

THE OSHA 10-HOUR GENERAL INDUSTRY COURSE
Hazardous Communications

HAZCOM

Hazard Communication Standard
“The Right-to-Know”

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Hazardous Communications

Hazard Communication Standard

The hazard communication standard requires:

- The hazards of chemicals to be evaluated
- The hazard information is given to employers and employees
- Hazard communication programs
- Container labeling and other forms of warning
- Safety Data Sheets (SDS)
- Training for employees

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HazCom: Responsibilities

It is the responsibility of chemical manufacturers and importers to determine the hazards of all chemicals imported into, produced, or used in U.S. workplaces.

In addition, hazard information and protective measures must be provided by:

- Chemical manufacturers
- Importers
- Distributors



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HazCom: Responsibilities

At a minimum, employers must:

- Identify and list hazardous chemicals in the workplace
- Obtain SDSs and labels for each hazardous chemical
- Develop and implement a written HazCom program
- Communicate hazard information to employees

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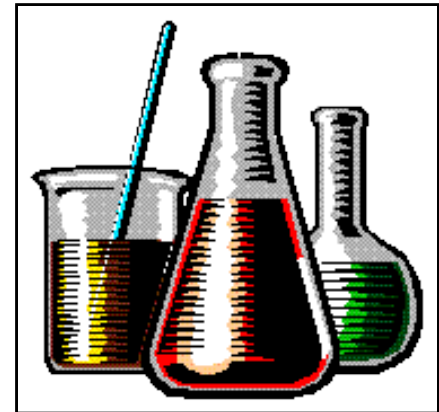
Hazardous Communications

HazCom: Chemical Hazards

The best rule of chemical safety is: “Know what you are working with and how to protect yourself and others.”

There are 2 basic types of chemical hazards

- Physical Hazards
- Health Hazards



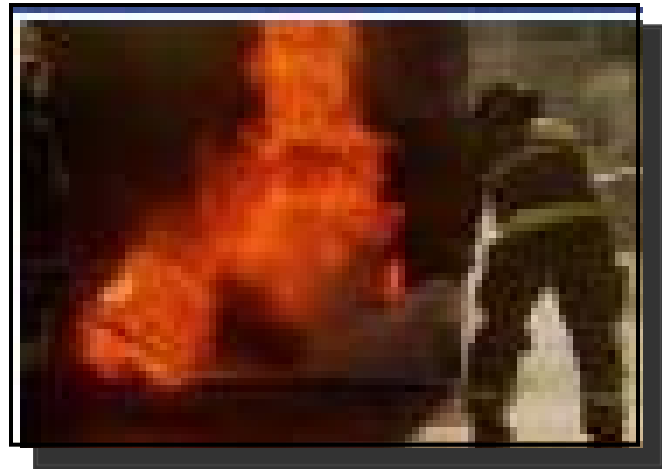
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HazCom: Physical Hazards

Chemicals are classified as having physical hazards if they are:

- Explosive
- Compressed gas
- Combustible liquids
- Flammable
- Unstable
- Water reactive
- Oxidizers



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HazCom: Health Hazards

Exposure to hazardous chemicals may cause or contribute to a wide range of health concerns including:

- Heart problems
- Kidney disease
- Lung disease
- Cancer
- Sterility
- Burns
- Rashes

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HazCom: Health Hazards

Chemicals are classified as being a health hazard if they:

- Can cause cancer
- Are poisonous (toxic)
- Cause harm to your skin, internal organs, or nervous system
- Are corrosive - such as acids
- Cause allergic reactions after repeated exposure

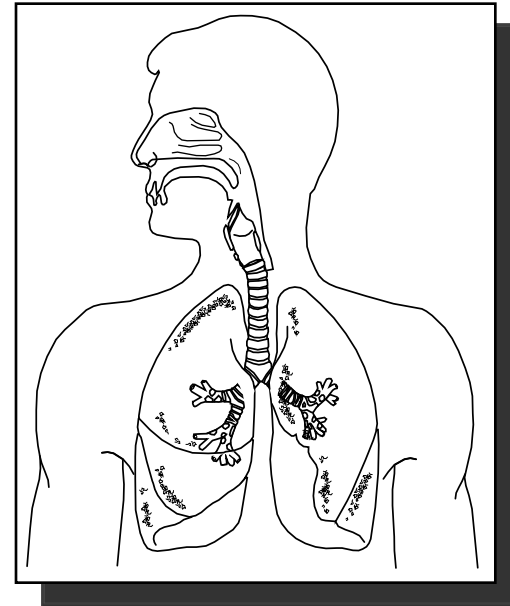
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HazCom: Health hazards

Chemicals can enter your body in many different ways. The primary routes of entry are:

- Inhalation
- Ingestion
- Absorption
- Injection



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HazCom: Health Hazards

Exposure to hazardous chemicals may be either:

- Acute – brief exposure
- Chronic – repeated or prolonged

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HazCom: Written Program

The written HazCom program must, at a minimum, include:

