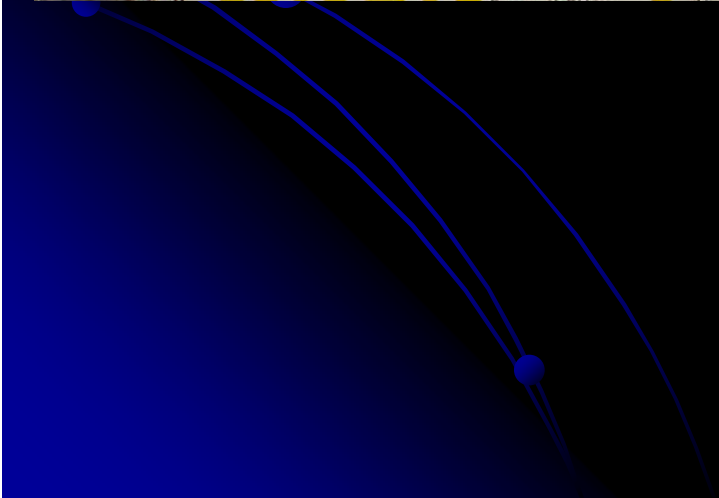




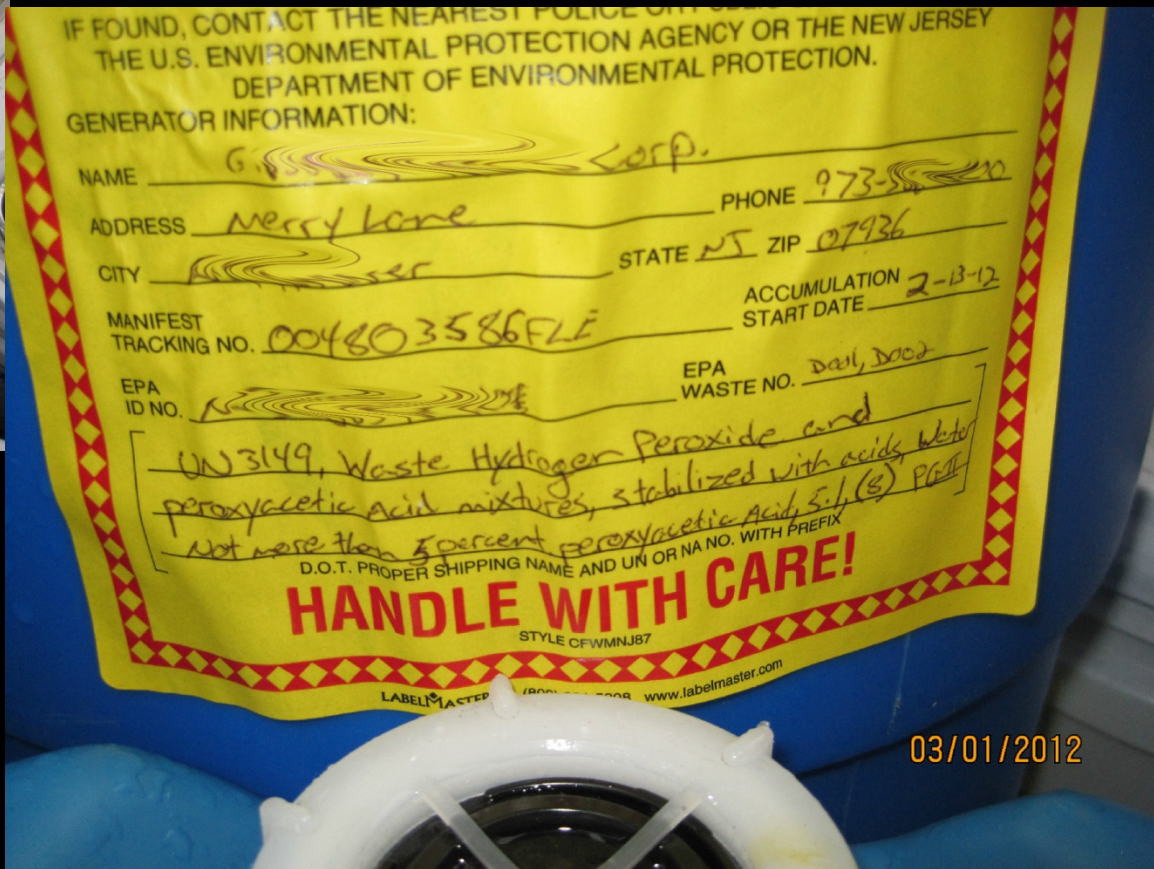
08/15/2007



10/18/2007









03/01/2012

**WORKPLACE ACCUMULATION CONTAINER**

**PROPER D.O.T. SHIPPING NAME:**  
WASTE FLAMMABLE LIQUID N.O.S. (ACETONE, ETHYL ACETATE,  
HEPTANE, HEXANE, ETHANOL, METHANOL, METHYL ETHYL KEYTONE.)

