GHS and HazCom

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Training Outline

- Federal Laboratory Standards
- Globally Harmonized System of Classification and Labeling of Chemicals (GHS)
- Potential Hazards at Einstein
- Safety Data Sheets (SDS)
- Chemical Toxicology
- Personal Protective Equipment (PPE)
- Chemical Storage/Disposal
- Emergency Procedures

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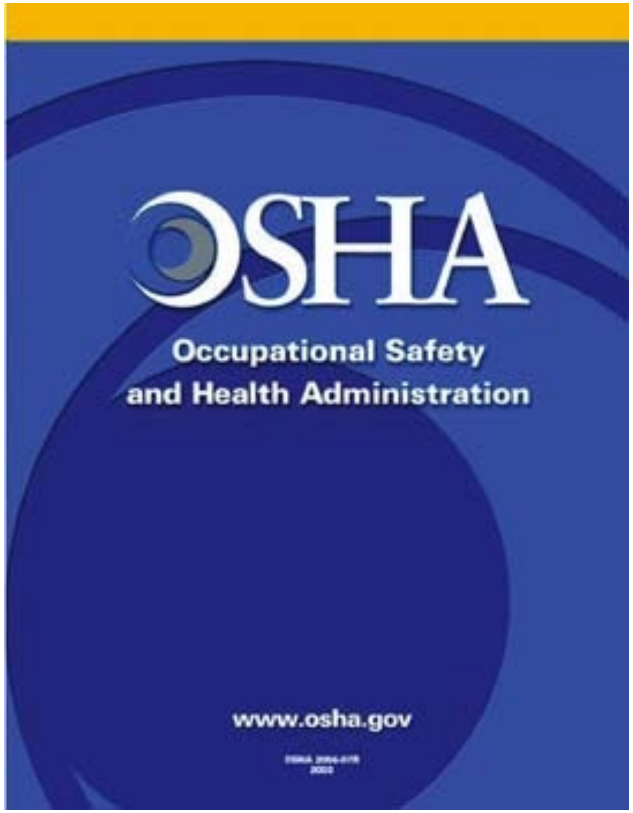
What is Hazard Communication?



Defined under two Occupational Safety and Health Administration (OSHA) regulations:

- Hazard Communication Standard (HCS) [29 CFR1910.1200]
- Occupational Exposure to Hazardous Chemicals in Laboratories (29 CFR 1910.1450)

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Hazard Communication Goal

"Protect people from injuries and illnesses associated with using hazardous chemicals in the workplace".

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Hazard Communication Standard

Purpose:

- To ensure that the hazards of all chemicals produced or imported are classified and that the information is transmitted to employees.
- To provide employees with the necessary tools to protect themselves and their co-workers.
- HCS is aligned with the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

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Hazard Communication Standard

Accomplished via:

- Written Hazard Communication Plan
- Chemical inventory
- Employee training
- Safety Data Sheets (SDS)
- Personal Protective Equipment (PPE)
- Engineering controls
- Container labeling & warnings

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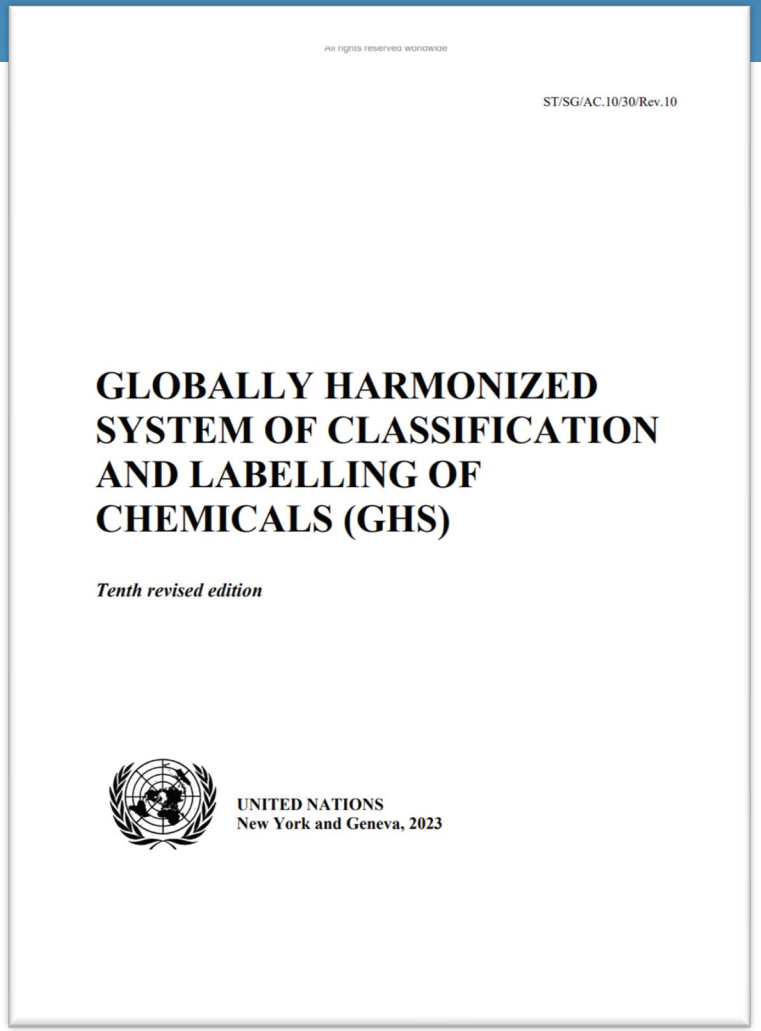
What is the "Globally Harmonized System of Classification of Labeling of Chemicals" (GHS)?

- An international system for standardizing and harmonizing the classification of health, physical, and environmental hazards and labeling of chemicals including mixtures.

https://unece.org/sites/default/files/2023-07/GHS%20Rev10e.pdf



What is the "GHS"? (Continued)

- Information about identities and hazards of the chemicals must be available and understandable to workers.

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Globally Harmonized System of Classification of Labeling of Chemicals (GHS)

- Harmonize and improve safety information
- Facilitate international trade through compatible classification methods, SDS and labels
- Accomplished via:
  - Defining health, physical and environmental hazards of chemicals
  - Creating classification processes that use available data on chemicals for comparison with the defined hazard criteria
  - Communicating hazards and protective measures on labels and SDS.

HCS and Adoption of GHS

Major changes to the HCS are:

- **Hazard Classification:** Provides specific criteria for classification of health, intrinsic properties, physical hazards, as well as classification of mixtures.
  - Intrinsic properties include change in chemical's physical form and chemical reaction products associated with the known or reasonably anticipated uses or applications (2024 Revision).

HCS and Adoption of GHS (Continued)

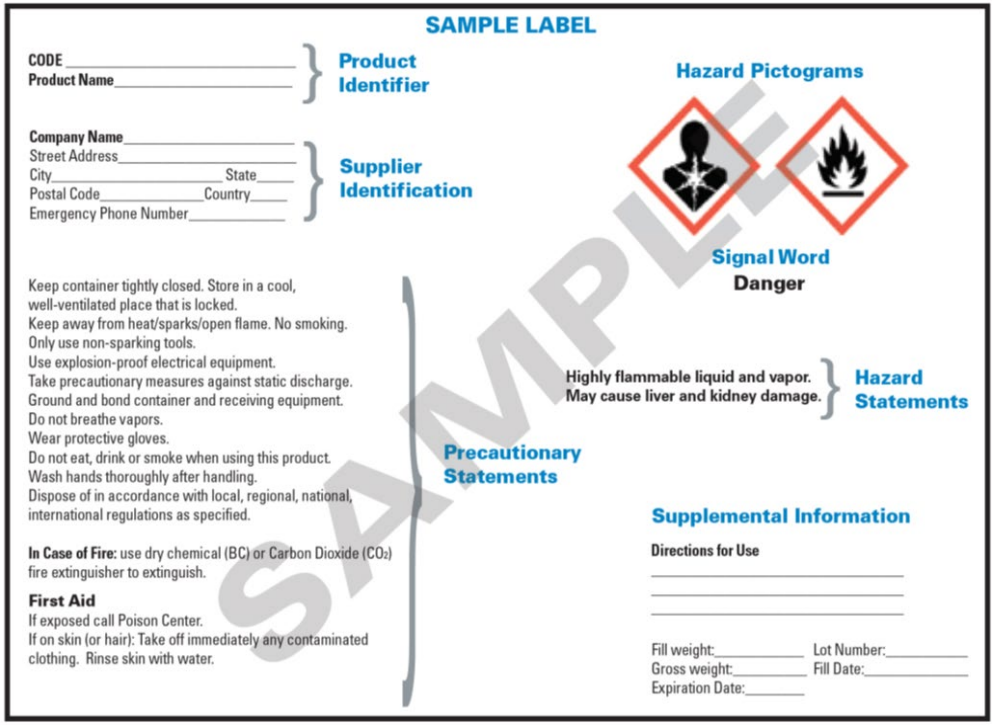
Major changes to the HCS are:

- **Labels:** Chemical manufacturers and importers are required to provide a label that must include a harmonized signal word, pictogram, and hazard statement for each hazard class and category, and a Precautionary statement.
- **Safety Data Sheets:** Now have a 16-section format.
- **Information and Training:** Employers are required to train workers on the new label elements and SDS to facilitate recognition and understanding.

HCS Adoption of GHS – Labels & Warnings

Labels and Warnings

- Each container of hazardous chemicals leaving the chemical manufacturer must be labeled, tagged or marked.
- Workplace labeling: Check secondary container labels for consistency.
- Label identities should link to the SDS & chemical inventories.



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GHS – Labels

Provide employees with the specific information regarding the physical and health hazards of the hazardous chemicals.

