



HAZARDOUS WASTE

...in 1 Hour

Minnesota Pollution Control Agency

Industrial Division

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Minnesota Pollution
Control Agency

MPCA; Hazardous Waste Publications

<http://www.pca.state.mn.us/index.php/waste/waste-publications/waste-publications.html>

10 Steps to Hazardous Waste Compliance

1 Evaluate waste
Determine
generator size

2 Get a Generator
Identification
Number

3 Get a license
Pay a fee

4 Place waste in
containers
Mark them

5 Accumulate
and store waste
properly

6 Transport, dispose
of hazardous
waste correctly

7 Manifest
shipments of
hazardous waste

8 Plan for
emergencies

9 Train personnel

10 Keep
records

Special topics



Minnesota Pollution
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MPCA; Hazardous Waste Publications

<http://www.pca.state.mn.us/index.php/waste/waste-publications/waste-publications.html>

Step 1

Evaluate Waste

MPCA #1.01; Step 1: Evaluate Waste; Determine Generator Size

<http://www.pca.state.mn.us/publications/w-hw1-01.pdf>



Waste – what is it?

A material
**not needed, used,
wanted and/or
unusable**

NOT a material you or
someone else can and
WILL reuse



Waste — Products or Wastes?



- MPCA strongly recommends facility cleanouts annually



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MnTAP; Minnesota Materials Exchange

<http://mnexchange.org/program/aboutus.htm>

Waste – Donations to You



CAUTION:

*Ensure donations to you
can and will be used*

...if you can't reasonably
use them, they are
WASTE.



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MPCA #3.36a; Reverse Distribution of General Merchandise

<http://www.pca.state.mn.us/publications/w-hw3-36a.pdf>

A waste may be –

Nonhazardous

Exempt

Hazardous

- Listed
- Characteristic
- PCB

Exempt – “RCRA Empty” Containers

- All waste that can be removed **by normal means** has been

AND



- (lesser of...)

- <1 inch residue remains

OR

- < 3% residue by weight remains
(container < 119 gallons)

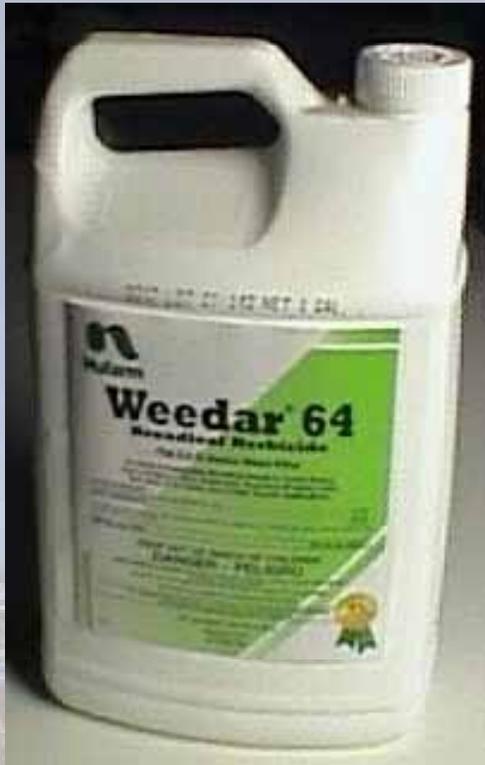
OR

- Less than 0.3% residue by weight remains
(container > 119 gallons)

EXCEPT Acute Containers



Exempt – Pesticide Containers*



- ... **when managed under FIFRA*
- Pesticide containers, including:
 - pesticides
 - herbicides
 - fungicides
- may be triple-rinsed and the rinsate applied as per label



Exempt – “Empty” Aerosol Containers

- Exempt when at or near atmospheric pressure
 - Do **NOT** vent to dispose

AND

- All product removable by normal means has been
 - defective containers may be returned as exempt products



A waste may be hazardous
for **3** reasons:

■ Listed

■ PCBs

■ Characteristic



Lethality Characteristic

Further evaluation required if:

