HAZCOM – Training

1910.1200

The OSHA HazCom Standard

- The Right-To-Know
- SDS (Safety Data Sheets)
- Chemical Listings
- Labels and Warnings
- Notifying Employees of Workplace Hazardous Chemical Locations

  (authorized and affected employees/students)

Hazard Communication Standard

- **The standard maintains that <u>workers have the right to know</u> the health hazards associated with their exposure to toxic substances:**
  - **A right to make an informed decision**
  - **Trained to observe symptoms of toxic effects**

The New Globally Harmonized System

The Globally Harmonized System (GHS) is an **international approach to hazard communication**, **providing agreed criteria for classification of chemical hazards, and a standardized approach to label elements and safety data sheets.** The GHS was negotiated in a multi-year process by hazard communication experts from many different countries, international organizations, and stakeholder groups. It is based on major existing systems around the world, including OSHA's Hazard Communication Standard and the chemical classification and labeling systems of other US agencies.

Recent Changes to Standard:

- **Hazard classification**: The definitions of hazard have been changed to provide specific criteria for classification of health and physical hazards, as well as classification of mixtures. These specific criteria will help to ensure that evaluations of hazardous effects are consistent across manufacturers, and that labels and safety data sheets are more accurate as a result.

- **Labels**: **Chemical manufacturers and importers will be required to provide a label that includes a harmonized signal word, pictogram, and hazard statement for each hazard class and category. Precautionary statements must also be provided. (Affects us the most)**

- **Safety Data Sheets**: Will now have a specified 16-section format.

Inventory

- **UL Lafayette is required to maintain a list of all hazardous chemicals present in the work area. The list must include:**
  - **Each hazardous chemical name**
  - **Type of container hazardous chemical is stored**
  - **Quantity of that hazardous chemical**
  - **Chemical abstract number (CAS).**

    *****This is collected and updated in Cameo by EH&S every year.**

Hazard Definition

- A toxic or hazardous substance has the capacity to produce personal injury or illness to a person through **ingestion, inhalation, absorption, or injection** through any body surface.
- This concerns any material that is known to be present in the work area in such a manner that personal may be **exposed under normal conditions of use or in a foreseeable emergency.**

What is a Hazard Chemical?

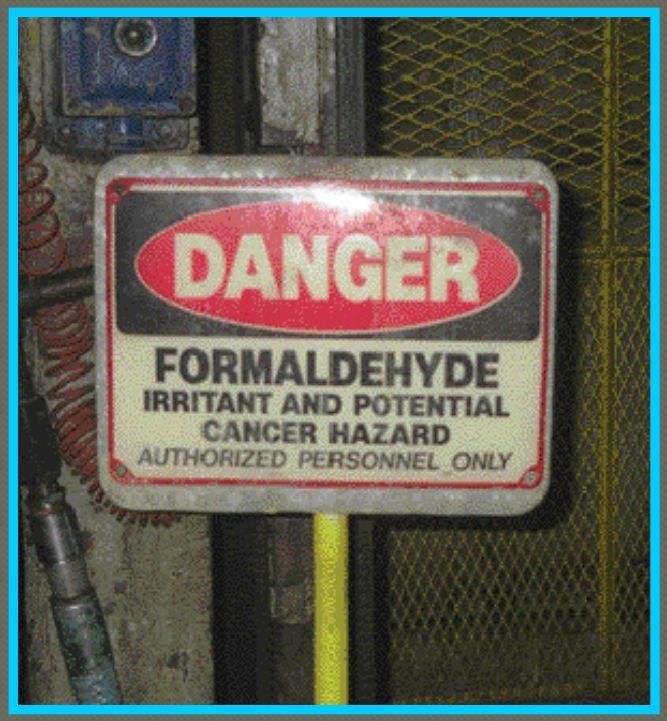
A chemical is considered to be HAZARDOUS if it is a PHYSICAL or a HEALTH hazard.

Hazcom Physical Hazard

- **Examples of Physical Hazards:**

- **Explosives**
- **Flammable Aerosols, Gases, Liquids and Solids**
- **Oxidizing Gases, Liquids and Solids**
- **Gases Under Pressure**
- **Pyrophoric Liquids and Solids** (liable to ignite within five minutes after coming into contact with air)
- **Self-Heating and Self-Reactive Substances**
- **Substances which, in contact with water emit flammable gases**
- **Organic Peroxides**
- **Corrosive to Metals**

HazCom Health Hazards



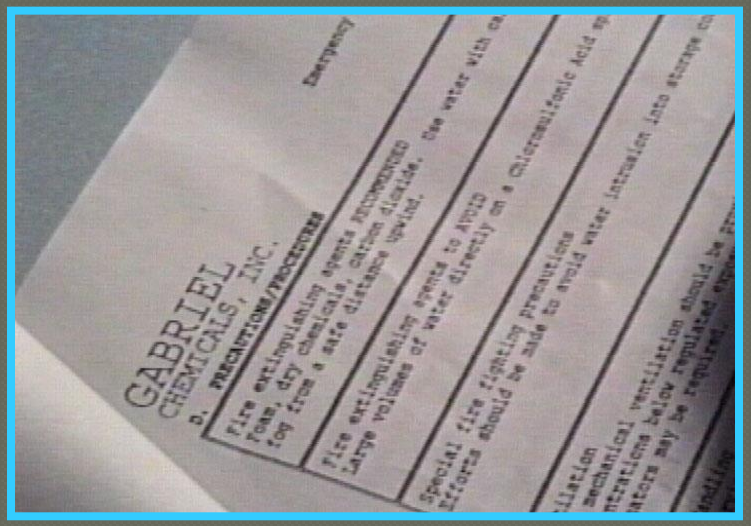
A chemical that has been scientifically proven to cause either **CHRONIC** or **ACUTE** health effects in exposed employees

