

Safe Waste Container Handling in the Workplace



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Objectives of Presentation

- Regulatory Agencies
- Identify your Company's wastes
- Know the location of generation
- Processes and generation of waste
- Finding the info for safe handling
- Know the hazards associated with the wastes
- Basic container handling and the hazards associated
- Do's and Don'ts with waste
- Best practices
- Labeling and communicating the hazards
- Preventative measures to prevent and minimize spills
- Spill information

Regulatory Agencies

- **OSHA defines Hazardous Substance** as any substance that poses any physical or health hazards
 - Health hazards include toxins, carcinogens, etc.
 - Physical hazards include reactive materials
- **DOT defines Hazardous Substance** as any substance that can pose an “unreasonable risk to health, safety or property when transported”
- **EPA defines Hazardous Waste** as any discarded waste that has ignitability, corrosive, reactive, or toxic characteristics

Regulatory Agencies

- All three agencies agree that hazardous waste can injure, sicken or kill many people at the same time.



Applicable Agency Regulations

- Flammable and Combustible Liquid Storage 29 CFR 1910.106
- HAZWOPER 29 CFR 1910.120(j)
- Material Handling and Storage 29 CFR 1910.176
- Powered Industrial Truck 29 CFR 1910.178
- PPE 29 CFR 1910.132
- Respiratory 29 CFR 1910.134
- Air Contaminants 29 CFR 1910.1000
- HAZCOM 29 CFR 1910.1200
- General Duty Standard – 5a1
- 40 CFR 261 Identifying and Listing of Hazardous Waste
- 49 CFR 172.700 HAZMAT Employee Training

Penalties

- OSHA \$13,494 serious, OSHA and posting
 - OSHA \$134,937 repeat & willful
 - DOT \$79,976 per day, per violation
 - DOT \$186,610 resulting in death, serious
 - RCRA \$74,552 per major occurrence – Open your check book!!!!!!
-
- All three agencies have criminal penalties as well

Identify your Company's wastes

Company specific waste should be **identified and communicated to the Employee** (what they are and where they are)

- Waste Oils
- Greases
- Oily Debris
- Solvents
- Fuels
- Acids
- Caustics
- Lab Wastes
- Batteries and Bulbs



Waste Starts with Product



Product is Regulated

29 CFR 1910.1200 HAZCOM - GHS

- Minimize your sourcing of product
- Create Purchasing Personnel
- Communicate with Lab Managers
- Inspect Inventories



Definition of Waste

Wastes are considered wastes when they are deemed discarded and have no useful value.

Waste start out with components of chemicals/materials.

Some are almost the same as they were when they were virgin product now just contaminated with dirt/ impurities like waste oils become. Other wastes make up many chemicals/materials like mixed laboratory waste with acetones, methanols, water, etc. all combined.

Generation of Waste

- No more use for product
- Useful life has expired
- Secondary waste generated from process
- Remediation
- Spill



Process / Location / Environmental Hazard

Waste Name	Generation Process	Location	EPA/DOT Hazardous or Non Hazardous
Waste Oil	Machine and Automotive Lubrication	Maintenance Garages	Typically Non Hazardous
Greases	Machine and Automotive Lubrication	Maintenance Garages, Production Areas	Typically Non Hazardous
Oily Debris	Machine and Automotive Lubrication, Spills	Maintenance Garages, Production Areas, Spill Areas	Typically Non Hazardous

Process / Location / Environmental Hazard

Waste Name	Generation Process	Location	EPA/DOT Hazardous or Non Hazardous
Solvents	Machine and Automotive Maintenance, Lab Testing	Maintenance Garages, Laboratories	EPA & DOT Hazardous (flammable & toxic)
Fuels	Machine and Automotive Fuel	Maintenance Garages, Fuel Pod Areas	Typically DOT Hazardous & sometimes EPA Hazardous (flammable)
Acids	Machine and Automotive, Cleaning, Lab Testing, Water Treatment	Maintenance Garages, Waste Water Treatment, Janitorial	EPA & DOT Hazardous (corrosive < 2 pH)

Process / Location / Environmental Hazard

Waste Name	Generation Process	Location	EPA/DOT Hazardous or Non Hazardous
Caustics	Lab Testing, Water Treatment, Lime Waste, Cleaning	Laboratory, Treatment Area, Maintenance Garages, Janitorial	EPA & DOT Hazardous (corrosive > 12 pH)
Lab Waste	R&D, Education, Science	Laboratory	Non Hazardous, DOT HM and EPA regulated
Batteries Bulbs	Automotive, Facility Maintenance, Operation Requirements	Maintenance Garages, Offices, Production Areas	DOT Hazardous & EPA regulated as a Universal Waste

Physical & Health Hazards - PPE

Waste Name	Physical Hazards	Health Hazards	Protection
Waste Oils	Can ignite if heated enough, in good oxygen concentration and an ignition source is supplied. Slippery material and can cause slip trip and falls	Oils are hydrocarbons and enough absorption chronically over time can be toxic and harmful to the human body	Wear aggressive soled shoes, wipe up oily areas, wear PVC or nitrile gloves, protect against skin contact, DO NOT SMOKE or use lit materials near material and/or containers

Finding the Info for Safe Handling

When you know what is in the waste you can research how to handle it properly and safely by referring and reviewing the components SDS