- **Drug**
- **Pesticide**
- **USDOT Poisonous material**
- The words "**Poison**", "**Poisonous**", "**Toxic**", "**Lethal**", "**Fatal**" or "**Deadly**"
- **Skull & Crossbones**
- **NFR, HMIS, HMIG ≥ 3**
- **LD₅₀ on MSDS < Lethality threshold**
- **MPCA knowledge of Lethality**

Otherwise may be assumed non-Lethal



Listed Wastes - PCBs

■ **PCB:** Polychlorinated biphenyls (PCBs) at concentration ≥ 50 ppm

- ✓ electrical equipment manufactured pre-1979
- ✓ high-temperature hydraulic equipment manufactured pre-1979
- ✓ **building caulking**



Evaluate your waste — where to start?



■ By knowledge:

- MSDS (OSHA document)
 - ⊗ **Listing on MSDS only required if ingredient $\geq 1\%$**
 - ⊗ **$1\% = 10,000$ ppm**
 - ⊗ **Contaminants may be hazardous at 0.008 ppm**
- MSDS not required to include hazardous **waste** status
- RCRA 'hazardous waste' \neq OSHA 'hazardous chemicals'



Evaluate your waste — where to start?

■ **By analysis:**

- Test *or*
 - Send to testing laboratory
- Keep ALL documentation used in evaluation whether sample is hazardous or non-hazardous



Step 2

Obtain a Hazardous Waste Identification Number

MPCA #1.02; Step 2: Obtain an Identification Number

<http://www.pca.state.mn.us/publications/w-hw1-02.pdf>

Step 2: Obtain a Hazardous Waste ID#

- Site-specific

- **contiguous**

- ☒ regional locations must **each** obtain a unique Hazardous Waste Identification Number
 - ☒ ...AND manage their hazardous waste separately



Step 2: Maintain a Hazardous Waste ID#

If change in

- Wastes
- Size or activity
- Contact person
- Agency/site name
- Owner
- Mailing address



□ Please use the Notification form referenced below to renotify - narrative letters may not be processed



Step 3

Get an Annual License

MPCA #1.03; Step 3: Get a License; Pay a Fee

<http://www.pca.state.mn.us/publications/w-hw1-03.pdf>



Get a License

- Read your License
 - Front and Back
- Display your License
 - at the licensed site
 - in a public area



Step 4

Containerize Waste; Label Containers

MPCA #1.04&5; Steps 4&5: Containerize Waste

http://www.pca.state.mn.us/index.php?option=com_docman&task=doc_download&gid=4033&Itemid=



Label the Containers

- “Hazardous Waste”
- Clear description
- Accumulation start date



HAZARDOUS WASTE

ACCUMULATION
START DATE _____
CONTENTS _____

HANDLE WITH CARE!
CONTAINS HAZARDOUS OR TOXIC WASTES

HAZARDOUS WASTE

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

GENERATOR INFORMATION:
NAME: _____ PHONE: _____
ADDRESS: _____
CITY: _____ STATE: _____ ZIP: _____
EPA ID NO.: _____ EPA WASTE NO.: _____
ACCUMULATION START DATE: _____
MANIFEST DOCUMENT NO.: _____

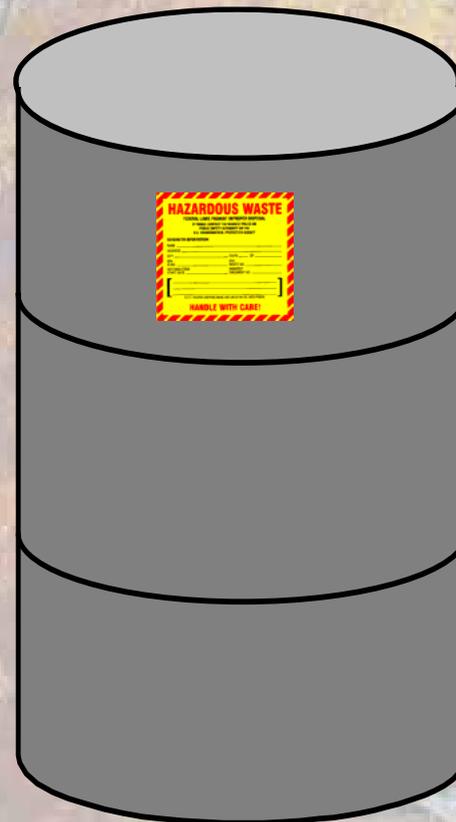
D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX

HANDLE WITH CARE!