HazCom Health Hazards

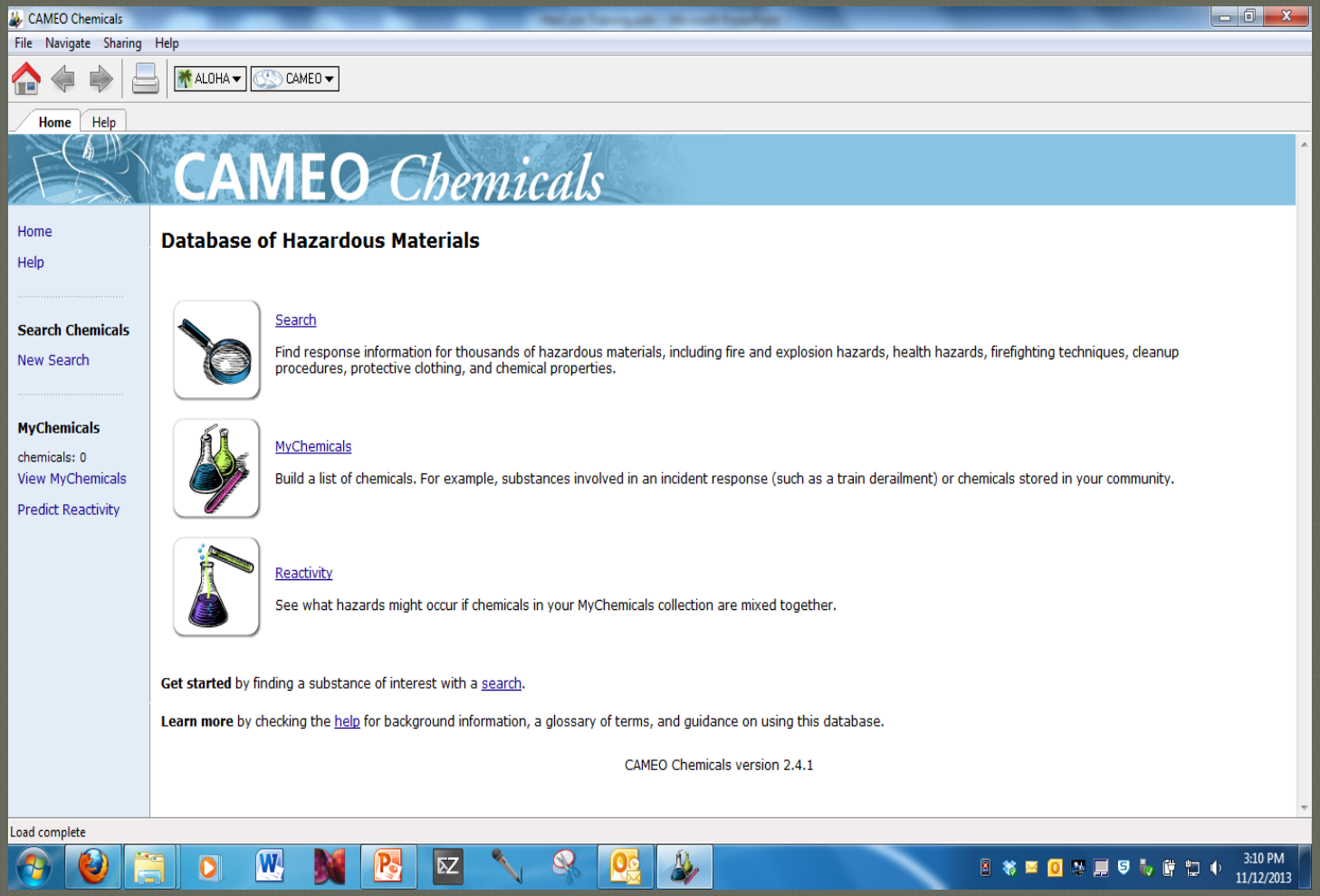
- Acute Toxicity (quickly overwhelmed)
- Skin Corrosion/Irritation
- Serious Eye Damage/Eye Irritation
- Respiratory or Skin Sensitization (Reactions)
- Germ Cell Mutagenicity
- Carcinogenicity
- Reproductive Toxicology
- Target Organ Systemic Toxicity - Single Exposure
- Target Organ Systemic Toxicity - Repeated Exposure
- Aspiration Toxicity (Aspiration is the entry of a liquid or solid directly through the oral or nasal cavity, or indirectly from vomiting, into the trachea and lower respiratory system.)

Safety Data Sheets

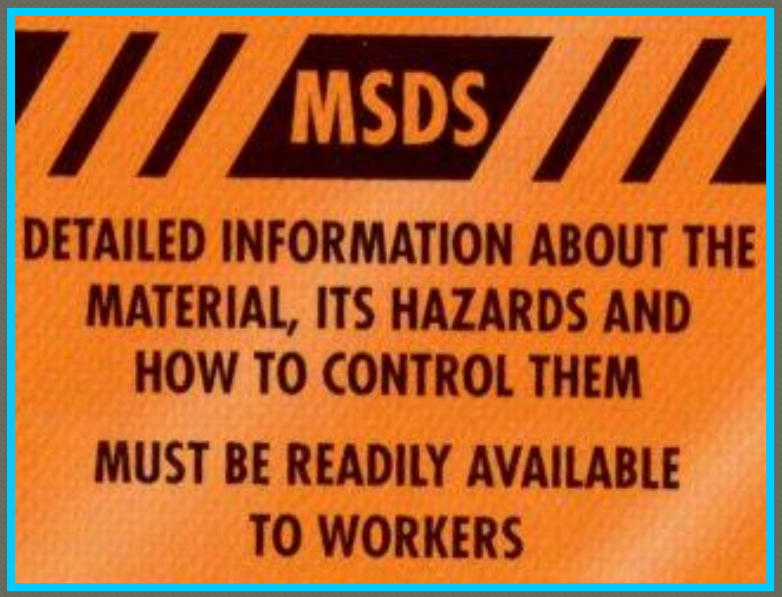
- The safety data sheet (SDS) gives details on chemical and physical dangers, safety procedures, and emergency response techniques
- The may be obtained from the CAMEO Chemicals Program (downloaded to individual hard drives)



Where can you find them?