American National Standards Institute (ANSI) 16 Part Format

- Identification
- Hazard(s) identification
- Composition/information on ingredients
- **First-aid measures**
- **Fire-fighting measures**
- **Accidental release measures**
- **Handling and storage**
- **Exposure controls/personal protection**
- **Physical and chemical properties**
- **Stability and reactivity**
- **Toxicological information**
- Ecological information
- **Disposal considerations**
- **Transport information**
- **Regulatory information**
- Other information

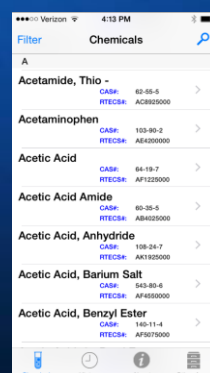
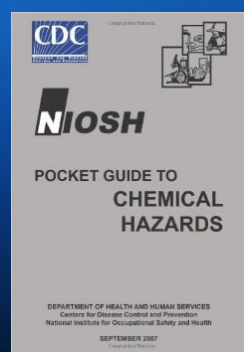
Finding the Info for Safe Handling

Occupational Safety & Health Administration (OSHA) 16 Part SDS Format

- Section 1, Identification includes product identifier; manufacturer or distributor name, address, phone number; emergency phone number; recommended use; restrictions on use.
- Section 2, Hazard(s) identification includes all hazards regarding the chemical; required label elements.
- Section 3, Composition/information on ingredients includes information on chemical ingredients; trade secret claims.
- **Section 4, First-aid measures includes important symptoms/ effects, acute, delayed; required treatment.**
- **Section 5, Fire-fighting measures lists suitable extinguishing techniques, equipment; chemical hazards from fire.**
- **Section 6, Accidental release measures lists emergency procedures; protective equipment; proper methods of containment and cleanup.**
- **Section 7, Handling and storage lists precautions for safe handling and storage, including incompatibilities.**
- **Section 8, Exposure controls/personal protection lists OSHA's Permissible Exposure Limits (PELs); Threshold Limit Values (TLVs); appropriate engineering controls; personal protective equipment (PPE).**
- **Section 9, Physical and chemical properties lists the chemical's characteristics.**
- **Section 10, Stability and reactivity lists chemical stability and possibility of hazardous reactions.**
- **Section 11, Toxicological information includes routes of exposure; related symptoms, acute and chronic effects; numerical measures of toxicity.**
- Section 12, Ecological information*
- **Section 13, Disposal considerations***
- **Section 14, Transport information***
- **Section 15, Regulatory information***
- Section 16, Other information, includes the date of preparation or last revision

Basic Container Handling and the Hazards Associated

- Know what the hazards of the waste are **FIRST!!!!**
- Wear the appropriate PPE to protect against physical and health hazards
 - Refer to section 8 of SDS
 - Use NIOSH Pocket Guide
 - Utilize Mobile Apps if necessary

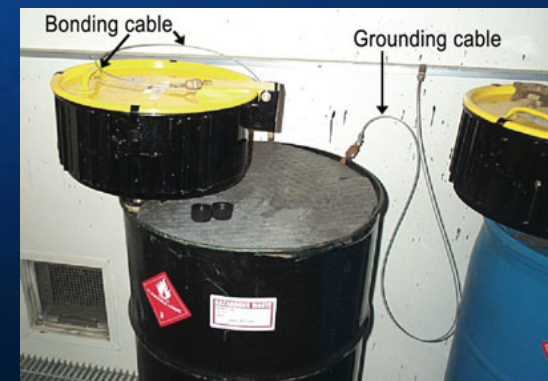


Types of Hazard/Exposure	Acute Hazards/Symptoms	Prevention	First Aid/Fire Fighting
FIRE	Flammable	NO open flames, NO sparks, and NO smoking.	Powder, alcohol-resistant foam, water spray, carbon dioxide.
	Above 39°C explosive	Above 39°C use a closed	In case of fire keep down.

Physical Hazards Associated

FIRE & EXPLOSION

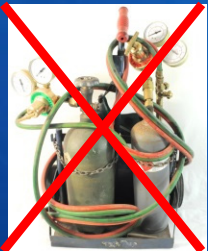
- Use Spark Proof Tools to open and close containers
- Avoid Static Electricity – Provide grounding and bonding when transferring
- **Do not smoke** near wastes
- Provide intrinsically safe lighting
- Utilize compatible Industrial Trucks



Physical Hazards Associated **FIRE & EXPLOSION**



- Do not cut drums without testing atmosphere
(RCRA EMPTY DOESN'T MEAN IT NOT HAZARDOUS)
- Provide safe storage solutions for your flammable and reactive materials