Accumulation Start Date

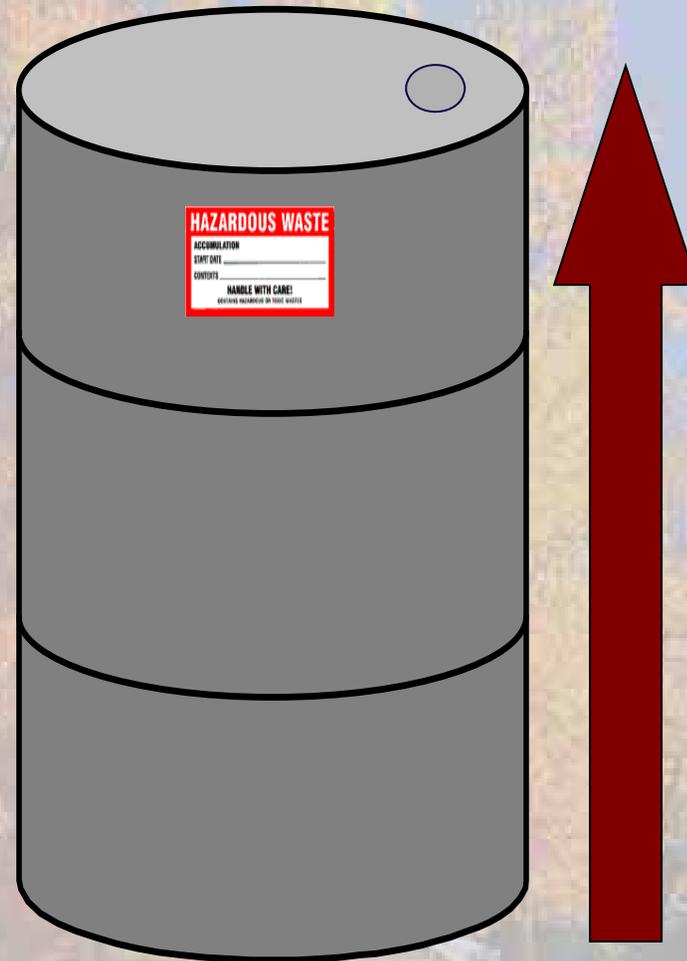
- Date the first drop of hazardous waste is put into a storage container.



Accumulation Start Date

OR

- Date satellite volume limit is reached



Satellite Accumulation



- ≤55-gallon limit*
 - ☒ 1-quart limit for acute
 - per waste type
 - per point of generation
- Date limit is reached = Accumulation Start Date
- Move to storage within three days

- At or near point of generation *and*
- Under control of operator

OR

- Weekly documented inspections



Satellite Accumulation – How To Tell?

- Satellite accumulation

- container will be:

- MOVED; or

- EMPTIED into another when filled



- ‘Storage’ accumulation

- container will be:

- filled; AND

- shipped

- from a stationary location



Step 5

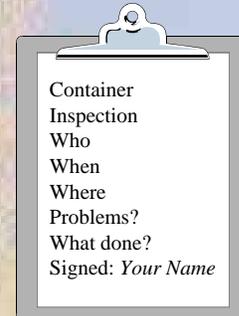
Store Waste

MPCA #1.04&5; Steps 4&5: Store Waste

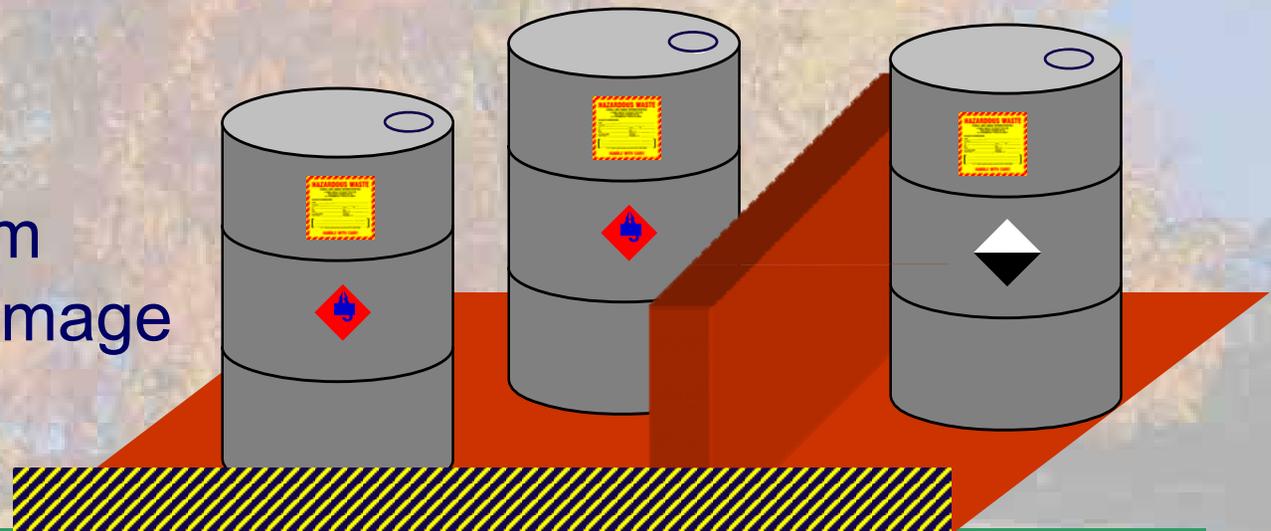
http://www.pca.state.mn.us/index.php?option=com_docman&task=doc_download&gid=4033&Itemid=

Storing Indoors

- Closed containers
- Impermeable containment surface
- Adequate aisle space
- Separate incompatible wastes
- Documented weekly inspections



- *Protected from inadvertent damage (if applicable)



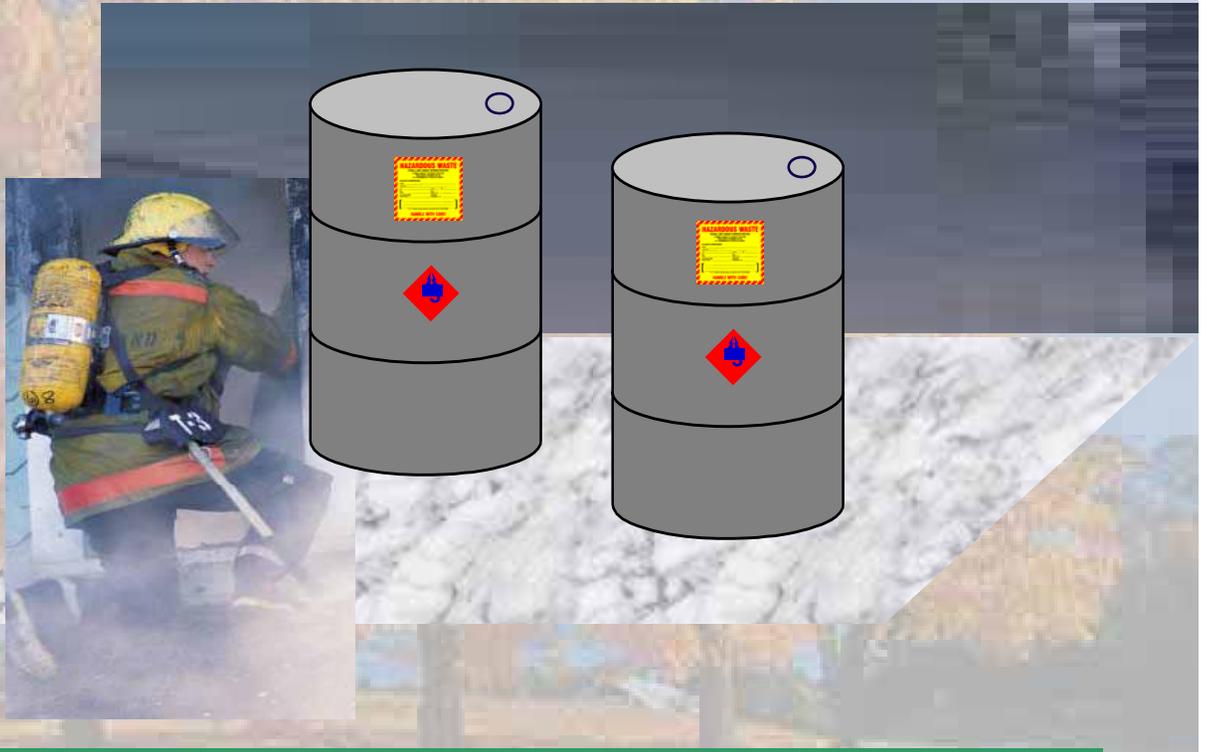
Storage – ‘Aisle space’