Hard Copies are Still Encouraged



SDS Sections

- **Section 1. Identification**
- **Section 2. Hazard(s) identification**
- **Section 3. Composition/information on ingredients**
- **Section 4. First-Aid measures**
- **Section 5. Fire-fighting measures**
- **Section 6. Accidental release measures**
- **Section 7. Handling and storage**
- **Section 8. Exposure controls/personal protection**
- **Section 9. Physical and chemical properties**
- **Section 10. Stability and reactivity**
- Section 11. Toxicological information
- Section 12. Ecological information
- **Section 13. Disposal considerations**
- Section 14. Transport information
- Section 15. Regulatory information
- Section 16. Other information, including date of preparation or last revision

Labeling Elements (updated requirements)

- **Pictogram:** a symbol plus other graphic elements, such as a border, background pattern, or color that is intended to convey specific information about the hazards of a chemical. Each pictogram consists of a different symbol on a white background within a red square frame set on a point (i.e. a red diamond). There are nine pictograms under the GHS. However, only eight pictograms are required under the HCS.

- **Signal words:** a single word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. The signal words used are "danger" and "warning." "Danger" is used for the more severe hazards, while "warning" is used for less severe hazards.

Pictogram & Signal Words

HCS PICTOGRAMS & HAZARDS

Health Hazard

- Carcinogen
- Mutagenicity
- Reproductive Toxicity
- Respiratory Sensitizer
- Target Organ Toxicity
- Aspiration Toxicity

Flame

- Flammables
- Pyrophorics
- Self-Heating
- Emits Flammable Gas
- Self-Reactives
- Organic Peroxides

Exclamation Mark

- Irritant (skin and eye)
- Skin Sensitizer
- Acute Toxicity (harmful)
- Narcotic Effects
- Respiratory Tract Irritant
- Hazardous to Ozone Layer (Non Mandatory)

Gas Cylinder

- Gases under pressure

Corrosion

- Skin Corrosion/ burns
- Eye Damage
- Corrosive to Metals

Exploding Bomb

- Explosives
- Self-Reactives
- Organic Peroxides

Flame over Circle

- Oxidizers

Environment (Non-manditory)

- Aquatic Toxicity

Skull & Crossbones

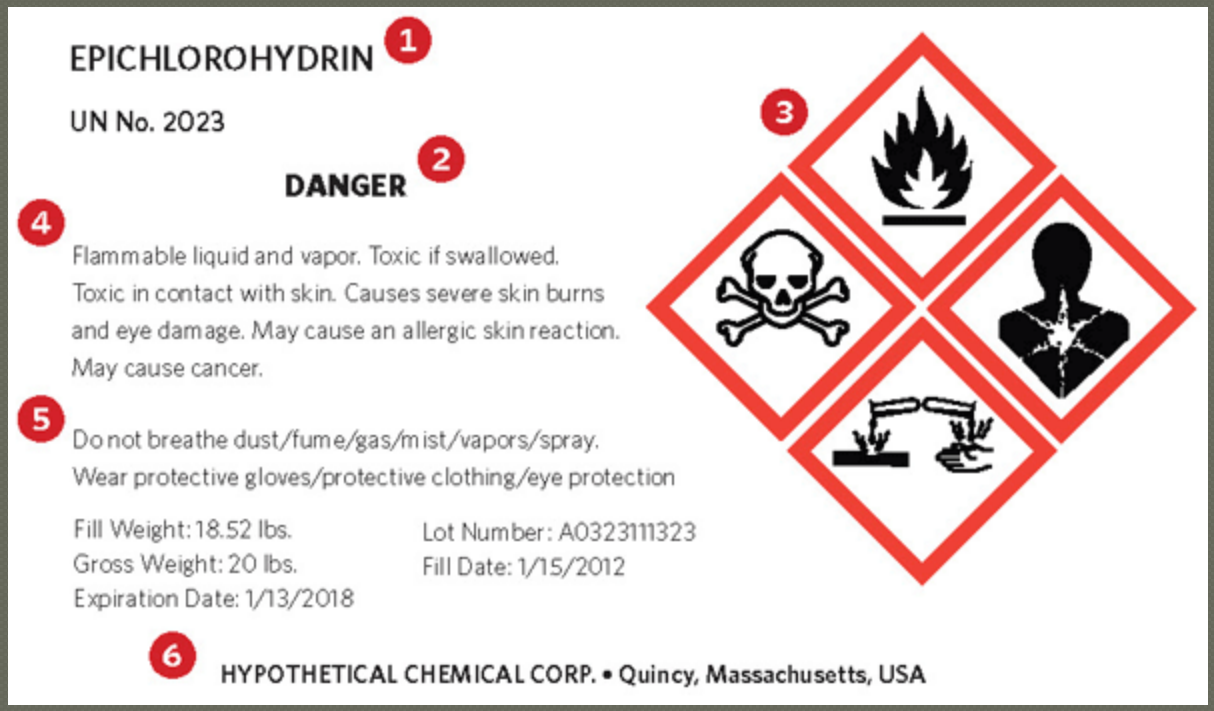
- Acute Toxicity (fatal or toxic)

Labeling Elements, cont.