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- | HAZARDOUS MATERIALS LOAD AND SEGREGATION CHART | | | | | | | | | |
|--|-----------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| CLASS | | HAZARDOUS MATERIAL | HAZARDOUS MATERIAL | HAZARDOUS MATERIAL | HAZARDOUS MATERIAL | HAZARDOUS MATERIAL | HAZARDOUS MATERIAL | HAZARDOUS MATERIAL | HAZARDOUS MATERIAL |
| CLASS | HAZARDOUS MATERIAL | HAZARDOUS MATERIAL | HAZARDOUS MATERIAL | HAZARDOUS MATERIAL | HAZARDOUS MATERIAL | HAZARDOUS MATERIAL | HAZARDOUS MATERIAL | HAZARDOUS MATERIAL | HAZARDOUS MATERIAL |
| 1 | EXPLOSIVES | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 |
| 2 | VERY DANGEROUS | 2.1 | 2.2 | 2.3 | 2.4 | 2.5 | 2.6 | 2.7 | 2.8 |
| 3 | POISONOUS GAS | 3.1 | 3.2 | 3.3 | 3.4 | 3.5 | 3.6 | 3.7 | 3.8 |
| 4 | FLAMMABLE LIQUIDS | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 4.7 | 4.8 |
| 5 | FLAMMABLE SOLIDS | 5.1 | 5.2 | 5.3 | 5.4 | 5.5 | 5.6 | 5.7 | 5.8 |
| 6 | POISONOUS LIQUIDS | 6.1 | 6.2 | 6.3 | 6.4 | 6.5 | 6.6 | 6.7 | 6.8 |
| 7 | RADIOACTIVE MATERIALS | 7.1 | 7.2 | 7.3 | 7.4 | 7.5 | 7.6 | 7.7 | 7.8 |
| 8 | CORROSIVE LIQUIDS | 8.1 | 8.2 | 8.3 | 8.4 | 8.5 | 8.6 | 8.7 | 8.8 |
| 9 | MISCELLANEOUS | 9.1 | 9.2 | 9.3 | 9.4 | 9.5 | 9.6 | 9.7 | 9.8 |
| 10 | HAZARDOUS MATERIALS | 10.1 | 10.2 | 10.3 | 10.4 | 10.5 | 10.6 | 10.7 | 10.8 |
| 11 | HAZARDOUS MATERIALS | 11.1 | 11.2 | 11.3 | 11.4 | 11.5 | 11.6 | 11.7 | 11.8 |
| 12 | HAZARDOUS MATERIALS | 12.1 | 12.2 | 12.3 | 12.4 | 12.5 | 12.6 | 12.7 | 12.8 |
| 13 | HAZARDOUS MATERIALS | 13.1 | 13.2 | 13.3 | 13.4 | 13.5 | 13.6 | 13.7 | 13.8 |
| 14 | HAZARDOUS MATERIALS | 14.1 | 14.2 | 14.3 | 14.4 | 14.5 | 14.6 | 14.7 | 14.8 |
| 15 | HAZARDOUS MATERIALS | 15.1 | 15.2 | 15.3 | 15.4 | 15.5 | 15.6 | 15.7 | 15.8 |
| 16 | HAZARDOUS MATERIALS | 16.1 | 16.2 | 16.3 | 16.4 | 16.5 | 16.6 | 16.7 | 16.8 |
| 17 | HAZARDOUS MATERIALS | 17.1 | 17.2 | 17.3 | 17.4 | 17.5 | 17.6 | 17.7 | 17.8 |
| 18 | HAZARDOUS MATERIALS | 18.1 | 18.2 | 18.3 | 18.4 | 18.5 | 18.6 | 18.7 | 18.8 |
| 19 | HAZARDOUS MATERIALS | 19.1 | 19.2 | 19.3 | 19.4 | 19.5 | 19.6 | 19.7 | 19.8 |
| 20 | HAZARDOUS MATERIALS | 20.1 | 20.2 | 20.3 | 20.4 | 20.5 | 20.6 | 20.7 | 20.8 |
| 21 | HAZARDOUS MATERIALS | 21.1 | 21.2 | 21.3 | 21.4 | 21.5 | 21.6 | 21.7 | 21.8 |
| 22 | HAZARDOUS MATERIALS | 22.1 | 22.2 | 22.3 | 22.4 | 22.5 | 22.6 | 22.7 | 22.8 |
| 23 | HAZARDOUS MATERIALS | 23.1 | 23.2 | 23.3 | 23.4 | 23.5 | 23.6 | 23.7 | 23.8 |
| 24 | HAZARDOUS MATERIALS | 24.1 | 24.2 | 24.3 | 24.4 | 24.5 | 24.6 | 24.7 | 24.8 |
| 25 | HAZARDOUS MATERIALS | 25.1 | 25.2 | 25.3 | 25.4 | 25.5 | 25.6 | 25.7 | 25.8 |
| 26 | HAZARDOUS MATERIALS | 26.1 | 26.2 | 26.3 | 26.4 | 26.5 | 26.6 | 26.7 | 26.8 |
| 27 | HAZARDOUS MATERIALS | 27.1 | 27.2 | 27.3 | 27.4 | 27.5 | 27.6 | 27.7 | 27.8 |
| 28 | HAZARDOUS MATERIALS | 28.1 | 28.2 | 28.3 | 28.4 | 28.5 | 28.6 | 28.7 | 28.8 |
| 29 | HAZARDOUS MATERIALS | 29.1 | 29.2 | 29.3 | 29.4 | 29.5 | 29.6 | 29.7 | 29.8 |
| 30 | HAZARDOUS MATERIALS | 30.1 | 30.2 | 30.3 | 30.4 | 30.5 | 30.6 | 30.7 | 30.8 |
| 31 | HAZARDOUS MATERIALS | 31.1 | 31.2 | 31.3 | 31.4 | 31.5 | 31.6 | 31.7 | 31.8 |
| 32 | HAZARDOUS MATERIALS | 32.1 | 32.2 | 32.3 | 32.4 | 32.5 | 32.6 | 32.7 | 32.8 |
| 33 | HAZARDOUS MATERIALS | 33.1 | 33.2 | 33.3 | 33.4 | 33.5 | 33.6 | 33.7 | 33.8 |
| 34 | HAZARDOUS MATERIALS | 34.1 | 34.2 | 34.3 | 34.4 | 34.5 | 34.6 | 34.7 | 34.8 |
| 35 | HAZARDOUS MATERIALS | 35.1 | 35.2 | 35.3 | 35.4 | 35.5 | 35.6 | 35.7 | 35.8 |
| 36 | HAZARDOUS MATERIALS | 36.1 | 36.2 | 36.3 | 36.4 | 36.5 | 36.6 | 36.7 | 36.8 |
| 37 | HAZARDOUS MATERIALS | 37.1 | 37.2 | 37.3 | 37.4 | 37.5 | 37.6 | 37.7 | 37.8 |
| 38 | HAZARDOUS MATERIALS | 38.1 | 38.2 | 38.3 | 38.4 | 38.5 | 38.6 | 38.7 | 38.8 |
| 39 | HAZARDOUS MATERIALS | 39.1 | 39.2 | 39.3 | 39.4 | 39.5 | 39.6 | 39.7 | 39.8 |
| 40 | HAZARDOUS MATERIALS | 40.1 | 40.2 | 40.3 | | | | | |