- Rules-of-Thumb...(1)

- A firefighter in full turnout gear could reach all sides of a container

without

- moving any other containers or equipment



Storage – ‘Aisle space’

- Rules-of-Thumb...(2)

- Any hazardous waste container can be moved out of the storage area

without

- moving any other containers or equipment



Storage Volume & Time Limits

Generator Size	Volume Limit	Time Limit
VSQG	1000 kg	180* days at ≥ 1000 kg
SQG	3000 kg	180* days
LQG	None	90 days



**VSQGs/SQGs ≥ 200 miles from designated TSDf may accumulate additional 90 days*

Step 6

Treat or Dispose Waste

MPCA #1.06; Step 6: Treat or Dispose Waste

<http://www.pca.state.mn.us/publications/w-hw1-06.pdf>

Offer for Transport

■ Transporters

- Ensure that transporter licensed by DOT
- Ensure that all containers are DOT-labeled
- Ensure that the vehicle is properly placarded
 - ◆ Shipper is responsible for all above items



Questions?

Call MNDOT at (651) 405-6060



Offer for Transport

Minnesota Department of Transportation
HAZMAT Training

Please select one of the HM Modules below.

Introduction

HAZMAT Table Shipping Papers Marking and Labeling Placarding Packaging Security Training Transportation by Highway



■ Hazardous Materials Training

□ **free on MnDOT Website*



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MnDOT; HAZMAT Training

<http://www.dot.state.mn.us/cvo/hazmatElearning/index.html>

Step 7

Manifest Shipments

MPCA #1.07; Step 7: Manifest Shipments

<http://www.pca.state.mn.us/publications/w-hw1-07.pdf>

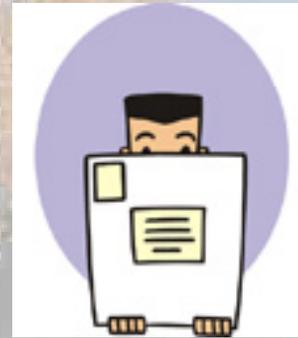
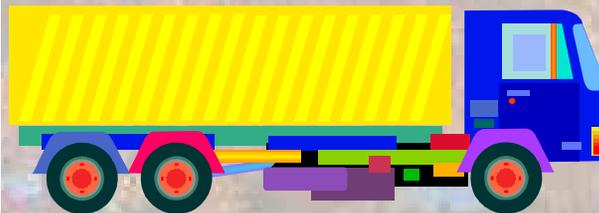