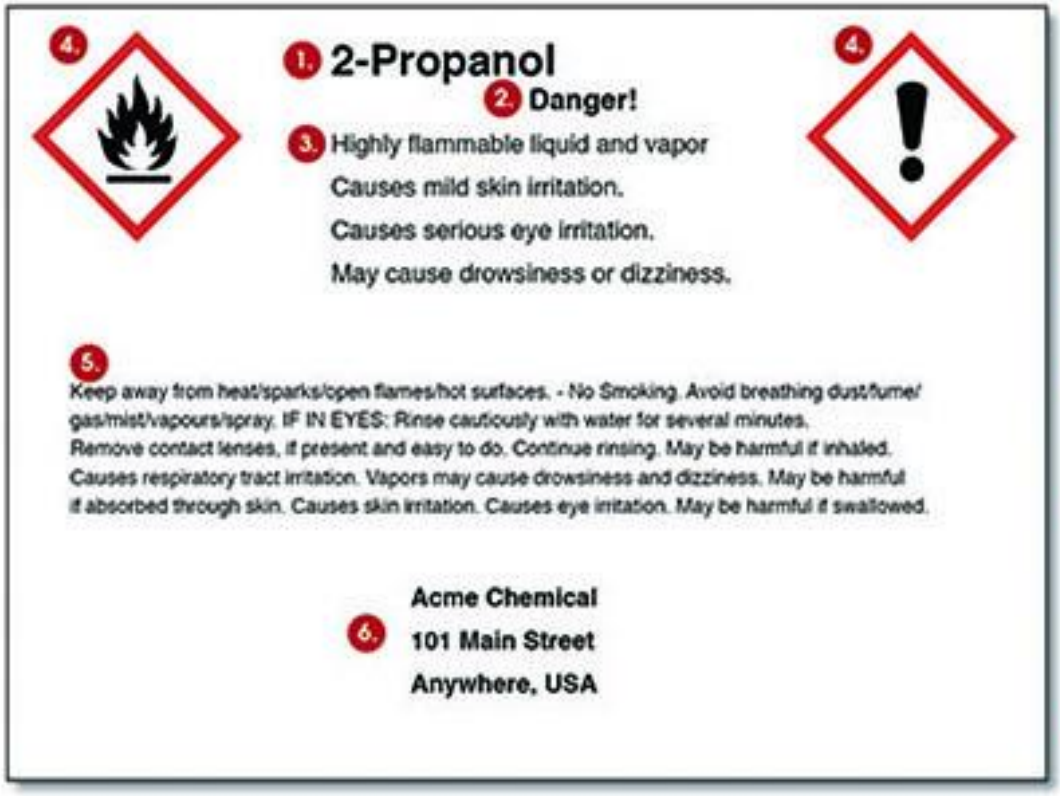
- **Hazard Statement:** a statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.

- **Precautionary Statement:** a phrase that describes recommended measures to be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical, or improper storage or handling of a hazardous chemical.
- **Supplier Information**