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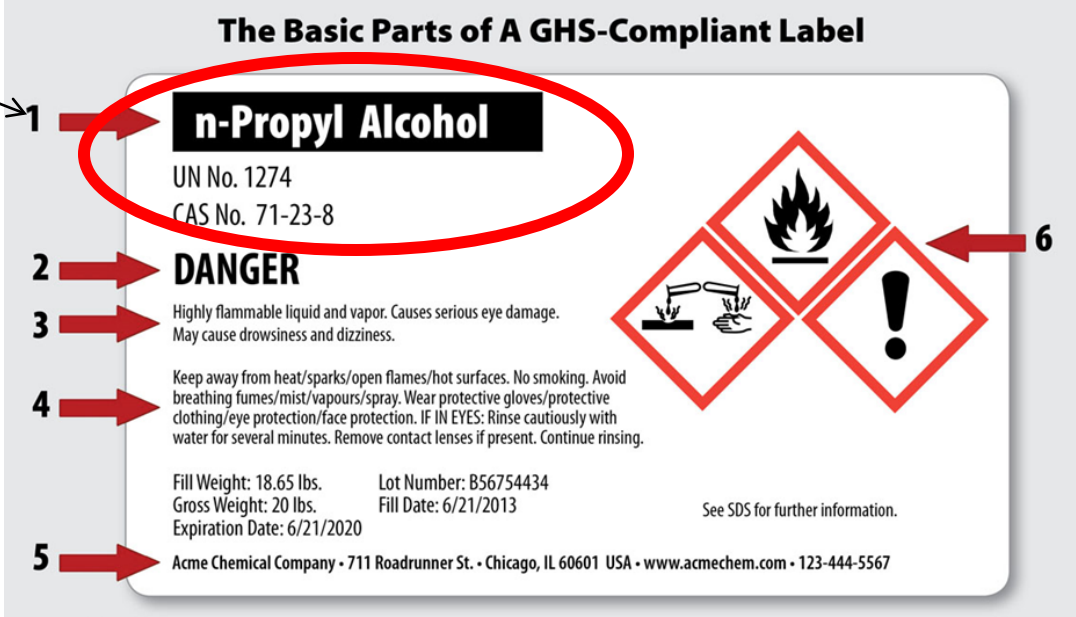
GHS – Labels & Warnings

1. Product Identifier

- Name or number used for a hazardous chemical on a label and on the SDS.
- Unique means for user to identify chemical.
  - i.e., chemical name, product name, identifier
  - Allows an employee locate SDS quickly
- Shall allow cross-reference among the hazardous chemicals in the inventory, written hazard communication program, labels, and SDSs.



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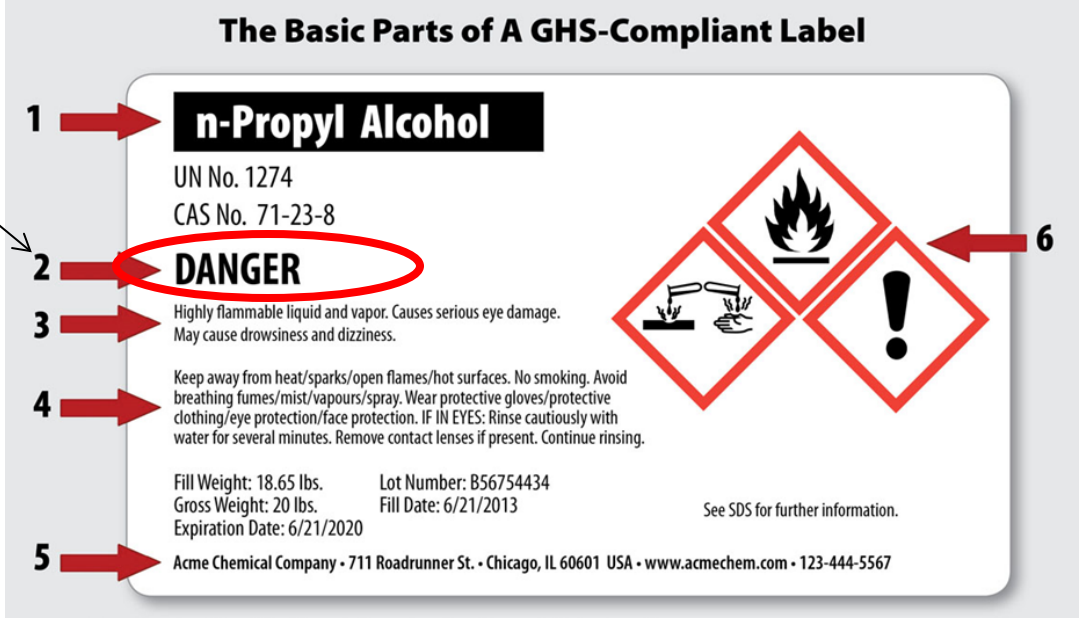
GHS – Labels & Warnings

2. Signal Word

- Used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label.

- Signal words used are "**Danger**" and "**Warning**."
  - Danger – More severe
  - Warning – Less severe



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GHS – Labels & Warnings

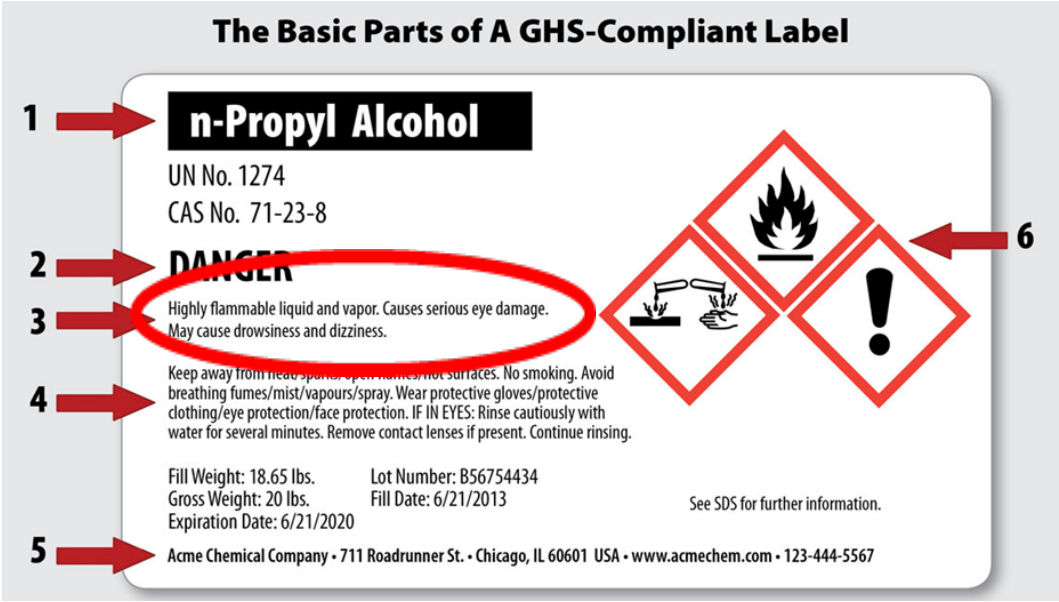
3. Hazard Statements

- Phrase assigned to each product's specific hazard
- Describe nature of the physical or health hazards of the product, including where appropriate, the degree of hazard

➢ Physical
- Example: H200 - Unstable explosive Highly Flammable, Flammable solid

➢ Health
- Example: H300 - Fatal if swallowed Causes serious eye damage, carcinogen, oral acute toxicity, etc.

➢ Environmental
- Example: H400 - Very toxic to aquatic life



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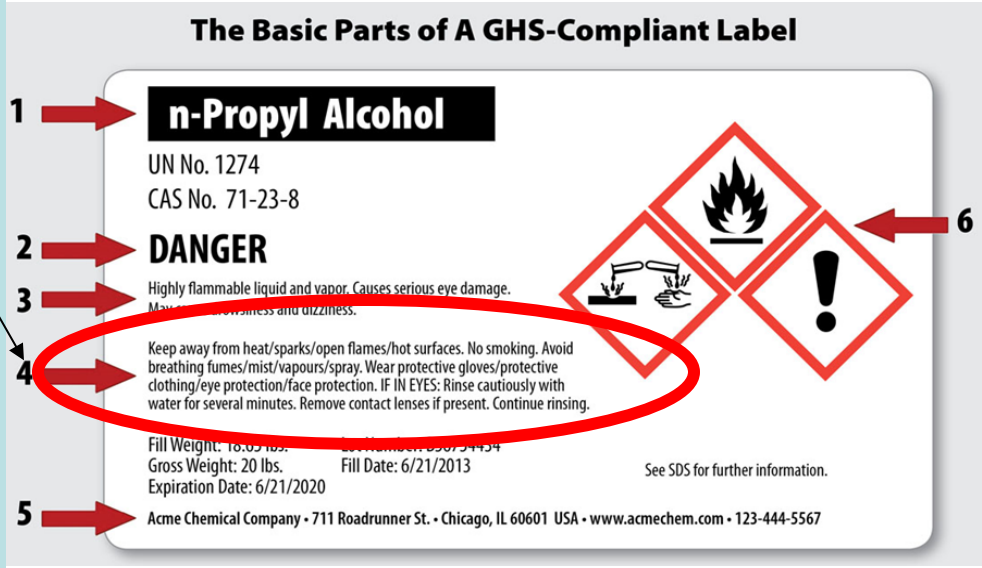
GHS – Labels & Warnings

4. Precautionary Statements

Phrase describing the recommended measures to minimize or prevent adverse effects resulting from exposure to a hazardous chemical, or improper storage, handling, or disposal of hazardous chemical.