Manifest Shipments

■ “Cradle to Grave” Tracking Document

- *Ensure only trained staff sign*
- Ensure all information is accurate
- Ensure ‘3-signature’ copies are received from disposal facility
 - ☑ Develop internal tracking process

The image shows a sample of a Minnesota Waste Manifest form. The form is titled "WASTE MANIFEST" and includes fields for "Generator's Name and Address", "Transporter's Name", "Receiver's Name and Address", and "Manifest Number" (002268539 JJK). It also features a table for tracking waste shipments, with columns for "Date", "Quantity", "Type", "Hazardous", "U.S. State Code", and "U.S. EPA Code". The form is labeled "107-BLS-C 1 1999" in the top right corner.



Step 8

Plan for Emergencies

VSQG

Hazardous Waste Factsheet **#1.08a**

<http://www.pca.state.mn.us/publications/w-hw1-08a.pdf>

SQG

Hazardous Waste Factsheet **#1.08b**

<http://www.pca.state.mn.us/publications/w-hw1-08b.pdf>

LQG

Hazardous Waste Factsheet **#1.08c**

<http://www.pca.state.mn.us/publications/w-hw1-08c.pdf>

Plan for Emergencies

- VSQG

- None required

- [*strongly recommended*]

- SQG

- Emergency Coordinator

- must be familiar with hazardous wastes

- LQG

- Full Contingency Plan



Equipment

■ Immediate Access to Emergency Communications

Not-so-New Requirement!

■ Where?

- Wherever hazardous waste is generated, handled, or stored

■ What?

- May be internal if other personnel are present
- Must be external if any employee is alone on premises

■ How to Comply?

- Alarm button
- Buddy System*
- Wired Telephone
- ◆ ***(must be documented policy)**
- Radio
- Cellular phone, if allowed



Equipment

- Ensure emergency equipment is accessible



Reporting



To Request State Assistance or Report a Petroleum or Hazardous Materials Spill
Call 24 Hours a Day:



MINNESOTA DUTY OFFICER

1-800-422-0798

(IN MINNESOTA ONLY)

(651) 649-5451

(TWIN CITIES METRO AREA AND OUTSIDE MINNESOTA)

(651) 296-2233
(Backup ONLY)

(651) 296-2300
FAX

TDD: (651) 297-5353 (Metro Area)
1-800-627-3529 (Greater MN)

Emergency Notification

**IF YOU SPILL A HAZARDOUS MATERIAL OR A PETROLEUM PRODUCT IN MINNESOTA
YOU MUST CALL:**

Local Authorities: 9-1-1 **FIRST**, when there is a threat to life or property.

The Minnesota Duty Officer: If there is a public safety or environmental threat and/or if a State Agency Notification for Reportable Spills is required.

The National Response Center: 1-800-424-8802, when a federal notification is required.

Minnesota Division of Emergency Management 8/98



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HSEM; Minnesota Duty Officer Placard

<http://www.hsem.state.mn.us/uploadedfile/doplacard.pdf>

Step 9

Train Staff

- VSQG** Hazardous Waste Factsheet **#1.09a**
<http://www.pca.state.mn.us/publications/w-hw1-09a.pdf>
- SQG** Hazardous Waste Factsheet **#1.09b**
<http://www.pca.state.mn.us/publications/w-hw1-09b.pdf>
- LQG** Hazardous Waste Factsheet **#1.09c**
<http://www.pca.state.mn.us/publications/w-hw1-09c.pdf>



Training

■ Who?

- All staff having **ANY** hazardous waste duties
 - Generation
 - Transport
 - Storage
 - Manifesting
 - Emergency Response

■ What?