Sample of New Labeling Requirements

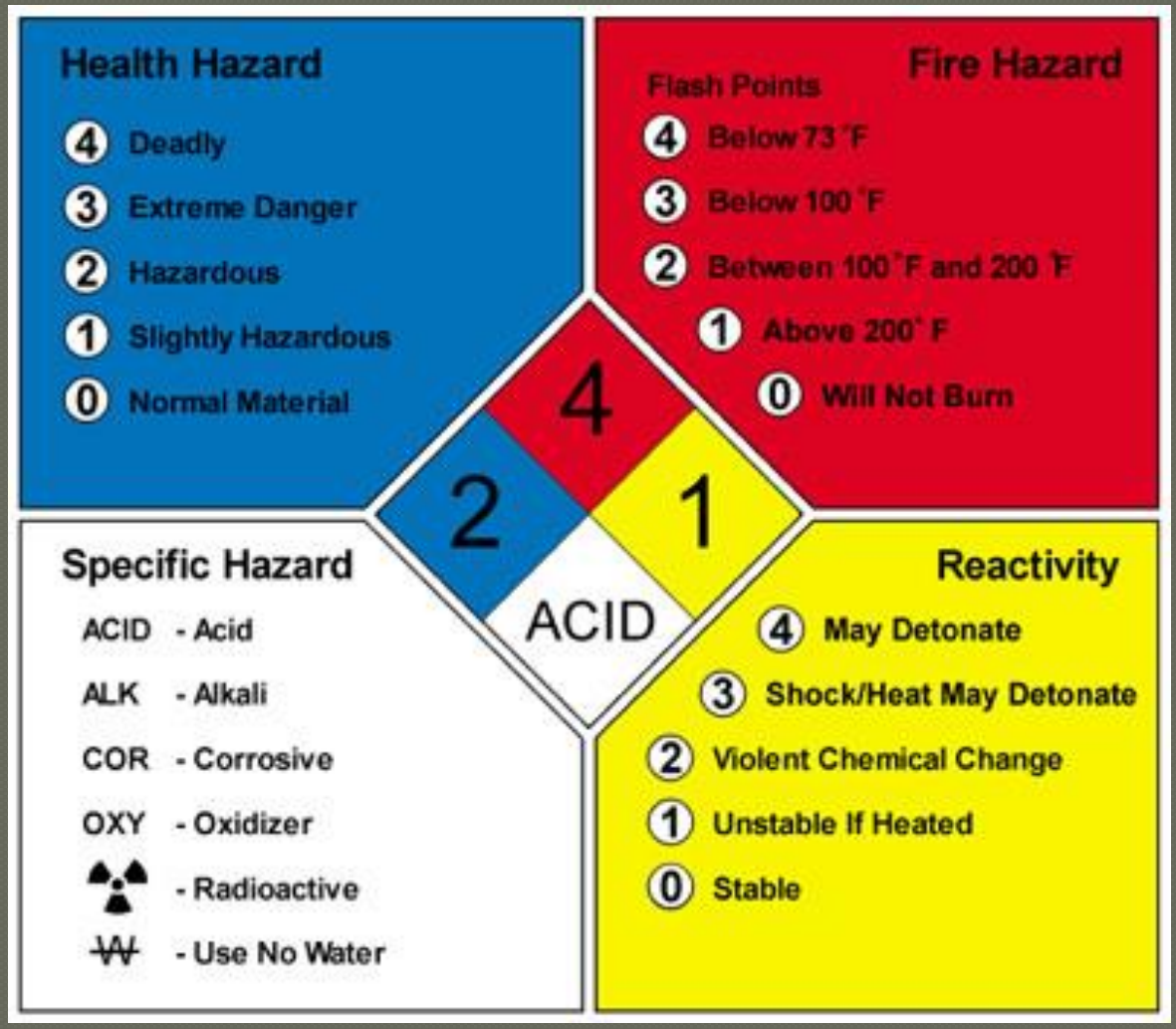


Sample Label

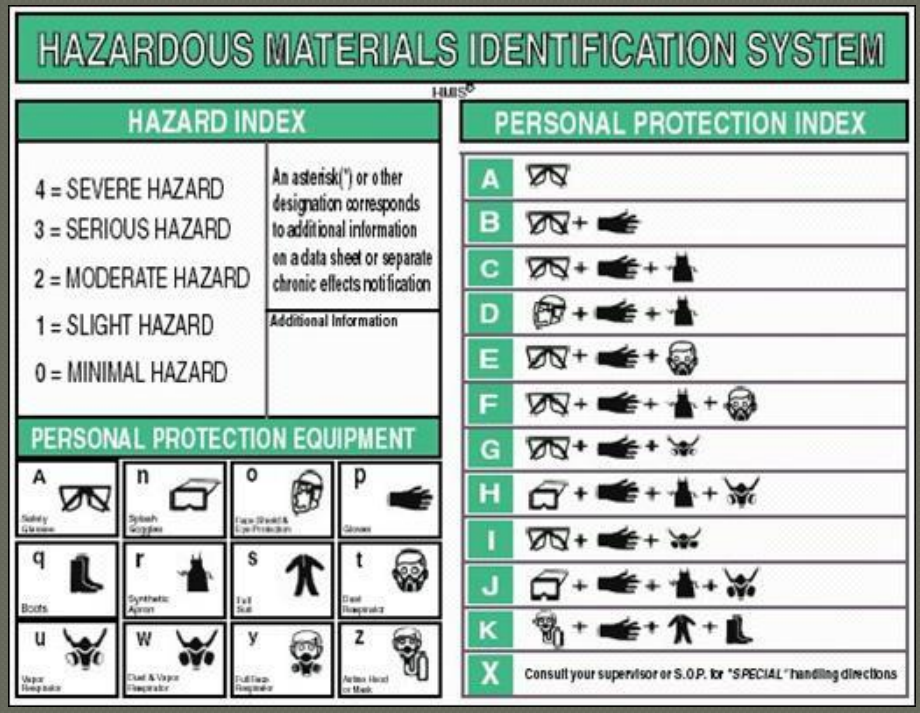


1. **Product Identifier / Ingredient Disclosure** – Chemical name, product name, or other unique identifier.
2. **Signal Word** – When required, the signal word indicates the severity of the hazard of the chemical – "Danger" for more severe and "Warning" for less severe.
3. **Hazard Statement** – Standardized phrases that describe the nature and degree of hazard.
4. **Pictograms** – A black symbol on a white background with a red border which conveys information about the hazards of a chemical.
5. **Precautionary Statement** – Standardized phrases that describe recommended measures that should be taken to minimize or prevent adverse effects that result from exposure to the chemical, or from improper handling or storage.
6. **Supplier Identification** – Name, address, and phone number of the chemical manufacturer, importer, or other responsible party.

NFPA Diamond



HMIS Labeling System



Labeling Exceptions

- Pipes or piping systems
- It is not required to label portable containers into which hazardous materials are transferred from labeled containers, and which are intended only for the immediate use of the employee who makes the transfer

Labeling of Shipped Chemicals

- Under the revised Hazard Communication Standard (HCS), pictograms must have red borders.

- OSHA believes that the use of the red frame will increase recognition and comprehensibility. The red frame is required. (regardless domestic or international)

What's wrong with this picture?

CHEMICAL X

DANGER

HAZARD STATEMENTS:
Fatal If swallowed.
Causes severe skin burns and eye damage.