Precautionary Statements:

1. Prevention – Ex. **P235** "Keep cool"; **P222** "Do not Allow Contact with Air"
2. Response in case of accidental spills or exposure- Ex. **P380** Evacuate Area
3. Storage – Ex. **P403** Store in a well-ventilated space
4. Disposal – dispose in approved waste disposal facility; contents, container
5. General -Ex. **P102** Keep out of reach of children



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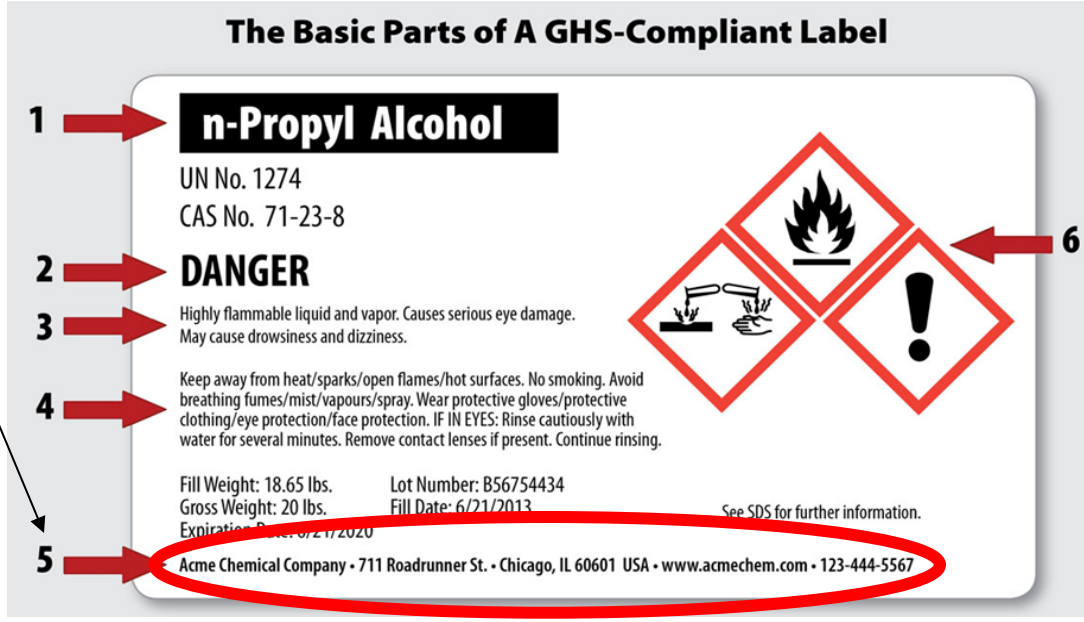
GHS – Labels & Warnings

5. Supplier Identification

Provides name, US address, and US phone number of the chemical manufacturer, importer, or other responsible party (i.e., supplier)

(Some may include the company website)



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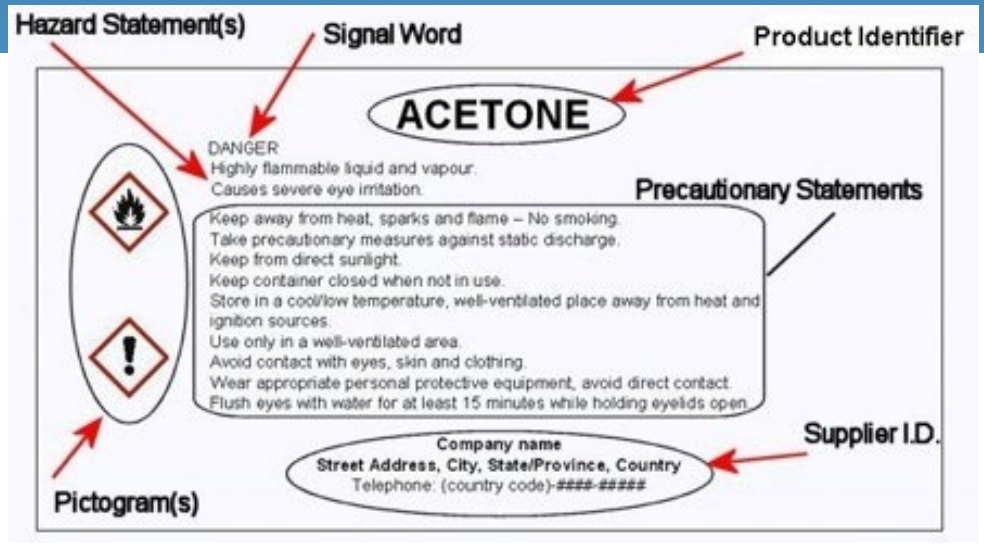
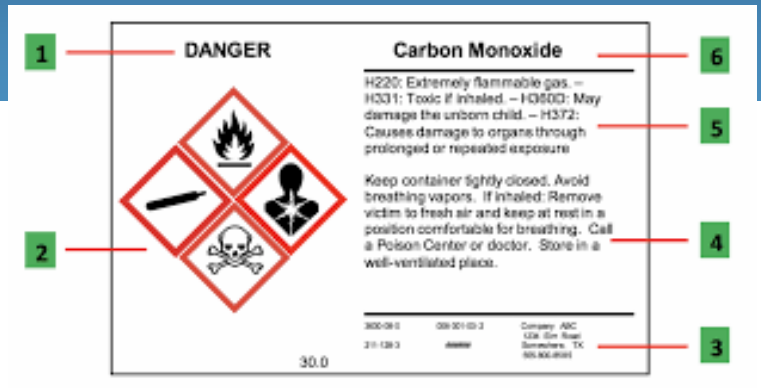
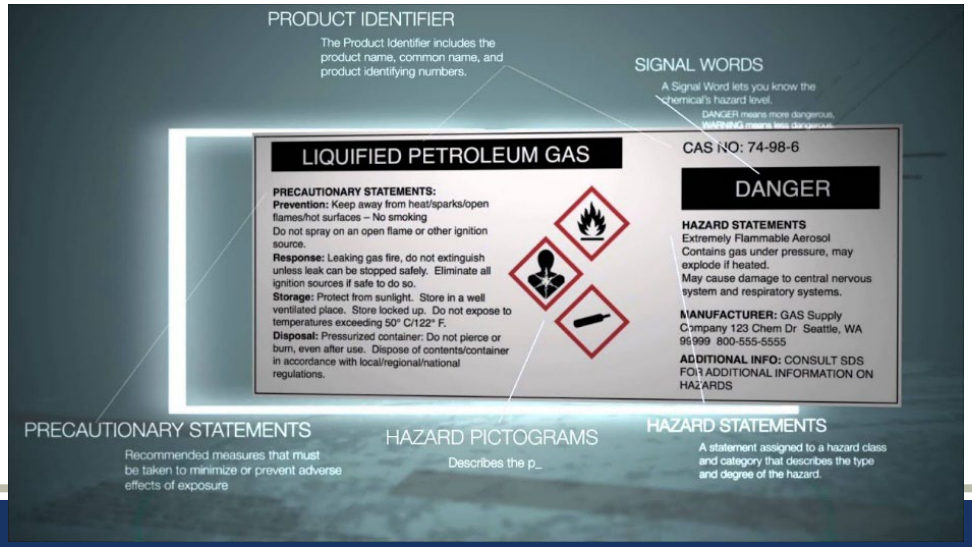
GHS – Labels & Warnings (Examples)







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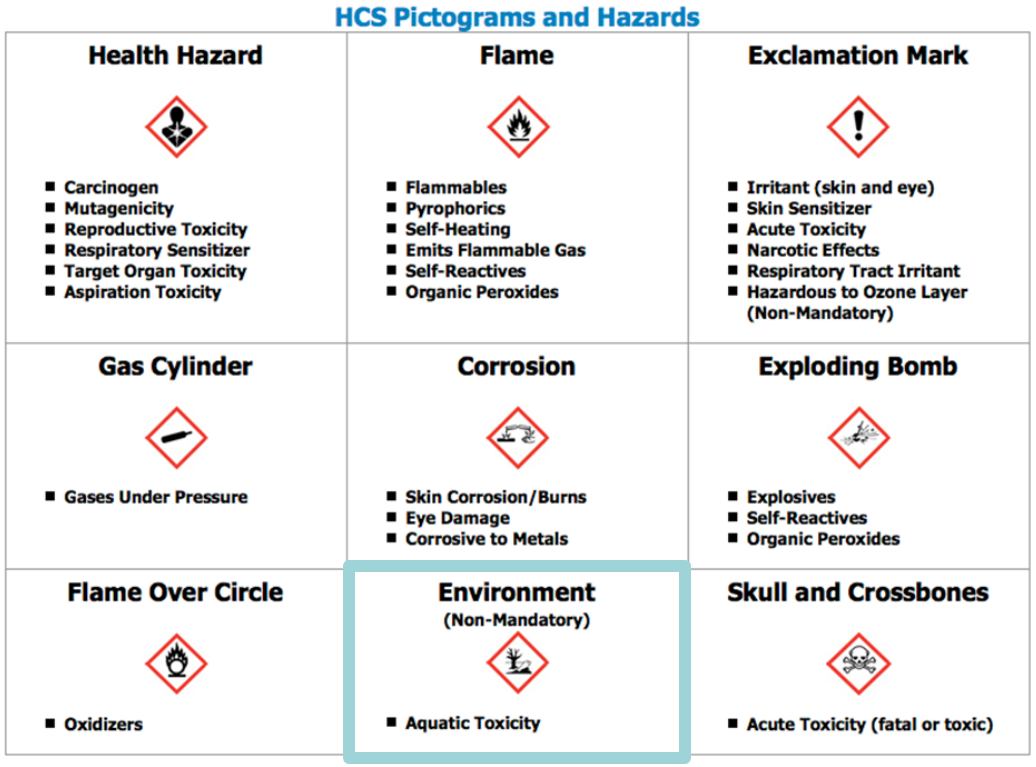
GHS –Labels & Warnings

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.

- Eight are mandatory and designated for application to hazard category.



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Pictograms

Carcinogens

Mutagens
Target Organ Toxicity
Reproductive Toxicity

Flammables
Pyrophoric

Self- Reactives
Self Heating

Irritants
Skin Sensitizer
Acute Toxicity
Narcotic Effects

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Pictograms

Gas under pressure

Oxidizers

Explosives
Organic Peroxides
Self-reactives

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Pictograms

Skin Corrosion
Eye Damage
Corrosive to Metals

Acute Toxicity

Aquatic Toxicity
(non-mandatory)

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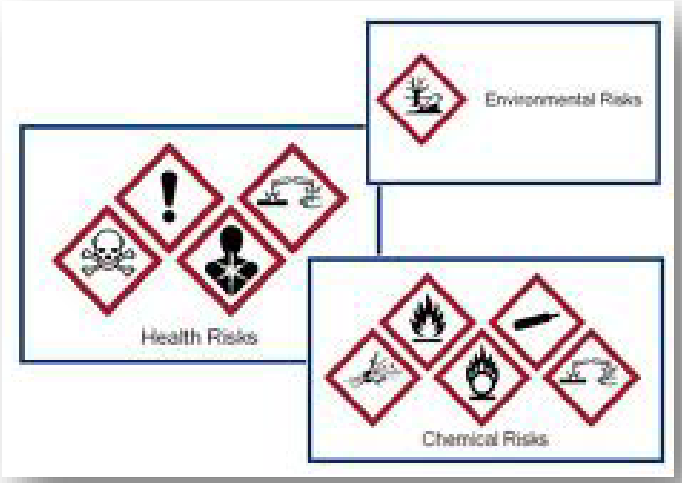
HCS Adoption of GHS – Pictograms

- Health Risk
  - Severe Toxics
  - Acute Toxics
  - Health Dangers
  - Corrosives
- Chemical Risk
  - Explosives
  - Flammables
  - Oxidizers
  - Gases under pressure
  - Corrosives

- Environmental Hazard Class
  - OSHA does not regulate the Environmental Hazard Class; however, the EPA is expected to incorporate this element of GHS into their standards. *(Not noted on 2024 revision)*



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Labeling

- Manufacturer label
  - Chemical name
  - Appropriate warnings.
  - Name and address of manufacturer.