**UN or NA No.** 1993

**GENERATOR INFORMATION:**

**Name:** G...S CORPORATION  
**Facility:** EAST HANOVER 3  
**Phone:** 8...  
**Address:** MERRY LANE  
**City:** EA...FR  
**State:** NJ **Zip:** 07936

**EPA / Manifest ID No. / Document No.** NJD...  
**State Manifest Document No.**  
**EPA Waste No.** D001, F003

**HAZARDOUS WASTE**  
**FEDERAL LAW PROHIBITS IMPROPER DISPOSAL**  
IF FOUND, CONTACT THE NEAREST POLICE OR  
PUBLIC SAFETY AUTHORITY OR THE U.S.  
ENVIRONMENTAL PROTECTION AGENCY.  
**HANDLE WITH CARE!**

Workplace Accumulation Start Date: 2/1/12  
Waste Accumulation Area:

03/01/2012

# Unusual Events at DPW Yards....

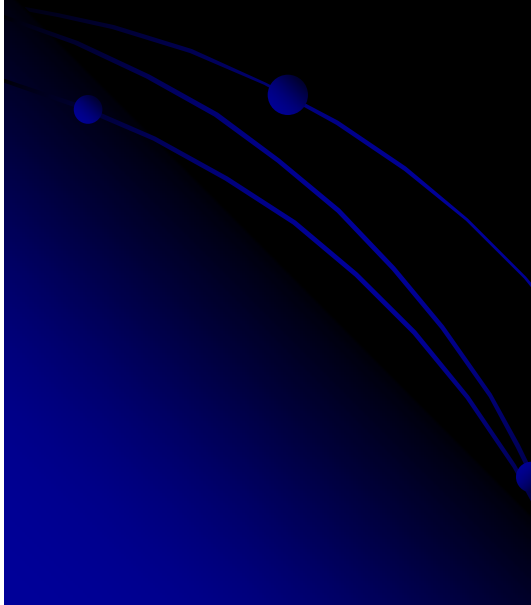
What am I talking about?

Household Hazardous Waste Days!

Department has conducted periodic oversight inspections at these events!













Hazardous Materials Consolidation Table



Bulking of Flammables, Used Oil, etc...



Lab Packing Station



Safety at HHW Events biggest concern...



Universal Waste...



# Un-Common Storage Area Requirements:

Well, what if I store my hazardous waste in tanks???

Does anyone store hazardous waste in tanks???

Yes, but vast majority of generator's store their hazardous waste in various sized containers...



# The requirements for owners and operators (generators) that use tank systems can be found in Subpart J – Tank Systems located at 40 CFR 265.

40 CFR 265.190 – Applicability

40 CFR 265.191 – Assessment of existing tank system integrity

40 CFR 265.192 – Design & Installation of new tank systems or components

40 CFR 265.193 – Containment & Detection of release

40 CFR 265.194 – General operating requirements

40 CFR 265.195 – Inspections

40 CFR 265.198 – Special requirements for ignitable or reactive wastes

40 CFR 265.199 – Special requirements for incompatible wastes

40 CFR 265.201 – Special requirements for generators of between 100 and 1,000 kg/mo (SQG) that accumulate hazardous waste in tanks.

Subpart BB requirements – air emission standards for tanks that store volatile organics (500 ppm or greater in the waste stream)

Other NJAC requirements for that labeling, and placing the accumulation start date on tanks as well.

# IMPORTANT

- To meet the hazardous waste storage container (and tank requirements if applicable) in 40 CFR, and the New Jersey Administrative Codes (N.J.A.C.);
- Even more important to ensure that all applicable personnel receive routine training in all aspects of container (and tank) management, from container labeling & marking requirements, to the proper use, and implementation of the emergency communications plan/devices onsite to ensure that...

This won't  
happen to one  
of your  
hazardous  
waste storage  
containers at  
your facility...



Which can lead to this...all because of poor container, tank, or waste management!