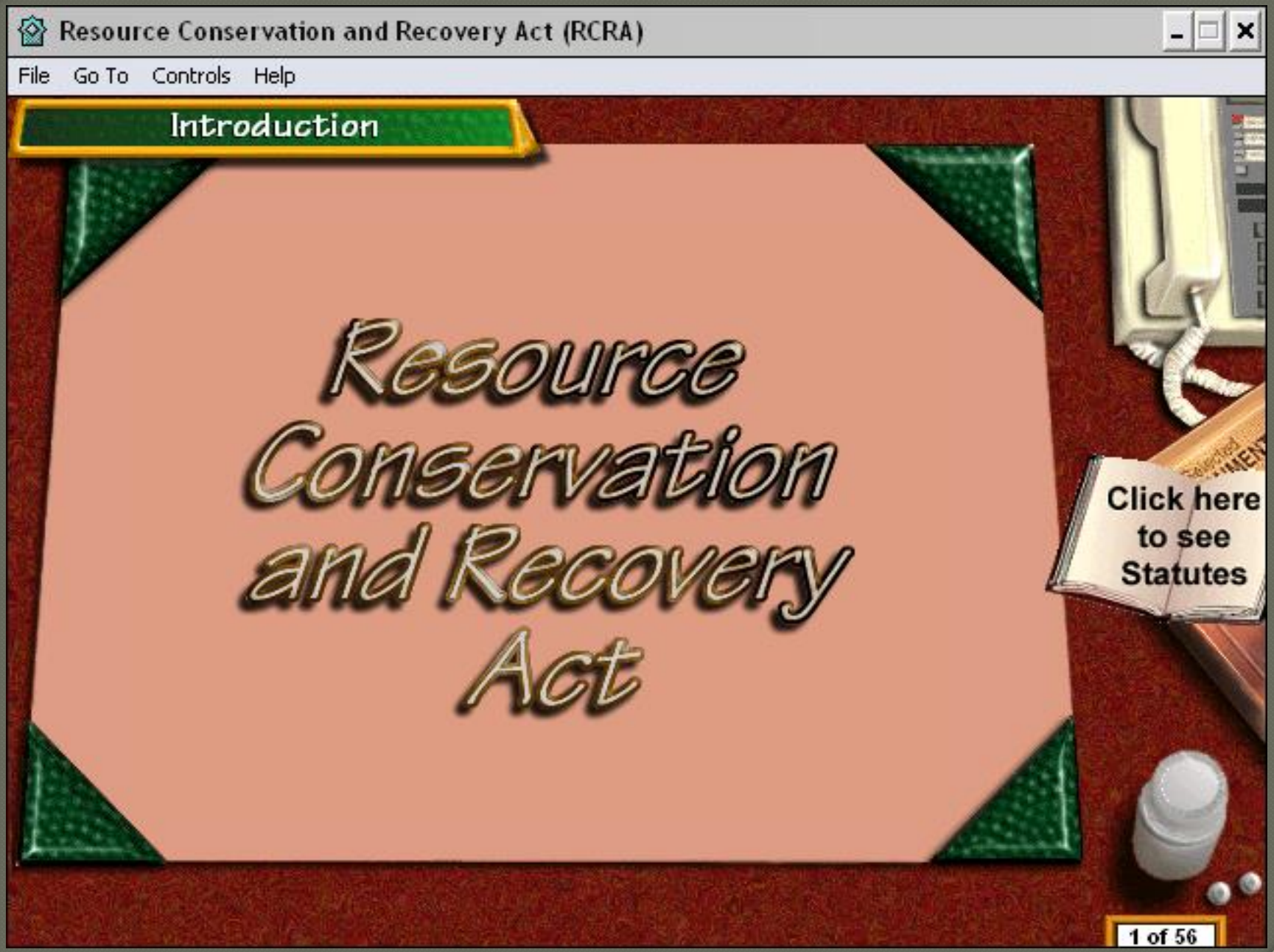
PRECAUTIONARY STATEMENTS:

- Wear protective gloves.
- Wear face protection.
- Do not eat drink or smoke when using this product.
- Wash hands thoroughly after use.
- Store in a sealed container.
- **IF ON SKIN:** Rinse immediately with with cool water.
- **IF IN EYES:** Rinse thoroughly with water and seek medical attention.
- **IF SWALLOWED:** Do not induce vomitting. Seek medical attention.

Dispose of contents/container in accordance with local regulations.

Chemical X Manufacturing, 1234 Over There St., (123) 456-7890

See the S.D.S for more information.


Resource Conservation and Recovery Act (RCRA)
File
Go To
Controls
Help
Introduction
Resource Conservation and Recovery Act
Click here to see Statutes
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Resource Conservation and Recovery Act (RCRA)

File Go To Controls Help

History

United States Congress

1965
Solid Waste
Disposal Act

1976
Resource
Conservation
and Recovery Act

1984
Hazardous &
Solid Waste
Amendments

Resource Conservation and Recovery Act (RCRA)

File Go To Controls Help

What is a Hazardous Waste?

Solid Waste

+

Listed Waste

or

Characteristic Waste

=

Hazardous Waste

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Resource Conservation and Recovery Act (RCRA)

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Listed Wastes

Listed Wastes in 40 CFR 261:

- Wastes derived from specific processes
- Wastes used for specific purposes
- Off-spec chemical products

Resource Conservation and Recovery Act (RCRA)

File Go To Controls Help

Characteristic Wastes

Wastes may be hazardous if they are:

- Toxicity
- Corrosivity
- Reactivity
- Ignitability

Toxicity

- T-Clip Test (Toxicity Characteristic Leaching Procedure
- Sample mixed with Acetic Acid and tumbled for 18 hours
- Filter the mixture
- Contaminants measure in the filtered liquid
- Regulatory Chart gives the limits

Corrosivity

- Aqueous Solutions – PH must be either less than 2 or greater than 12.5
- Non-aqueous Liquids – corrode steel greater than ¼” per year.

Reactivity

- Materials that Explode (per the DOT definition)
- React violently with water or air
- Release toxic vapors or gasses
- Capable of generating Cyanide or Sulfide Gas

Ignitability

- Liquids with a flashpoint of less than 140 degrees Fahrenheit
- Oxidizers or Organic Peroxides

Resource Conservation and Recovery Act (RCRA)

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What is NOT a Hazard?