Danger!

Sigma-Aldrich
3050 Spruce Street
Saint Louis, MO 63103 USA
Telephone: 1-800-325-5832

PHENOL (50%), CHLOROFORM (49%), & 3-METHYLBUTAN-1-OL (1%)

Combustible liquid. Harmful if swallowed or in contact with skin. Causes severe skin burns and eye damage. Fatal if inhaled. Suspected of causing genetic defects. Suspected of causing cancer. May cause damage to organs. May cause damage to organs through prolonged or repeated exposure. Harmful to aquatic life.

Do not breathe dust/fume/gas/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

See Material Safety Data Sheet for further details regarding safe use of this product.

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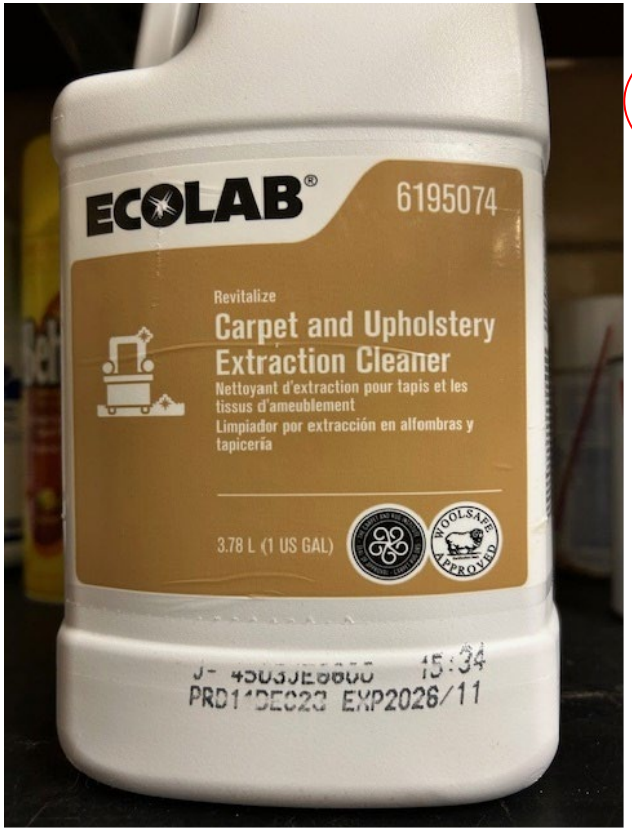
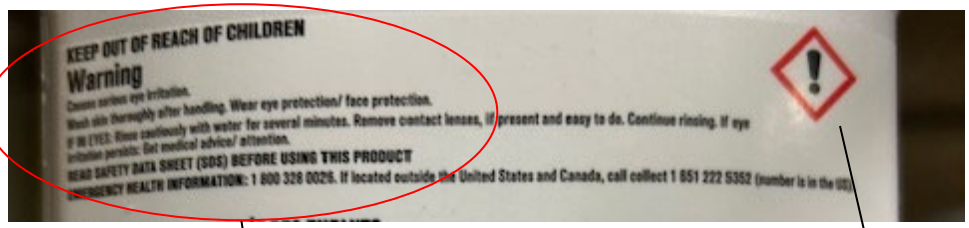
Label Examples





Exclamation Mark

KEEP OUT OF REACH OF CHILDREN

Warning

Causes serious eye irritation.

Wash skin thoroughly after handling. Wear eye protection/face protection.

READ SAFETY DATA SHEETS (SDS) BEFORE USING THIS PRODUCT.

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HCS Adoption of GHS – Workplace (in-house) Labeling

- **Secondary Container -** Defined as any container being used beyond the original manufacturer's bottle that the chemical was shipped in.
  - Portable or working containers
  - Storage bottles that are created for distribution of smaller amounts of the chemical
  - Labels must be prominently displayed on each hazardous chemical container or readily available in the work area.

HCS Adoption of GHS – Workplace (in-house) Labeling

- Employers may choose to label workplace containers
  - Use the same information from the shipping label including GHS information used to ship containers under the revised rule.
  - With label alternatives that meet the requirements for the standard (Product identifier, pictograms, symbols, or combination of information that provides hazards of the chemical)

- Non-GHS options for labeling are considered acceptable for workplace containers
  - National Fire Protection Association (NFPA) 704 Hazard Rating
  - Hazardous Material Identification System (HMIS)

HCS Adoption of GHS – Workplace Labeling

Best Practices:

1. Label your chemical secondary container with the same GHS format as the way they came into the facility
2. Use a dual-labeled approach to where you show both your NFPA/HMIS label alongside the GHS label

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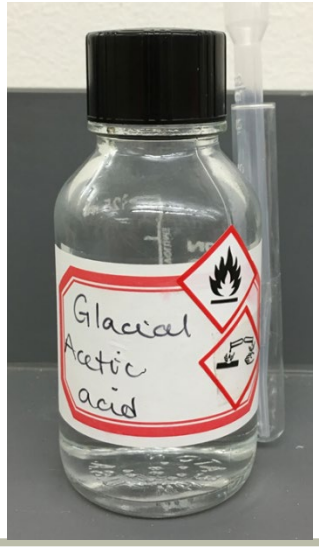
Labeling

- In-house label
  - Chemical name
  - Appropriate warnings
    - Remember to label ALL secondary containers immediately after putting anything into them



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Small Container Labeling (Container ≤ 100 ml capacity)*

- Product identifier
- Pictogram (s)
- Signal word
- Manufacturer's name & phone number, and
- A statement that the full label information is available on the outer packaging

*GHS Revision 7

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Small Container Labeling (Container ≤ 3 ml capacity)*

- Product identifier
- A statement that the full label information is available on the outer packaging

*GHS Revision 7

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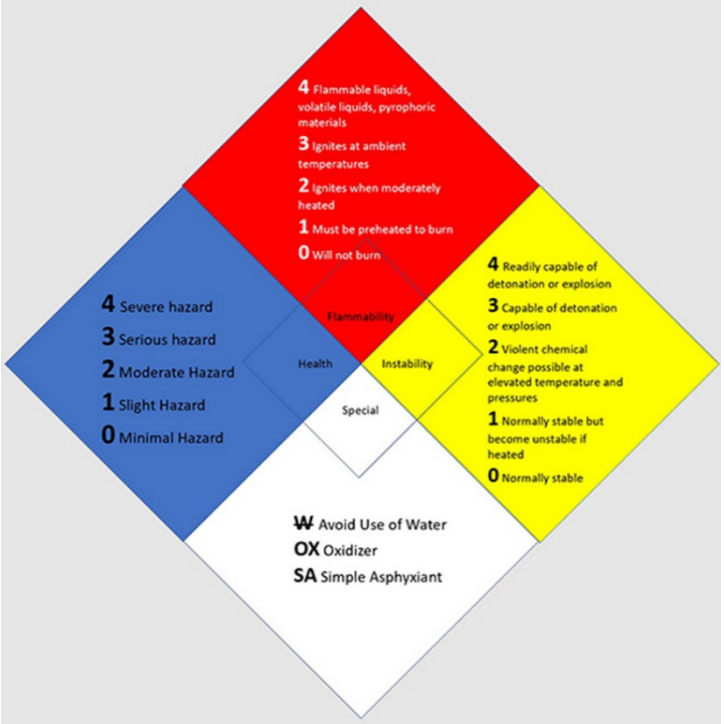
NFPA Labels

- National Fire Protection Association (NFPA 704)
  - A system for identifying the hazards associated with chemicals.
  - Provide basic information for emergency personnel responding to a fire or spill and emergency response planners to quickly identify risks posed by a hazardous material



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NFPA Warning Labels (Examples)

Example: Propane

- Flammability (4)
  - Material will burn rapidly
- Reactivity (0)
  - Stable
- Health (1)
  - Slightly hazardous

Example: Sulfuric Acid

- Health (3)
  - Can Cause serious or permanent injury
- Flammability (0)
- Reactivity (2)
  - Readily undergoes violent chemical changes at elevated temperatures and pressures
- Special (~~W~~)
  - Reacts violently or explosively with water