Physical Hazards Associated

REACTIONS

- Always review what will react to the waste
Section 10 of MSDS or SDS
(e.g. water and sulfuric acid violently react and creates gases and elevated heat, cyanide and acids generate deadly hydrogen cyanide gases, oxidizers and peroxides react violently with solvents and flammables.



Physical Hazards Associated

OTHER REACTIONS

- Pyrophoric chemicals – React with air

- Inert storage areas
- Cool environments



- Water reactive chemicals – Alkali Metals

- Keep away from water
- Sealed containers



Physical Hazards Associated

PRESSURIZED – BULGING DRUMS

- Caused by:
 - Volatilization
 - Heat (30°F-90°F = internal pressure of almost 2psi)
 - Biological degradation
 - Chemical reactions
 - Radiological reactions
 - Elevation changes



Basic Container Handling

- Release pressure from drums slowly before opening
- Do not overfill containers – always leave 10% of air space. (e.g. 5.5 gal. for a 55 gal.)
- **INSPECT** containers before any movement.
- Handle drums containing hazardous materials as little as possible
- Do not move or transport drums that are not properly labeled and that are bulging and/or swelling
- The source of bulging and swelling needs to be identified and corrected before movement or transportation occurs

Physical Hazards Associated

ERGONOMICS

- Strains
- Fractures
- Pinches
- Crushing
- Slips, trips and falls
- Hit by equipment



Basic Container Handling

- Do Not Chime Drums
- Use material handling equipment
- Store containers on flat ground
- Store containers that are outside off earth material on a pallet or cement pad to avoid rot and sinking.
- Be cautious of wet and icy areas



Health Hazards Associated

- Chemical burns
 - Inhalation hazards
-
- Wear PPE – 1910.132 (d)(2)
 - Keep containers closed when not in use
 - Ventilate areas
 - Refer to the container manufacturers closure instructions for proper torque specs – DOT HMR Specific



Do's and Don'ts With Waste

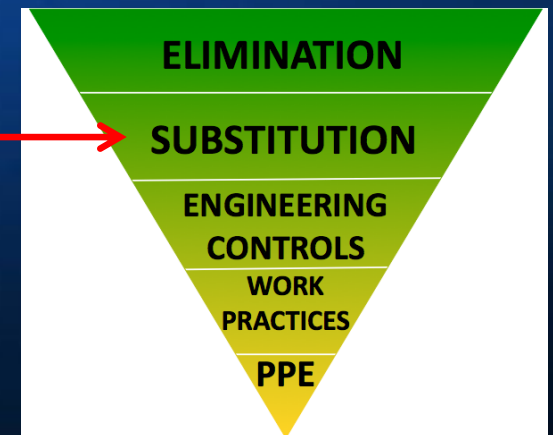
- Do not add hazardous waste to non hazardous waste (e.g. If you have a non hazardous waste oil drum and you add almost any amount of a solvent or gasoline it will most likely now become a hazardous waste).
 - Can move you from a CESQG - SGQ - LQG
 - Can become costly
e.g. Mercury debris

BEST PRACTICES

Substitute with environmentally safer chemicals

e.g. NO F-listed Solvents

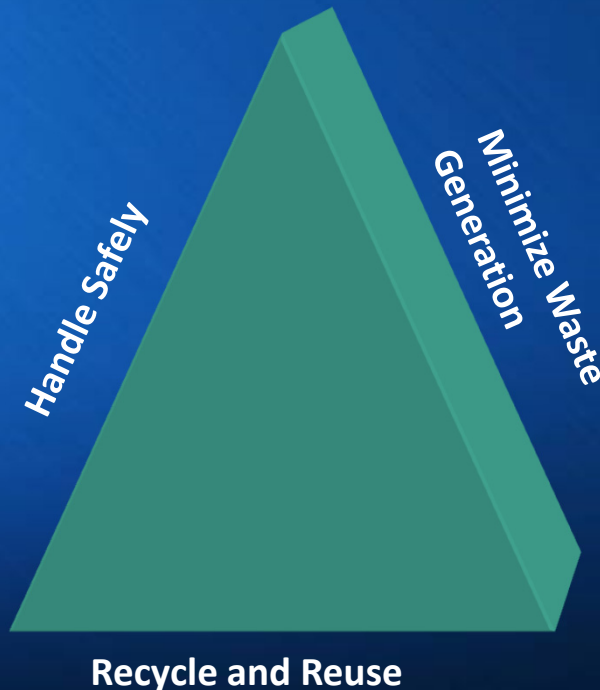
- Presents less physical and health hazards to the employee which = less medical monitoring costs and less PPE costs
- Saves on disposal costs
- Protects the workplace environment
- Less environmental risk = less insurance premiums



BEST PRACTICES

EPA RCRA program set three goals:

- To protect human health and the environment.
- To reduce waste and conserve energy and natural resources.
- To reduce or eliminate the generation of hazardous waste as expeditiously as possible.