- Radioactive material regulated under the Atomic Energy Act
- Point source discharges subject to NPDES
- Household wastes
- Domestic sewage
- Irrigation return flows
- Reclaimed or recycled material

Resource Conservation and Recovery Act (RCRA)

File Go To Controls Help

Cradle to Grave

Generator

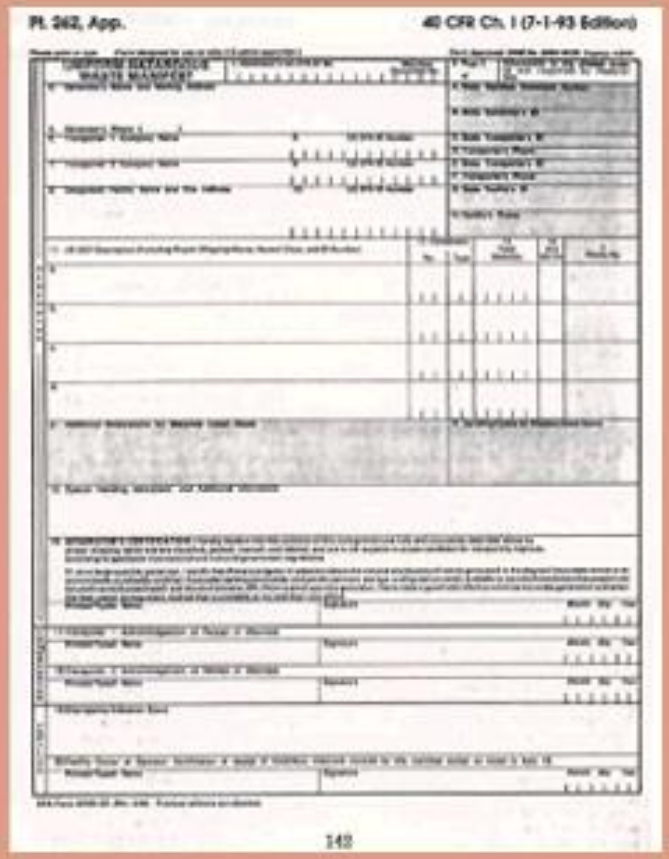
Transporter

TSDF

Resource Conservation and Recovery Act (RCRA)

File Go To Controls Help

Manifests



Pt. 262, App. 40 CFR Ch. I (7-1-93 Edition)

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Resource Conservation and Recovery Act (RCRA)

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Generator Categories

Large Quantity Generator
>1000kg of hazardous waste stored no more than 90 days

Small Quantity Generator
Between 100kg and 1000kg of waste per month; stored no more than 6 months. (9 months for remote locations)

Conditionally Exempt Generator
<100kg/month; cannot accumulate more than 1000kg of waste

Resource Conservation and Recovery Act (RCRA)

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Generator Standards (LQG)

- Notify EPA and obtain EPA ID Number
- Manifest hazardous wastes and keep for 3 years
- Identify and label all hazardous wastes
- Store wastes in safe and appropriate unit
- Have contingency plan
- Train personnel who handle waste

Resource Conservation and Recovery Act (RCRA)

File Go To Controls Help

Smaller Generators

SQG - Same as LQG except:

- Fewer storage regulations
- Simpler contingency plan
- Less stringent personnel training requirements

CESQGs:

- Identify wastes
- Ensure the waste is properly recycled or disposed

Resource Conservation and Recovery Act (RCRA)

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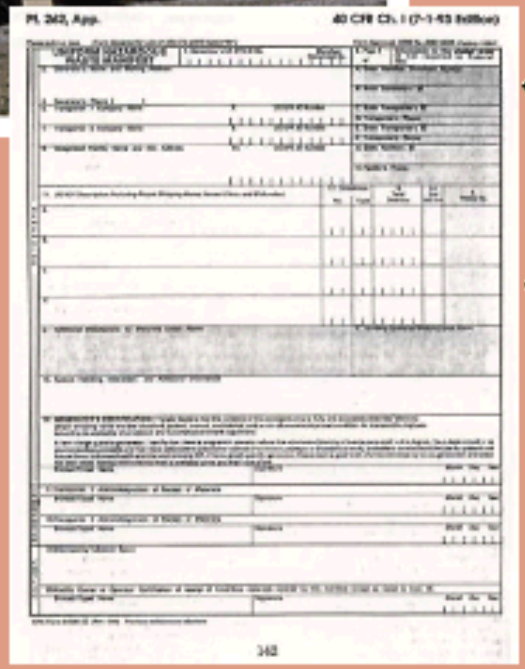
Transporter



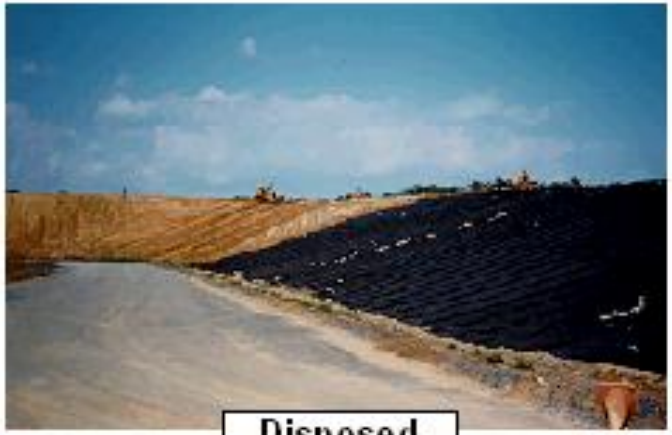
Resource Conservation and Recovery Act (RCRA)

File Go To Controls Help

TSDFs

Treated

Stored



Disposed

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TSDFs

Examples of treatment include:

- Incineration
- Filtration
- Solidification
- Chemical treatment

Hazardous residues from treatment are sent to Subtitle C disposal facilities.