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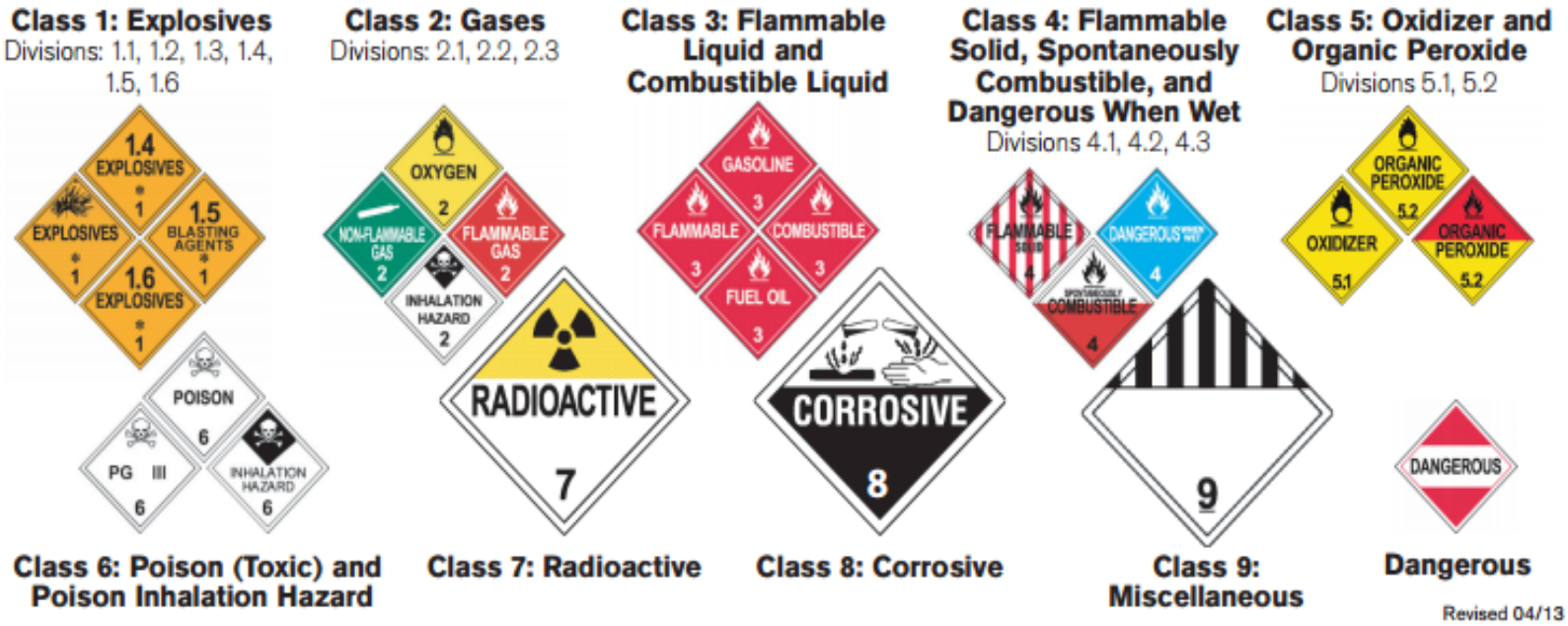
Warning Labels (DOT)

Additional warning labels for identifying the hazards associated with chemicals.



Department of Transportation {DOT) has its own labeling requirements for hazardous materials in transit, utilizing specific symbols, colors, and codes to indicate the type of hazard and ensure safe handling and transport.

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Hazard Materials Identification System (HMIS)

- Four color coded bars with numerical hazard rating (0-4)
- Incorporates the use of labels as compliance aid for OSHA HAZCOM
- Fire diamond originally designed for emergencies

Hazard Rating	
	4 – Extremely Hazard
	3 – Serious Hazard
	2 – Moderate Hazard
	1 – Slight Hazard
	0 – Minimal Hazard

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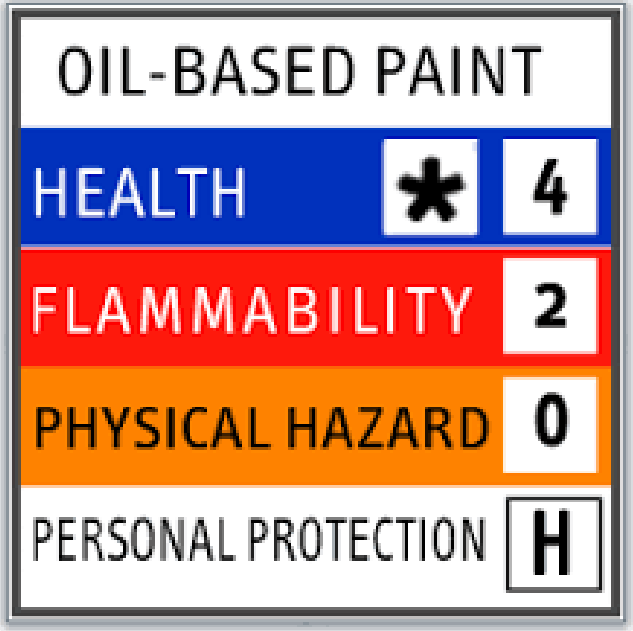
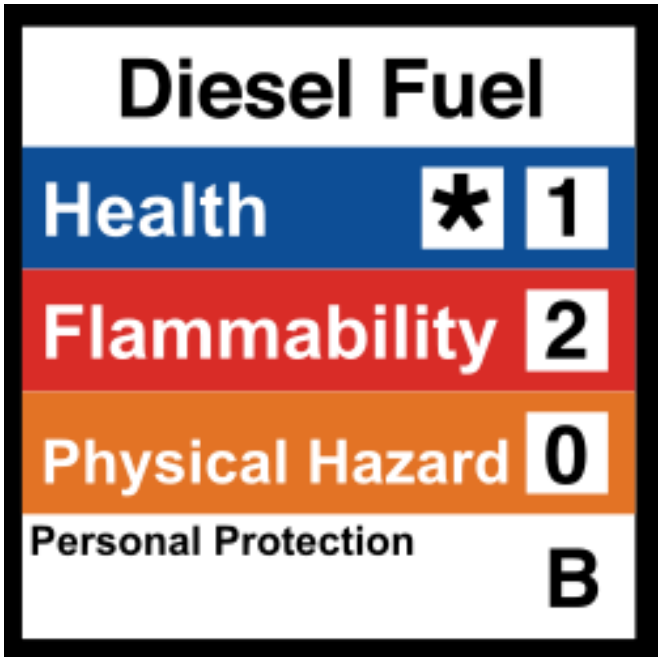
HMIS – White / Personal Protection

- NFPA system – White area convey special hazards
- HMIS
  - > Indicate what PPE should be worn when working with the material
  - > Letters A-K = Levels of PPE (Least to greatest)
    - A= Glasses
    - K = Air respirator or suit





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HCS Adoption of GHS
Safety Data Sheets (SDS)

Formerly - Material Safety Data Sheets (MSDS).

GHS standardized the order information on SDS is presented for ease of use of employees along with improved accuracy.

Information must be provided in English. Employer may maintain copies in other languages.

Number of sections and headings increased from a 9-section format to a 16 sections.

Safety Data Sheet

According to OSHA HCS 2012 (29 CFR 1910.1200)

PHILLIPS 66

Section 1: Identification

Product Identifier: Aviation Gasoline, 100 LL
Other means of identification: 100 Low Lead Gasoline; 100 Octane Aviation; ASTM 100/130 Aviation Gasoline; Avgas; Avgas 100; Aviation Fuel
SDS Number: 001769
MARPOL Annex I Category: Gasoline and Spirits
Intended Use: Fuel
Uses Advised Against: All others

Manufacturer:
Phillips 66 Company
P.O. Box 4428
Houston, Texas 77210

SDS Information:
Phone: 800-762-0942
Email: SDS@P66.com
URL: www.Phillips66.com

Emergency Health and Safety Number:
Chemtrec: 800-424-9300 (24 Hours)

Customer Service:
800-234-6603 *Technical Information:*
918-977-4224

Section 2: Hazards Identification

Classified Hazards
H224 -- Flammable liquids -- Category 1
H315 -- Skin corrosion/irritation -- Category 2
H304 -- Aspiration Hazard -- Category 1
H336 -- Specific target organ toxicity (single exposure) -- Category 3
H350 -- Carcinogenicity -- Category 1B
H411 -- Hazardous to the aquatic environment, chronic toxicity -- Category 2

Other Hazards
Electrostatic charges may be generated during handling.

Label Elements

DANGER
Extremely flammable liquid and vapor
May be fatal if swallowed and enters airways
Causes skin irritation
May cause drowsiness or dizziness
May cause cancer
Toxic to aquatic life with long lasting effects

Obtain special instructions before use; Keep away from heat/sparks/open flames/hot surfaces. - No smoking; Wear protective gloves / protective clothing / eye protection / face protection; IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician; Store in a well-ventilated place. Keep container tightly closed; Dispose of contents/container to approved disposal facility; Do not handle until all safety precautions have been read and understood; Keep container tightly closed; Ground/bond container and receiving equipment; Use explosion-proof electrical/ventilating/lighting equipment; Use only non-sparking tools; Take precautionary measures against static discharge; Avoid breathing dust/fume/gas/mist/vapours/spray; Wash thoroughly after handling; Use only outdoors or in a well-ventilated area; Avoid release to the environment; Call a POISON CENTER or doctor/physician if you feel unwell; IF ON SKIN: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower; If skin irritation occurs:; Get medical advice/attention; Do NOT induce vomiting; IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing; Take off contaminated clothing and wash before reuse; In case of fire: Use dry chemical, carbon dioxide, or foam for extinction; Collect spillage

001769 - Aviation Gasoline, 100 LL
Date of Issue: 04-Mar-2013

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Status: FINAL

Safety Data Sheets Elements

1. Identification of the substance or mixture
2. Hazard Identification
3. Composition/information on ingredients
4. First aid measures
5. Firefighting measures
6. Accidental release measures
7. Handling and storage
8. Exposure controls/Personal Protection
9. Physical and chemical properties
10. Stability and reactivity
11. Toxicological information
12. Ecological information*
13. Disposal information*
14. Transport information*
15. Regulatory information*
16. Information on the preparation and revision of the SDS

*Not enforced by OSHA, outside Agency jurisdiction

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Responsibilities of Einstein

Chemical Inventory

- Review chemical inventory
- Replace MSDS with SDS
- Dispose of expired or unwanted chemicals
- Annually review chemical inventory
  - Right-to-Know

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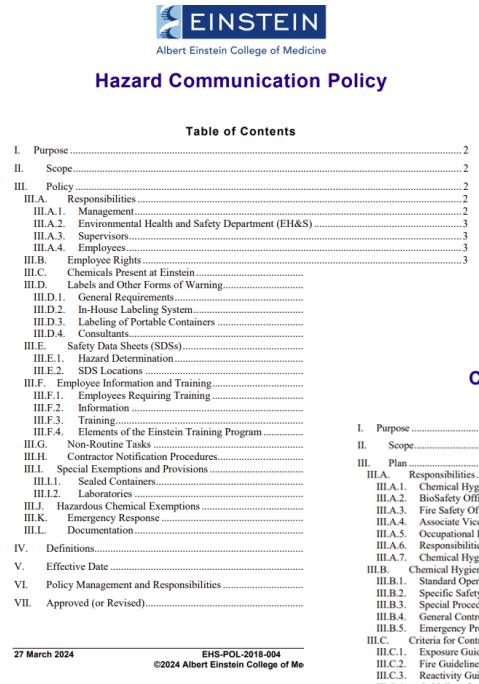
Responsibilities of Einstein

- Hazard Communication Policy & Chemical Hygiene Plan
- Provide training to all employees with potential exposure to hazardous materials.
- Collect SDS and make them available to all employees.