BEST PRACTICES

- COMMUNICATE HAZARDOUS WASTE STORAGE AREAS



BEST PRACTICES

Purge the old
chemicals



DEC VISIT &
PAYDAY \$\$\$\$\$\$\$\$\$\$



+

NO
IDENTIFICATION

+

BROKEN
AND SPILL

=



BEST PRACTICES

- Store chemicals on plastic trays



- Store chemicals on containment



BEST PRACTICES

- Provide emergency showers and eyewashes



- Have the proper first aid equipment readily available for the type of waste



BEST PRACTICES

- Manage wastes and maintain good housekeeping



- Swept floors prevents punctures to the bottom of drums preventing spills
- Strap containers or band containers together
- Use material handling equipment as designed – do not get rambunctious
- Be cautious with industrial trucks



BEST PRACTICES

- Do not place acid and caustics in steel containers, ONLY UN Spec. plastic containers
- Do not place liquids in open top containers designed for solids only
- Can use column 8 of the HAZMAT Table to select containers

Sample from the Hazardous Materials Table									
Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identification Numbers	PG	Label Codes	Special provisions (§172.102)	(8) Packaging (§173.***)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	Exemptions (8A)	Non-bulk (8B)	Bulk (8C)
	Magnesium peroxide	5.1	UN1476	II	5.1	IB6, IP2, T3, TP33	152	212	242
	Magnesium phosphide	4.3	UN2011	I	4.3, 6.1	A19, N40	None	211	None
	Magnesium, powder or Magnesium alloys, powder	4.3	UN1418	I	4.3, 4.2	A19, B56	None	211	244
				II	4.3, 4.2	A19, B56, IB5, IP2, T3, TP33	None	212	241
				III	4.3, 4.2	A19, B56, IB8, IP4, T1, TP33	None	213	241

BEST PRACTICES

- Store waste containers at satellite accumulation areas – this minimizes movement and frequency a spill can occur
- Stage spill kits in satellite accumulation areas and other prone spill areas

Spill kits are going to comprise of an outer overpack container, absorbent pads, absorbent speedi-dri, boom, compatible neutralizers & PPE



Labeling and Communicating the Hazards

- Both OSHA and MSHA require hazard identification on containers whether it is a product or a waste
- Use SDSs to confirm proper shipping names
- Refer to the DOT - HMR-hazardous material table column 2, 3, 4, 5, 6 to find a proper shipping name and proper hazard classification

Labeling and Communicating the Hazards

Sample from the Hazardous Materials Table

Sym-bols (1)	Hazardous materials descriptions and proper shipping names (2)	Hazard class or Division (3)	Identifica-tion Numbers (4)	PG (5)	Label Codes (6)	Special provisions (§172.102) (7)	(8) Packaging (§173.***)		
							Except ions (8A)	Non-bulk (8B)	Bulk (8C)
	Magnesium peroxide	5.1	UN1476	II	5.1	IB6, IP2, T3, TP33	152	212	242
	Magnesium phosphide	4.3	UN2011	I	4.3, 6.1	A19, N40	None	211	None
	Magnesium, powder or Magnesium alloys, powder	4.3	UN1418	I	4.3, 4.2	A19, B56	None	211	244
				II	4.3, 4.2	A19, B56, IB5, IP2, T3, TP33	None	212	241
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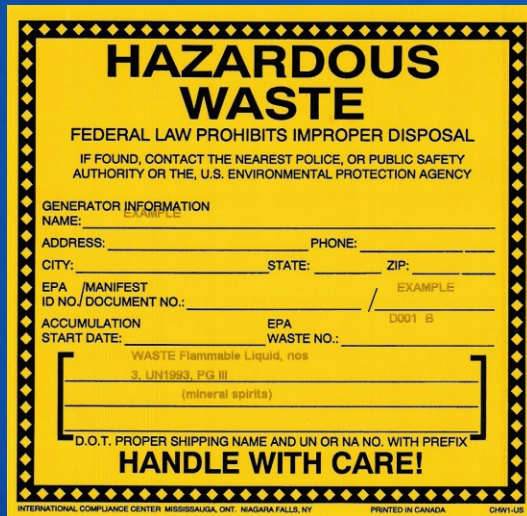
Labeling and Communicating the Hazards

Markings are used to communicate the Generator info and the name of the waste. They must be:

- Durable
- In English
- Printed on or affixed to the surface of a package or on a label, tag, sign, etc.
- Not concealed or hidden by other labels or attachments
- Located away from other markings, like advertising or trademarks, that could reduce their effectiveness

Labeling and Communicating the Hazards

Examples of markings used for waste containers



HAZARDOUS WASTE

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

GENERATOR INFORMATION
NAME: _____ PHONE: _____
ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____
EPA /MANIFEST ID NO./DOCUMENT NO.: _____ / EXAMPLE
ACCUMULATION START DATE: _____ EPA WASTE NO.: _____ D001-B

WASTE Flammable Liquid, nos
3, UN1993, PG III
(mineral spirits)