- Proper waste handling
- Emergency procedures
- Relevant to their duties** during
 - Normal facility operations **AND**
 - Emergencies



Step 10

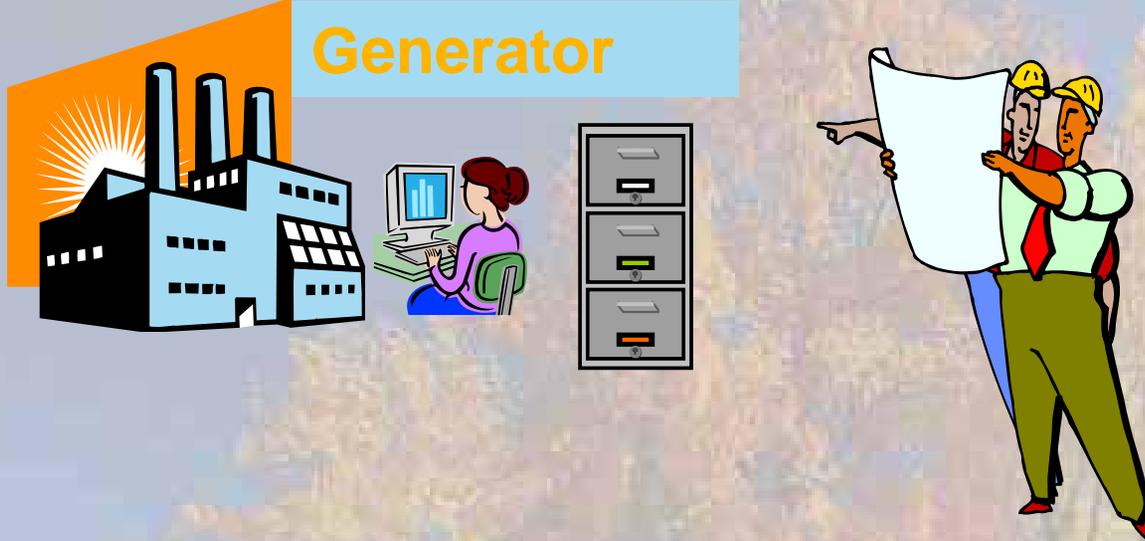
Keep Records

MPCA #1.10; Step 10: Keep Records

<http://www.pca.state.mn.us/publications/w-hw1-10.pdf>

Keep Records: Location

Generator



- At Generator site
- Available for inspection
- Paper or electronic



Universal Wastes

- Batteries



- Fluorescent/High-Intensity Discharge Lamps



- Mercury-containing Equipment



- Electronics



Universal Wastes: Management

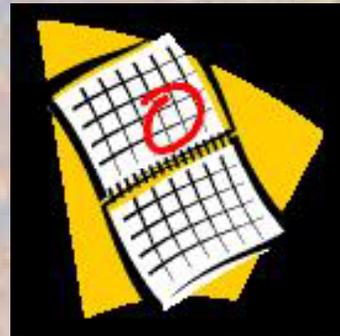
- Store to prevent damage



- Label

UNIVERSAL WASTE	
CONTENTS	_____
ACCUMULATION START DATE	_____
SHIPPER	_____
ADDRESS	_____
CITY, STATE, ZIP	_____

- Accumulate <1 year



- Ship only for:

- recycling
- consolidation
- proper disposal



Universal Wastes: Management

- If damaged, Universal Wastes must be stored in:
 - closed,
 - leak-proof,
 - labeled containers



Universal Waste: Mercury

- MPCA **strongly** encourages agencies to phase out ALL known or suspected mercury use
 - mercury removal averages \$309/site
 - mercury cleanups can cost up to \$200,000/site



NYSDOH; Mercury Facility-wide Inventory

<http://www.health.state.ny.us/environmental/chemicals/hsees/mercury/brochures/docs/inventory.pdf>