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Hazard Communication Policy

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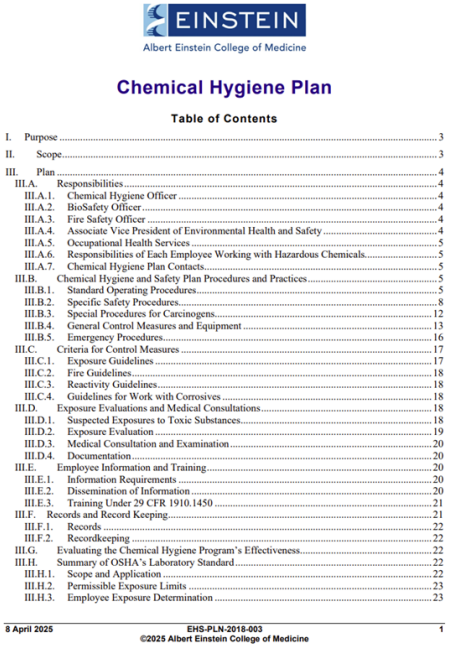

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Chemical Hygiene Plan

Table of Contents

Einstein - SDS Stations

Forchheimer:

- Ground & 4th Floor

Kennedy:

- 3rd Floor

Price:

- Basement
- 1st, 4th & 5th Floors

Van Etten

- 6th Floor

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Employee Rights

- Request and obtain information on hazardous chemicals in your workplace.
- Be informed of hazardous chemicals you use or are present in your job area.
- Access to written material.
  - SDS
  - Chemical Hygiene Plan
  - Hazard Communication Program

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Employee Responsibilities

- Attend training classes.
- Learn the chemical hazard by reading the SDS.
- Know the signs and symptoms of exposure.
- Know the proper personal protective equipment (PPE) to use.
- Know emergency procedures.

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Hazards at Einstein

- Chemical
  - Approximately 600 different chemicals on campus
  - Flammable
    - Examples: Xylene, Ethanol
  - Corrosive
    - Examples: Nitric Acid, Sodium Hydroxide
  - Reactive
    - Examples: Sodium Metal, Sodium Azide, Picric Acid (dry)

- Biological
  - Examples: Allergens, Infectious Diseases, Toxins

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Hazards at Einstein

- Physical
  - Temperature Extremes
  - Electrical
  - Fire
  - Explosive
  - Cryogenic Liquids
  - Compressed Gasses

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Hazards at Einstein

Picric Acid (CAS 88-89-1)

- In a dry powdered state (<10% water), it can become explosive when jolted (shock sensitive)

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Hazards at Einstein

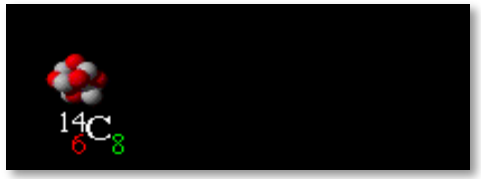
- Cryogenic Liquids
  - Liquid Nitrogen

- Compressed Gas Cylinders
  - Oxygen
  - Carbon Dioxide

Hazards at Einstein

- Radiation

  - **Non-ionizing**
    - Near Ultraviolet
      - Damage to skin and eyes.
    - Lasers
    - Microwave



  - **Ionizing**
    - Alpha, Beta, Gamma and X-rays
      - Generates free radicals and ion pairs in living tissue, producing damaging intermediates.
      - Direct hits to DNA

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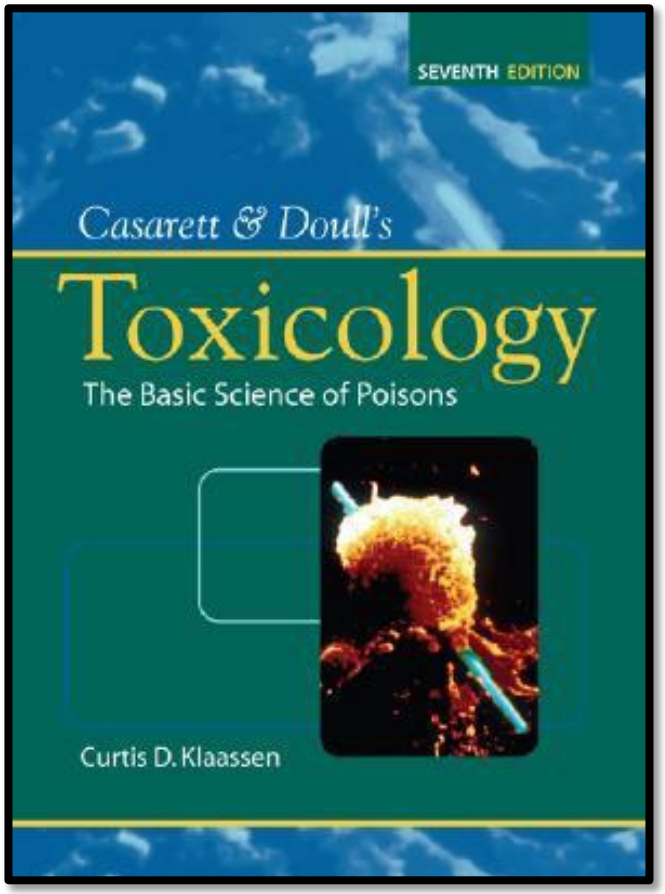
Chemical Toxicology

Toxicology is the study of the adverse effects of chemicals on living organisms.

Know the signs and symptoms associated with exposure to the chemicals in your workplace.

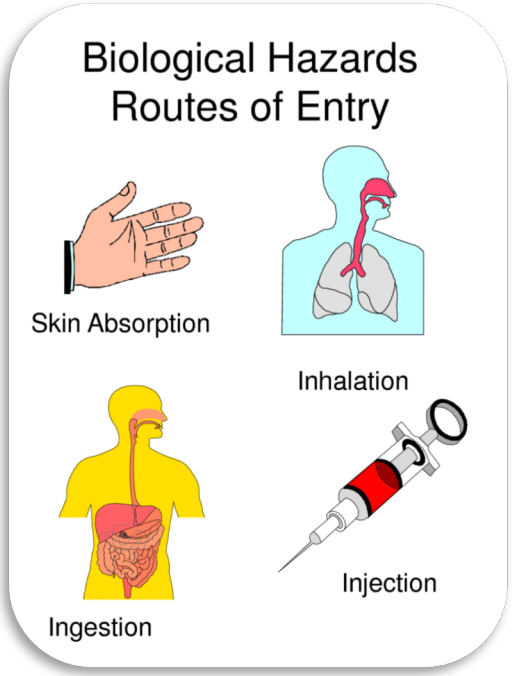
Be observant for these signs and symptoms.

Know what to do if you are exposed.



Chemical Toxicology

- Routes of Entry
  - Inhalation (Breathing)
  - Absorption (Direct Contact)
  - Ingestion (Eating)
  - Injection



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Chemical Toxicology

- Inhalation
  - The most common route of exposure.
  - Can be in the form of a gas, vapor or dust.
  - Can be deposited in the airways or absorbed through the lungs and into the blood stream.
    - Blood can then circulate the toxin to the rest of the body.

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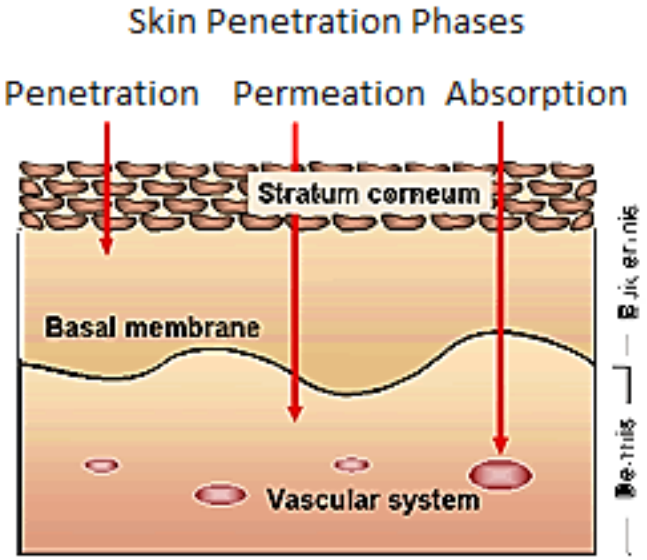
Chemical Toxicology

- Absorption
  - Skin acts as a barrier between the environment and the organs of the human body.
  - Skin can be attacked directly.
    - Examples: Acids and Bases
  - Skin can be penetrated.
    - Examples: Phenol, Nitrobenzene



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Chemical Toxicology

Ingestion

- Rarely takes place by deliberate swallowing of toxic substances.
- Food and drinks can become contaminated by dust, mist and fumes.
- No eating or drinking in laboratories or storing food in laboratory refrigerators or cold rooms.

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Chemical Toxicology

- Injection
  - Occurs through accidental needle sticks, puncture wounds or through broken skin/open wounds.
  - May produce rapid response when injected because the chemical/toxin is introduced directly into the blood stream.

Health Hazards Effects

Acute Health Effects (Short-term):

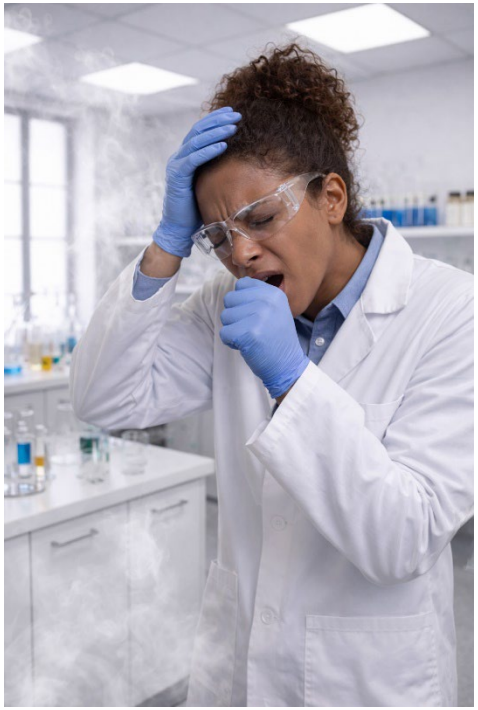
*Develops immediately or within minutes, hours or even days after an exposure include dizziness, skin irritation, and throat irritation.