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

INTERNATIONAL COMPLIANCE CENTER, MISSISSAUGA, ONT. NIAGARA FALLS, NY PRINTED IN CANADA CHW1-US



**NON-RCRA
REGULATED
WASTE**

NON-RCRA REGULATED WASTE



**NON-
HAZARDOUS
WASTE**

GENERATOR INFORMATION: (optional)

SHIPPER:
ADDRESS:
CITY, STATE, ZIP:
CONTENTS:

SOLID WASTE EXCELLENT
HYDRO INSULATION LUMBER
48 CUBIC METERS

NON-HAZARDOUS WASTE



**UNIVERSAL
WASTE**

OPTIONAL INFORMATION:

SHIPPER
ADDRESS
CITY, STATE, ZIP
CONTENTS

NON-REGULATED WASTE




**SPECIAL
WASTE**

GENERATOR INFORMATION: (optional)

SHIPPER:
ADDRESS:
CITY, STATE, ZIP:
SHIPPING NAME:
PHONE:

SPECIAL WASTE



**CAUTION
CONTAINS
PCBs**
(Polychlorinated Biphenyls)

A toxic environmental contaminant
requiring special handling and disposal in
accordance with U S Environmental
Protection Agency Regulations 40 CFR 761
For Disposal Information contact the
nearest US E.P.A. Office.

In case of accident or spill, call toll free the
US Coast Guard National Response Center:
800-424-8802

Also Contact
Tel. No. _____

Labeling and Communicating the Hazards

Labels are used to communicate the hazard of the waste. They must be:

- Durable
- In English
- Printed on or affixed to the surface of a package or on a label, tag, sign, etc.
- Not concealed or hidden by other labels or attachments
- Located away from other markings, like advertising or trademarks, that could reduce their effectiveness

Labeling and Communicating the Hazards

Examples of labels used for waste containers that are DOT and/or EPA hazardous

HAZARDOUS MATERIALS LABELING CHART											
CLASS 1 Explosive 1.1, 1.2, 1.3 *Include appropriate division number and compatibility group.	CLASS 1 Explosive 1.4 *Include appropriate compatibility group.	CLASS 1 Explosive 1.5 *Include appropriate compatibility group.	CLASS 1 Explosive 1.6 *Include appropriate compatibility group.	CLASS 1 Explosive 1.5 *Include appropriate compatibility group.	CLASS 1 Subsidiary Division number or compatibility group may not be displayed.	CLASS 2 Division 2.1 Flammable gas					
CLASS 2 Division 2.2 Non-flammable gas	CLASS 2 Division 2.2 Oxygen	CLASS 2 Division 2.3 Poison gas	CLASS 3 Flammable liquid	CLASS 4 Division 4.1 Flammable solid	CLASS 4 Division 4.2 Spontaneously combustible						
CLASS 4 Division 4.3 Dangerous when wet	CLASS 5 Division 5.1 Oxidizer	CLASS 5 Division 5.2 Organic peroxide	CLASS 6 Division 6.1 Poison inhalation hazard	CLASS 6 Division 6.1 Poison	CLASS 6 Division 6.1 Toxic <small>The word "TOXIC" is allowed to be used in place of the word "POISON".</small>						
CLASS 6 Division 6.1 <small>Packing Group III The word "PG III" is allowed to be used in place of the word "POISON".</small>	CLASS 6 Division 6.2 Infectious substance	CLASS 7 Radioactive I	CLASS 7 Radioactive II	CLASS 7 Radioactive III	CLASS 7 Fissile						
CLASS 7 <small>For Class 7 packages that meet the requirements in §173.426.</small>	CLASS 8 Corrosive	CLASS 9 Miscellaneous	SUBSIDIARY RISK <small>(Unnumbered labels are allowed until October 1, 2006. See §172.402(b).)</small>	FOR AIRCRAFT Cargo aircraft only		 Magnetized material					

GENERAL GUIDELINES ON USE OF HAZMAT LABELS

- The shipper must attach the appropriate label(s) to each package of hazardous material offered for shipment unless excepted from labeling requirements. (§172.400)
- If the material in a package has more than one hazard classification, the package must be labeled for each hazard. (§172.402)
- When two or more hazardous materials of different classes are packed within the same packaging or outer enclosure, the outside of the package or enclosure must be labeled for each class of hazardous material involved. (§172.404)
- Radioactive materials requiring labeling, must be labeled on two opposite sides of the package. (§172.403)
- A label should only be applied to a package containing a hazardous material if it represents the hazard inside. (§172.401)
- No one may offer or transport a package bearing any marking or label which by its color, design, or shape could be confused with a hazardous materials label. This does not prohibit the use of labels in conformance with U.N. Recommendations, IMDG Code, ICAO Technical Instructions, or TDG Regulations. (§172.401)

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GENERAL GUIDELINES ON USE OF HAZMAT LABELS

- The shipper must attach the appropriate label(s) to each package of hazardous material offered for shipment unless excepted from labeling requirements. (§172.400)
- If the material in a package has more than one hazard classification, the package must be labeled for each hazard. (§172.402)
- When two or more hazardous materials of different classes are packed within the same packaging or outer enclosure, the outside of the package or enclosure must be labeled for each class of hazardous material involved. (§172.404)
- Radioactive materials requiring labeling, must be labeled on two opposite sides of the package. (§172.403)
- A label should only be applied to a package containing a hazardous material if it represents the hazard inside. (§172.401)
- No one may offer or transport a package bearing any marking or label which by its color, design, or shape could be confused with a hazardous materials label. This does not prohibit the use of labels in conformance with U.N. Recommendations, IMDG Code, ICAO Technical Instructions, or TDG Regulations. (§172.401)



Labeling and Communicating the Hazards



Marking

Label



Liquid = fuels, oils



Closed Steel

Solids = oily debris, grease



Open Steel

Liquid = acids, caustics



Closed Plastic

Solids = corrosive salts, batteries



Open Plastic

Preventative measures to prevent and minimize spills

Pollution prevention options can be broken into categories: management practices, good housekeeping, inventory control, preventative maintenance, equipment and process modifications. If your business is just starting a pollution prevention program, start with some easy and inexpensive practices. Some of the easiest and least-expensive practices produce the most-effective pollution prevention results.