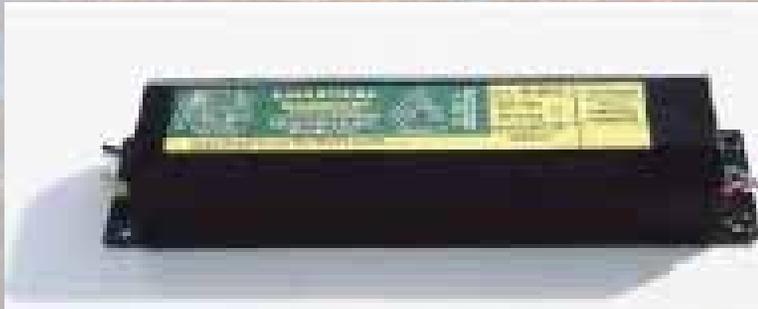
**Minnesota Pollution
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MPCA; Mercury - Preventing Environmental Contamination

<http://www.pca.state.mn.us/air/mercury-prevent.html>

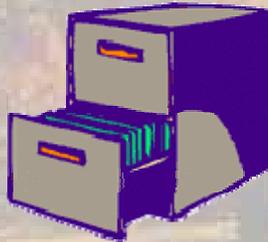
PCB Ballasts & Capacitors

- Fluorescent light ballasts & Small capacitors
 - Must be assumed to contain PCBs unless:
 - ☒ Labeled "No PCBs"
 - ☒ Date of manufacture is known to be post-1979
- Manage under TSCA requirements
 - **Must be reported as hazardous waste disposal*



Used Oil (+rags, filters, absorbents)

- Store in closed, leakproof containers
- Store on impermeable surface
- Label containers
- Keep shipment records*



Special Wastes: Used Oil

- Disposing of small amounts of used oil -
 - Generators may dispose of used oil at any business if:
 - ☒ transported by generator in ≤ 55 gallons/shipment
 - ☒ receiver agrees in writing to accept
 - ☒ receiver provides receipt
 - ☒ receiver may not burn on-site



NEW-ISH

Solid Waste

■ Demolition preparation

□ Prior to any building demolition:

- ☒ Notice sent to MPCA
- ☒ Asbestos survey completed
- ☒ Hazardous materials/waste removed ***and properly disposed***
 - ☒ Fluorescent lamps, ballasts
 - ☒ Mercury switches, thermostats
 - ☒ Batteries
 - ☒ Refrigerants
 - ☒ Asbestos
 - ☒ Trapped mercury metal
 - ☒ **PCB caulking**



Air Quality

- Every facility must:

- Calculate its Potential To Emit (PTE) air pollutants from ALL equipment at the site, including:
 - ☒ boilers
 - ☒ emergency/peaking generators
 - ☒ storage tanks
 - ☒ painting/spraying operations
 - ☒ printing operations
- Recalculate PTE after any substantive changes



Water Quality; Stormwater

- No pollutants may be discharged to stormwater
 - agency may be liable for actions of contractors on site



Storage Tanks

- All storage tanks ≥ 500 -gallons
 - except for heating oil tanks ≤ 1100 -gallons
- must be registered with MPCA



MPCA Tanks #1-20; Notification...ASTs

<http://www.pca.state.mn.us/publications/t-a1-20.pdf>

MPCA Tanks #5-04; Notification...USTs

<http://www.pca.state.mn.us/publications/t-u5-04.pdf>



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Storage Tanks: Aboveground (AST)

- If ≥ 1100 -gallons, then fully regulated:
 - corrosion protection;
 - labeled
 - secondary containment
 - substance transfer
 - monitoring



Storage Tanks: Underground (UST)

- If ≥ 110 -gallons, then fully regulated:
 - corrosion protection;
 - leak detection
 - spill/overflow
 - monitoring

- **New UST Rules effective April, 2008**



Storage Tanks: Spill/Overfill

- Ensure that all spill/overfill equipment is functioning:



Storage Tanks: Spill/Overfill

- Ensure that all spill/overfill equipment is functioning:



Questions?

Call any staff at the MPCA
800-657-3864

- Joshua Burman 507-344-5243
Joshua.Burman@state.mn.us



Compliance Resources



Electronic copies of this presentation and all MPCA publications available at no cost upon request...



Minnesota Pollution
Control Agency

Joshua Burman, MPCA

mailto:Joshua.Burman@state.mn.us