- Examples:
  - Burns
  - Headache
  - Vomiting
  - Nausea

Chronic Health Effects (Long-term):

*Adverse health effect resulting from long-term exposure to a substance. Symptoms do not stop when the exposure stops.

> Examples:
  - Asthma
  - Cancer
  - Asbestosis, Mesothelioma



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Personal Protective Equipment

- Lab Coat and Aprons
- Gloves
- Safety Glasses/Face Shields
- Hearing Protection
- Respirators

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Personal Protective Equipment

Lab Coats and Aprons

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Personal Protective Equipment

- Glove Selection
  - Gloves are made of many different types of materials, yet no one material type affords protection against all chemicals.
    - Latex gloves provide little to no chemical protection.

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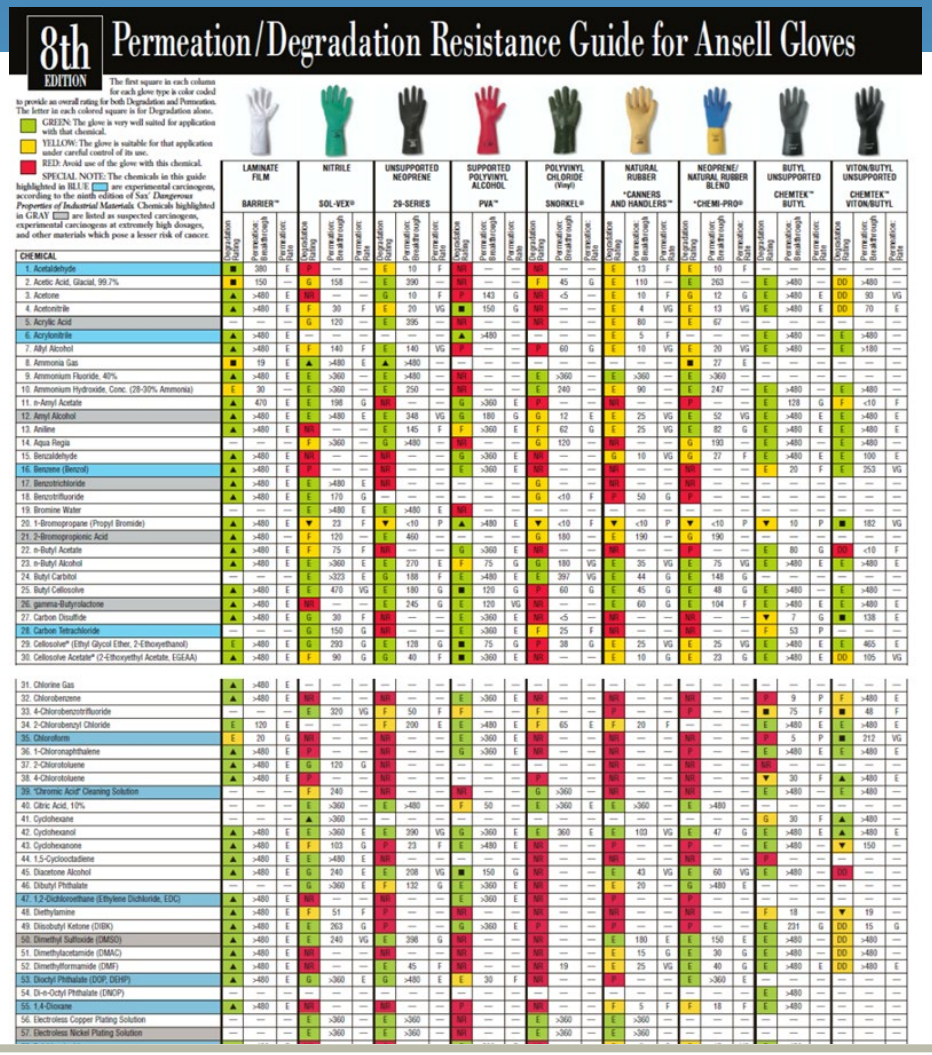
Personal Protective Equipment

- Ansell Glove Guide
  - https://ehs.sfsu.edu/sites/default/files/documents/Ansell%20chemical%20resistance%20glove%20chart.pdf

- Provides recommendations for the selection of gloves based on performance capabilities determined by tests conducted under laboratory conditions.
- Gloves resistance to cuts, punctures, and abrasions are considered as a critical usage factor.
- Table provides permeation and degradation tests ratings for various products as an aid to help determining the general suitability of various products for use with specific chemicals.



Personal Protective Equipment

- Safety Goggles/Face Shields

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Personal Protective Equipment

Respirators

- N95* particulate respirator
- Filters 95% of particles 0.3 microns or greater
  - Not to be used for gases, vapors, or oxygen deficient areas

*Must be fit tested and in the respiratory protection program

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Personal Protective Equipment

- Hearing protection
  - Earplugs
    - Single use
  - Earmuffs

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Engineering Controls

Ventilation

- Room air exchanges
  - ~10 exchanges per hour for laboratories.

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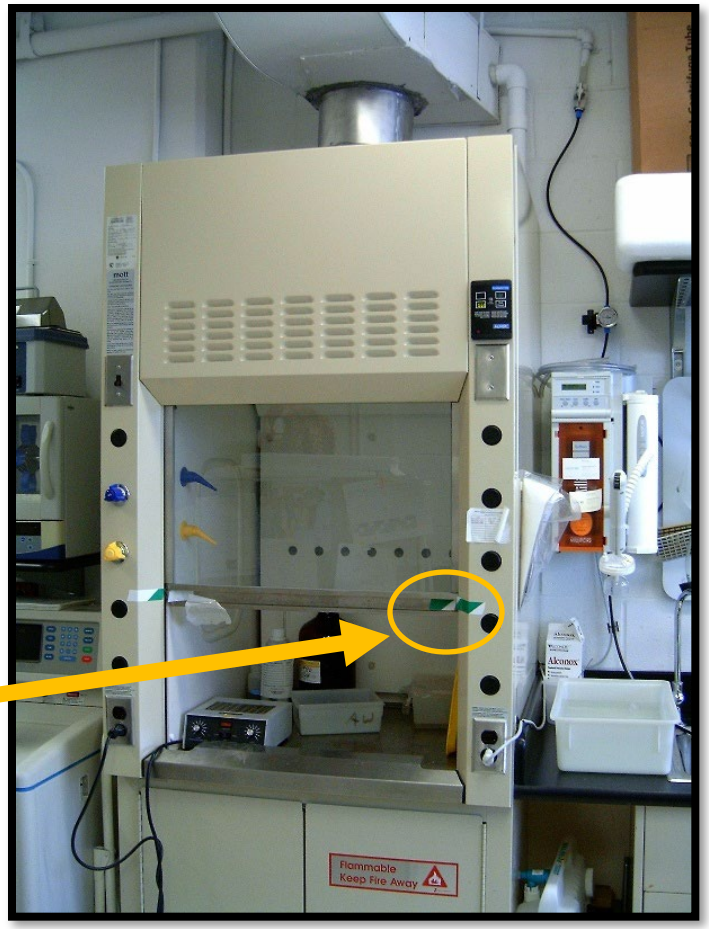
Engineering Controls

- Chemical Fume Hood - Primary engineering control for containing and removing chemical gases, vapors, mist and fumes.
  - Fume Hoods must be able to remove hazardous vapors and odors from the breathing zone
  - Inspected annually
  - Face velocity of 80 - 120 feet per minute.
  - Sash height 14 -18 inches
  - Close the sash when finished



Engineering Controls

- Do not overload the hood with extraneous equipment or chemicals.
- Not to be used as storage
- Do not evaporate chemicals
- A cluttered hood can compromise the airflow patterns and negate the hoods safety features

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Chemical Storage

- Order only what is needed
  - Each lab is required to store their own materials
- Make sure chemicals are labeled properly
  - As well as all secondary containers
- Avoid floor and top shelf storage
  - Nothing above eye level
- Store flammables in appropriate cabinets.
  - 15 gallons (56 liter) limit per lab.
  - 25 gallons (94 liter) limit per lab with sprinkler system (Golding, MRRC & Price Building)

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Chemical Storage

- Separate acids and bases
  - Organics vs. Inorganics

    - Examples:
      - Hydrochloric Acid (HCl) and Sodium Hydroxide (NaOH)
      - Sulfuric Acid (H_2SO4) and Formic Acid (HCOOH)
- Perchloric acid must be stored in glass containers separated from organic materials.
- Segregate oxidizers from organic liquids.
  - Examples: Hydrogen peroxide, Permanganates, Nitrate compounds

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Chemical Storage/Disposal

- Nitric acid must be isolated from other acids and bases.