MANAGEMENT PRACTICES

- Good management of waste, especially hazardous waste, often saves companies money. Management practices include: good housekeeping, inventory control, employee training, material safety data sheets (MSDS), preventive maintenance, and spill response planning. After reading the management practice ideas below, you will notice that your business will require little or no capital expense to practice these pollution prevention methods. You may have to spend a little extra time familiarizing yourself and your employees with some new ideas and procedures.

GOOD HOUSEKEEPING

- If your operation is clean and orderly, there is better control over materials and equipment and less likelihood of spills. The result is less waste generation. Here are some basic good housekeeping guidelines:
- Don't mix hazardous wastes with nonhazardous wastes, since this increases the amount of waste that must be disposed of as a hazardous waste.
- Designate appropriate storage areas for all equipment, materials, and wastes.
- Require every employee to return all materials and equipment to their designated area.
- Use drip pans for equipment cleaning to avoid having to clean up spills.
- Keep containers of solvents, paint thinners and other materials closed when not in use to avoid losing valuable raw materials to the air.
- Keep different types of wastes separate since this practice may increase the possibility of recycling.
- Establish a procedure and a schedule to inspect chemical receiving, storage, and mixing areas for cleanliness and neatness.

INVENTORY CONTROL

- Managing the chemical inventory includes rotating the stock so that the oldest is used first. Some materials break down over extended storage time and thus may become unusable. When these products are discarded, they may become hazardous wastes. To avoid having to dispose of unused materials, incorporate the following into your supply procedures:
- Order materials on an as-needed basis. If ordering in bulk, check with your vendors to see if they will take back unused portions.
- Mark the purchase date on containers and use older materials first.
- Control the use of hazardous materials so that these materials are not used unnecessarily when a substitute would work.
- Don't use solvents if there are effective substitutes such as detergents (e.g., for hand cleaning, floor cleaning).
- Try to use one multipurpose solvent rather than several different solvents. This will increase the recycling potential of the spent solvent. It will also permit you to buy the multipurpose solvent in bulk, thereby saving money.

Preventative measures to prevent and minimize spills

PREVENTIVE MAINTENANCE

- Preventive maintenance programs extend the life of your equipment, keep equipment optimized, minimize downtime, and provide a safe working environment. Practice preventive maintenance of equipment to reduce spills or leaks of materials which may then need to be disposed of as hazardous wastes. Use the recommendations found in the equipment's operating manual as a starting point to develop and implement a preventive maintenance program. To develop and implement a preventive maintenance program:
 - Identify equipment, systems, and structures to which a preventive maintenance program should apply.
 - Determine appropriate preventive maintenance activities and the schedule for this maintenance.
 - Perform the preventive maintenance activities.
 - Keep all the preventive maintenance records on file.

EQUIPMENT AND PROCESS MODIFICATIONS

- Equipment and process modifications are two other ways to prevent the generation of hazardous wastes. In some cases, it may not be possible or economical to modify your equipment or process. Many small businesses may not need to make any equipment or process modifications in order to minimize their waste. These options, however, should be examined in your pollution prevention planning before you make any changes. The best way to start is to list separately the modifications you are considering for each sector of your business. You may wish to consult other sources for additional guidance.

Preventative measures to prevent and minimize spills

HAZARDOUS MATERIALS / HAZARDOUS WASTE Storage Area Self-Inspection Form

Area(s) Inspected:

Inspection Date	
Area free of spills / leaks (Y/N)	
Proper secondary containment (Y/N)	
Containment area clean (NO Sheen)(Y/N)	
Container conditions sound and closed (Y/N)	
Area well marked as a waste storage area and protected from moving equipment (Y/N)	
The correct container is being used for the type of waste in it (Y/N)	
Ignitable containers are grounded to prevent static electricity (Y/N)	
Hazardous waste containers are marked as a hazardous waste (Y/N)	
Proper hazardous material DOT labels are on containers (Y/N)	
Accumulation dates are marked on containers (Y/N)	
Contents of waste is identified on container marking (Y/N)	
Incompatibles are segregated (Y/N)	
Containment needs to be drained (Y/N)	
Waste is within storage time (Y/N)	
Area is well ventilated (Y/N)	
Spill material/procedures and information are in area and readily available (Y/N)	
Storage area is secure and un-tampered (Y/N)	
Inspector's initials	

**Hazardous Materials and Hazardous
Waste** Storage Areas must be inspected at
least weekly. Explain any problems found
and corrective actions taken:

Hazardous Materials Storage Area inspection Log

Spill Information

- Have a contingency plan per NYS DEC 372.2. A generator must have:
 - designated at least one employee on-site or on call with the responsibility for coordinating emergencies
 - post the name and phone numbers of the emergency coordinator next to the telephone
 - post the location of fire extinguishers and spill control materials and, if present fire alarms next to the telephone
 - post the number of the fire department next to the telephone unless the facility has a direct alarm
 - post their emergency contractor name and phone number next to the telephone
 - communicate the proper waste handling and emergency procedures with their employees