Enforcement

- Louisiana is an Agreement State

DEQ enforces our Hazardous Waste Regulation
Fine is no more than $32,500.00 per day per violation

- Most prevalent violation is failure to train

Second most prevalent violation is improperly stored waste

- Third most prevalent violation is improperly labeled waste.

Satellite Accumulation

- May not store more than 55 gallons of 1 waste in 1 location
- May not store accumulated waste for longer than 9 months

(Cost plays a role in this)

Labeling

- Words “Hazardous Waste” – letters 2” high
- Identify the waste (trade name acceptable, but not preferred)
- Start Accumulation Date

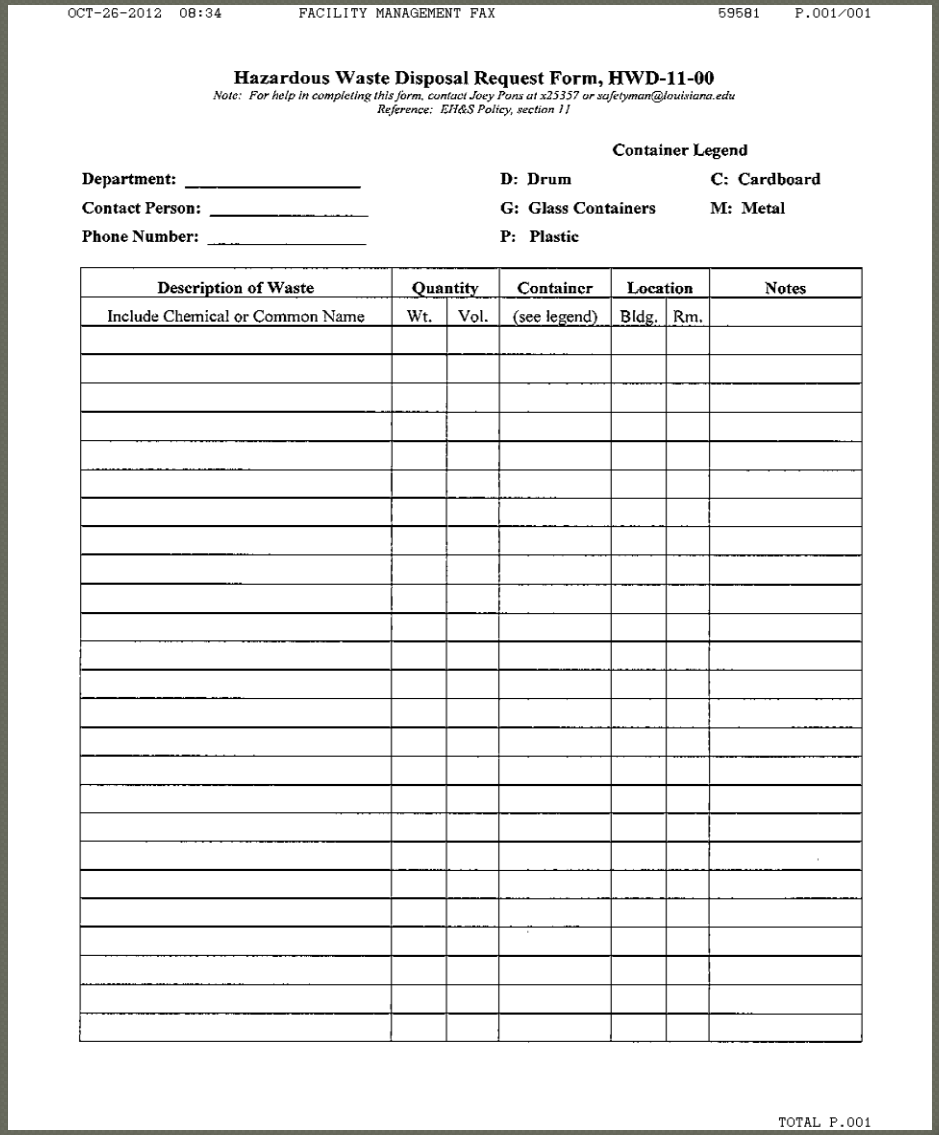
Disposal Process

- 4 pickups per year
- University pays for this (not Department)
- Waste management is important to keep cost down

Disposal Process (cont.)

- 2 weeks out – notice sent via email

- Please complete the HWD form
- Please be specific



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Hazardous Waste Disposal Request Form, HWD-11-00

Note: For help in completing this form, contact Joey Pons at x25357 or safetyman@louisiana.edu
Reference: EH&S Policy, section 11

Department: _____
Contact Person: _____
Phone Number: _____

Container Legend

D: Drum **C: Cardboard**
G: Glass Containers **M: Metal**
P: Plastic

Description of Waste	Quantity		Container	Location		Notes
Include Chemical or Common Name	Wt.	Vol.	(see legend)	Bldg.	Rm.	

TOTAL P.001

Spills

- Small – able to be contained within 1 room and do not pose a threat to people or property
- Large – can spread beyond 1 room OR pose a threat to people or property

Spills (cont.)

- Small – Use proper methods to contain, neutralize, and/or clean up spill
- Large – Contact University Police, request first responder assistance as necessary. Make sure my office is contacted (contracted spill clean up)

VIDEO