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Chemical Storage

- Dispose of used / expired chemicals via EH&S.
  - Examples: Ethyl Ether, 2-Propanol
- May form explosive peroxides after one year. Exposure to light and/or air significantly increases the rate of peroxide formation.
  - Complete the required peroxide tests and forms

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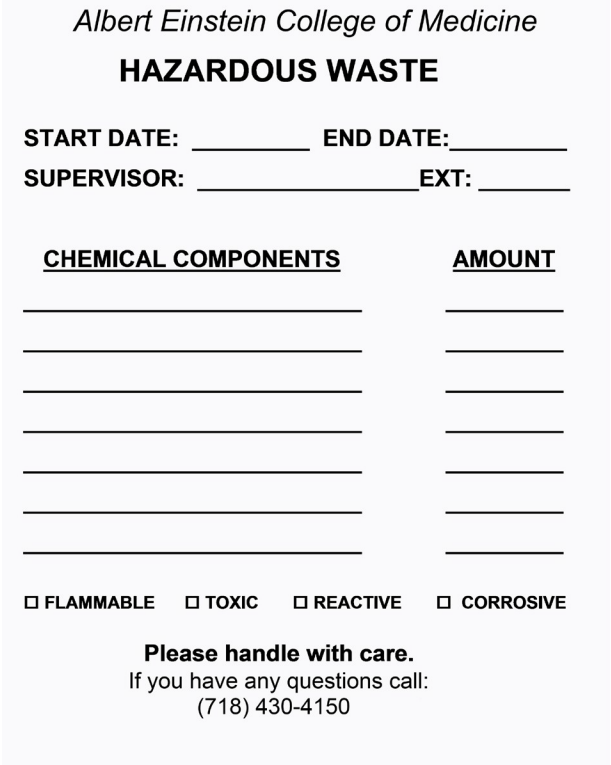
Chemical Storage

- Acid Storage
  - Store in plastic secondary containers, not directly on metal shelves

- Flammable Storage
  - Do not store cardboard or Styrofoam

Chemical Disposal

- Chemical disposal is free
- Use the proper waste container
- Rinse empty bottles and deface label
- Label all chemical waste



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HAZARDOUS WASTE

START DATE: _____ **END DATE:**_____

SUPERVISOR: _____**EXT:** _____

CHEMICAL COMPONENTS	**AMOUNT**
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

☐ **FLAMMABLE** ☐ **TOXIC** ☐ **REACTIVE** ☐ **CORROSIVE**

Please handle with care.
If you have any questions call:
(718) 430-4150

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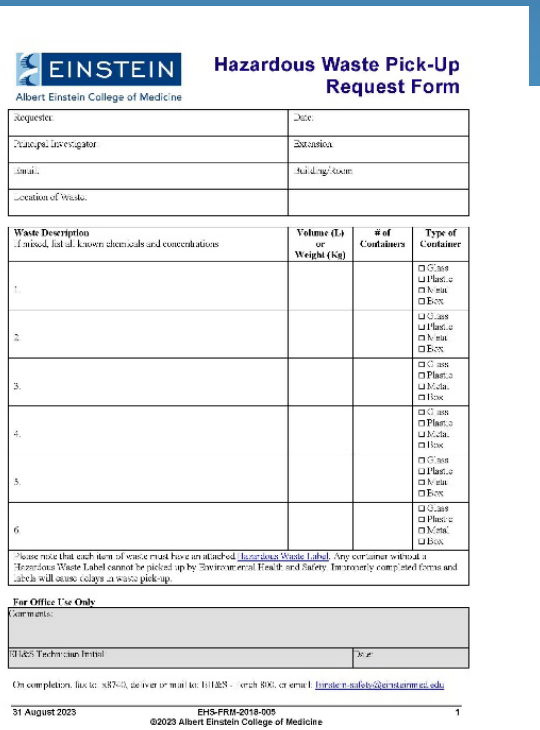
Chemical Disposal

- Chemical disposal is free.
- Use the proper waste container.
  - Examples: Bio Bins, Sharps, Ethidium Bromide gels, Radioactive, Office waste, Recycle waste.
- Rinse empty bottles and deface label.
- Label all chemical waste.



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Hazardous Waste Pick-Up Request Form

Requester:	Date:
Principal Investigator	Extension:
Email:	Building/Room:
Location of Waste:	

Waste Description If mixed, list all known chemicals and concentrations	Volume (L) or Weight (Kg)	# of Containers	Type of Container
1.			☐ Glass ☐ Plastic ☐ Metal ☐ Box
2.			☐ Glass ☐ Plastic ☐ Metal ☐ Box
3.			☐ Glass ☐ Plastic ☐ Metal ☐ Box
4.			☐ Glass ☐ Plastic ☐ Metal ☐ Box
5.			☐ Glass ☐ Plastic ☐ Metal ☐ Box
6.			☐ Glass ☐ Plastic ☐ Metal ☐ Box

Please note that each item of waste must have an attached Hazardous Waste Label. Any container without a Hazardous Waste Label cannot be picked up by Environmental Health and Safety. Improperly completed forms and labels will cause delays in waste pick-up.

For Office Use Only

Comments:	
EH&S Technician Initial	Date

On completion, fax to: x8780, deliver or mail to: EH&S - Groth 800, or email: forstein.safety@einsteinmed.edu

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Waste Disposal

- Evaluate what you need to conduct the experiment and consider the types of waste that will be generated in the procedure.
- Consider alternative chemicals; consider less hazardous chemicals that may be safer and generate a less costly hazardous waste stream.
- Order only the amount of material needed for the experiment. Excessive stocks of hazardous chemicals, radioactive materials, and infectious agents presents serious storage, safety, and disposal problems.
- Consider using non-hazardous material alternatives to conduct your research.

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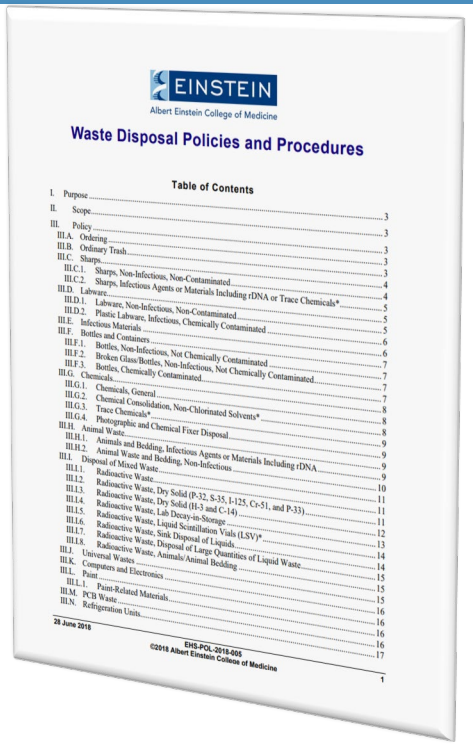
Waste Disposal Guidelines and Waste Disposal Training

- Waste Disposal Policies and Procedures is available from our document library

https://intranet.einsteinmed.edu/departments/environmental-health-safety/policies/

- EH&S provides a comprehensive Waste Disposal Training to all our staff, students, and faculty.
- Contact EH&S and Call X4150 for additional information or to sign up for trainings at

https://www.einsteinmed.edu/administration/environmental-health-safety/training/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Waste Disposal Policies and Procedures

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Hazardous Materials Spill Cleanup

MINOR CHEMICAL SPILLS CLEANUP PROCEDURES:

- Do not clean up the spill yourself, unless you know what spilled and how to properly clean it up.
- Immediately, notify others in the area that a spill has occurred.
- Turn off ignition and heat sources.
- Prevent others from coming in contact with the spilled chemical(s).
- Wear proper PPE (i.e., goggles, gloves)
- Use the appropriate material to confine or contain the spill to avoid spreading
- Absorb inorganic acids and bases and neutralize.
- Sweep up the absorbed spill from the outside toward the middle. Scoop up and deposit in a leak-proof container. Label and dispose of the container through the hazardous waste management program
- Collect the residue, place in a container, and dispose as hazardous waste.

NEVER PLACE HAZARDOUS MATERIALS OR SPILL CLEANUP MATERIALS IN THE BIOHAZARD BIN OR REGULAR TRASH.

- Clean spill area with water.
- **Report spill to EH&S at X4150**

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Hazardous Materials - Spill Cleanup

MAJOR CHEMICAL SPILLS CLEANUP PROCEDURES:

- If the chemical spill presents an immediate danger; turn off ignition and heat sources, evacuate all personnel, exit the room/area, and close the door behind you.
- Attend to anyone who may have been contaminated or injured and remove them from exposure.
- Instruct contaminated person to remove any contaminated clothing and wash the affected area for at least 15 minutes.
- Use the safety shower if necessary – know the location of the nearest safety shower and eye wash station in your work area.
- **Notify EH&S at X4150 and Security at X4111**

NEVER PLACE HAZARDOUS MATERIALS OR SPILL CLEANUP MATERIALS IN THE BIOHAZARD BIN OR REGULAR TRASH.

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Personal Exposure - Decontamination

- Wash any chemical contact for 15 minutes.
- Clean exposed surface with soap/water.
- Flush mucus membrane with copious amounts of water.
- Notify your supervisor.
- Seek medical attention if needed.
- Report Incident to EH&S at x4150.

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Emergency Procedures

Remain calm.

Follow the instructions of your Supervisor

Protect yourself and your colleagues from further harm.

Notify EH&S, Security, and/or Fire Department as appropriate.

X4150 or 718-430.4150 (EH&S)

X4111 or 718-430-4111 (Security)

9-1-1 (Police, Fire Department, Ambulance)

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Deck Mounted Drench Hose/Eyewash Operating Instructions (Emergency Procedure)

- **Activation:** Pull the spray head assembly forward over the sink to instantly activate the twin aerated sprays.
  - Pull the eye/face wash assembly downward from its vertical storage position to a horizontal position over the sink.
  - To activate, squeeze the handle to initiate water flow.

- **Drench Hose Usage:** For body flushing, remove the unit from the mounting bracket and use the flexible hose to direct water for body areas, for at least 15 minutes before seeking medical care.

- **For Face/Body:**
  - Use the **hose to direct water** onto affected area
  - Remove contaminated clothing while rinsing

- **Flow Control:** The unit features a stay-open valve, allowing for hands-free operation once activated.

- **Positioning for Eyes**
  - Lean over the spay heads
  - Position your eyes into the spray heads, using your thumb and forefinger to hold your eyelids open to ensure maximum water coverage.
  - Hold eyelids open with fingers
  - Place eyes directly in the water stream.
  - Roll your eyes back and forth to ensure water reaches all areas under the eyelids.

- **Duration: Continue flushing eyes or body for a minimum of 15 minutes.**

- **Deactivation:** To shut off, push the spray head assembly back up into its original vertical position.
- Pull the “stay-open valve” to stop water flow if needed

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Deck Mounted Drench Hose/Eyewash Operating Instructions (Emergency Procedures)

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Summary

- SDS are available to anyone.
- Understand the new GHS and label requirements
- Understand the hazards of the chemicals you work with.
- Store chemicals properly.
- Wear the appropriate PPE.
- Always use a chemical fume hood.
- Keep the work area clean.
- Wash affected area for at least 15 minutes.
- Call EH&S with any questions.

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Thank you for your attention!

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