Spill Information

EMERGENCY RESPONSE INFORMATION

Name of Business: _____

Address of Business: _____

Telephone # of Business: _____

Emergency Coordinator Name: _____

Telephone # of EC: _____

Emergency Phone #(s)

Local Fire Department: _____

Local Hospital: _____

Local Police: _____

Poison Control: 1-800-222-1222

Emergency Contractor Name: _____

Emergency Contractor Phone # _____

EMERGENCY EQUIPMENT INFORMATION

Fire Extinguisher Locations(s) _____

Spill Control Materials Locations(s) _____

Fire Alarm (if present) Locations(s) _____

POST THIS INFO AT ALL ENTRANCES, EXITS AND TELEPHONES. TRAIN YOUR EMPLOYEES ON ITS USE.

Spill Information

EMERGENCY RESPONSE PROCEDURES PLAN

Name of Business: _____

Address of Business: _____

FACILITY EPA ID #: _____

In the event of a chemical or petroleum spill:

1. Ensure people are safe. Isolate the spill area, move people upwind. Refer to emergency response manuals (e.g. ERG Book) for recommended responses. Utilize plant security and/or law enforcement personnel to evacuate surrounding areas, if necessary. **Do not attempt to rescue injured personnel, unless you are qualified and equipped to do so.**

ONLY IF TRAINED TO DO SO:

2. Don personal protective equipment. Before any other response, determine what protective equipment is necessary and wear it. Ensure that the equipment is resistant to the chemical that is spilled.

3. Stop the spill at its source. Determine the source of the spill, and attempt to stop it. It may be as simple as shutting off a valve, patching a leaking tank or pipeline, turning over a container or plugging a drain.

4. Contain the spill using appropriate materials. Use any compatible material that is on-hand. Sand or gravel berms, sorbent materials, and/or plastic can be used to contain liquid spills.

5. Notify the appropriate state agency and representative. If the spilled amount is greater than the EPA reportable quantity, the spill must be reported to the appropriate state agency as soon as possible. Notify the facilities emergency coordinator whenever any spill occurs.

6. Clean up the spill. Dispose of all contamination at an approved disposal facility.

Note: All spills and site emergencies are to be reported immediately to the facilities emergency coordinator. The emergency coordinator will make the appropriate calls to state agencies and emergency contractors.

New York State Spill Hotline: 1-800-457-7362

National Response Center: 1-800-424-8802

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Spill Information

EMERGENCY RESPONSE PROCEDURES REPORT

Name of Business: _____

Address of Business: _____

FACILITY EPA ID #: _____

DATE OF ACCIDENT _____

TIME OF ACCIDENT _____

TYPE OF ACCIDENT (description – fire or spill) _____

NAME OF HAZARDOUS WASTE INVOLVED _____

QUANTITY OF HAZARDOUS WASTE INVOLVED _____

EXTENT OF ANY INJURIES _____

ESTIMATED QUANTITY OF WASTE RECOVERED _____

NAME OF REPORTER: _____

SIGNATURE OF REPORTER: _____

DATE OF REPORT: _____

POST THIS INFO AT ALL ENTRANCES, EXITS AND TELEPHONES. TRAIN YOUR EMPLOYEES ON ITS USE.

Spill Information

Chemical (Hazardous Substances) Spill

Reporting requirements for regulated chemicals or hazardous substances and their reportable quantities are listed in 6 NYCRR Part 597. Any release, spill or overfill that equals or exceeds the “reportable quantity” of a regulated chemical, must be reported to DEC. To report these events, call the DEC Spill Response Hotline at 1-800-457-7362 within two hours of the release, spill or overfill.

In addition, releases of any amount of a regulated chemical (i.e., even if it is less than the reportable quantity) must be reported to DEC within two hours, if it is a release which may enter the environment and result in the following:

- A fire with off-site impacts;
- an explosion;
- violation of air quality standards;
- vapors, dust and/or gases that may cause illness or injury to people outside the shop; or
- runoff from fire control or dilution waters that may cause or contribute to a violation of water quality standards.

The owner or operator must also take immediate action to protect human health, safety and the environment. You are not required to notify DEC within the two-hour time frame if a spill or overfill is captured in an appropriate secondary containment system, you contain the hazardous substance, and you expect to recover or account for the total volume of the spill within 24 hours. However, if the spill or overfill will not be completely contained and recovered or accounted for within 24 hours, or if the secondary containment allows the reportable quantity of chemical to reach the environment, DEC must be notified within 24 hours from the time the spill or overfill occurred. Suspected or probable releases to the environment also must be reported to the DEC hotline within 24 hours of discovery.

Spill Information

Petroleum Spill Reporting Requirements

Petroleum spills that occur within New York State must be reported to the New York State Spill Hotline at 1-800-457-7362 within two hours of discovery, unless they meet all of the following criteria:

- The quantity of the spill is known to be less than 5 gallons;
 - the spill is contained and under the control of the spiller;
 - the spill has not and will not reach the State's water or any land, and;
 - the spill is cleaned up within two hours of discovery.
-
- A spill is considered to have not impacted land if it occurs on a paved surface such as asphalt or concrete and does not pass through to underlying soils. A spill in a dirt or gravel parking lot is considered to have impacted land and is reportable. Other federal and local agencies may also need to be notified, including the National Response Center at 1-800-424-8802, and your local fire and emergency response corps.