- A list of all hazardous chemicals known to be in the workplace
- A Safety Data Sheet (SDS) and label for each hazardous chemical
- A training plan to communicate hazard information to employees



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HazCom: Written Program

Also, the written HazCom program should:

- Indicate who is responsible for the program
- Provide chemical specific safety training methods
- Tell you where to find chemical safety information

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HazCom: Warning Labels

Warning labels can grab your attention with words like:

- “Danger”
- “Warning”
- “Caution”



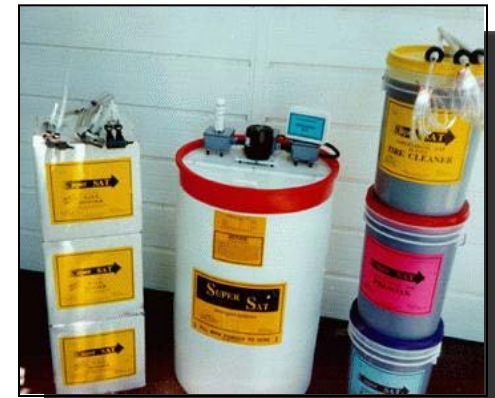
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HazCom: Warning Labels

Containers of hazardous chemicals leaving the workplace must be labeled, tagged or marked with:

- The identity of the chemicals
- The appropriate hazard warnings
- The name and address of the manufacturer or other responsible party



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HazCom: Safety Data Sheets (SDSs)

SDSs are developed to provide:

1. Common name and chemical name of the material
2. Name, address and phone number of the manufacturer
3. Emergency phone numbers for immediate hazard information
4. Date the SDS was written
5. Hazardous ingredients
6. Physical and health hazards of the chemicals
7. Identification of chemical and physical properties
8. First Aid/Emergency Information
9. Safe handling and use information

MATERIAL SAFETY DATA SHEET					
SECTION 1 - PRODUCT IDENTIFICATION AND USE					
PRODUCT IDENTIFIER = Sodium hydroxide, Caustic soda			PRODUCT IDENTIFICATION NUMBER (PIN) = 2-118		
PRODUCT USE =					
MANUFACTURER'S NAME = La Bell Industries		SUPPLIER'S NAME = Omega Chemicals			
STREET ADDRESS = 18 Rue LeTour		STREET ADDRESS P.O. Box 1989			
CITY Montreal		PROVINCE Quebec		CITY Summerside	
POSTAL CODE H0N 0C0		EMERGENCY TELEPHONE NO. (522) 555-4433		EMERGENCY TELEPHONE NO. (416) 555-4321	
SECTION 2 - HAZARDOUS INGREDIENTS					
HAZARDOUS INGREDIENTS		%	CAS NUMBER	LD ₅₀ OF INGREDIENT (Specify species & route)	LD ₅₀ OF INGREDIENT (Specify species)
Sodium Hydroxide		96	1310-73-2		
Sodium Carbonate (Na ₂ CO ₃)		0.5-2.5			
Sodium Chloride (NaCl)		0.0-2.1			
Sodium Sulphate (Na ₂ SO ₄)		0.02-0.1			
Potassium, Calcium, and Magnesium		0.1			
Sodium Dioxide (SiO ₂)		0.03			
Other Metals (total)		0.01			
SECTION 3 - PHYSICAL DATA					
PHYSICAL STATE = Other		ODOUR AND APPEARANCE = White off-white odorless hygroscopic		ODOUR THRESHOLD (ppm) odourless	
VAPOUR PRESSURE (mm Hg) Not appl.		VAPOUR DENSITY (AIR = 1) Not appl.		BOILING POINT (°C) 1392	
pH = Not appl.		SPECIFIC GRAVITY = 2.13		MELTING POINT (°C) 318	
SECTION 4 - FIRE AND EXPLOSION DATA					
FLAMMABILITY = YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> (See index)		ALTHOUGH IT IS NON-COMBUSTIBLE, IT CAN BE HAZARDOUS IN A FIRE AND THE EFFLUENTS SHOULD BE TREATED FOR FINE FILTERING. IT IS IRON AND ZINC WHEN HEATED AND IT IS A DUST OR SOLID MATERIAL CAN REACT VIOLENTLY WITH WATER (SPILLING). IT CAN REACT WITH CERTAIN METALS, SUCH AS ALUMINUM, ZINC AND MAGNESIUM.			
MEANS OF EXTINCTION =		UPPER FLAMMABLE LIMIT (BY VOLUME) = Not flammable			
FLASHPOINT (°C) AND METHOD = Not flammable		HAZARDOUS COMBUSTION PRODUCTS =		LOWER FLAMMABLE LIMIT (BY VOLUME) = Not flammable	
AUTOIGNITION TEMPERATURE (°C) = Not flammable		HAZARDOUS COMBUSTION PRODUCTS = Not flammable			
EXPLOSION DATA = SENSITIVITY TO IMPACT = Not appl.		SENSITIVITY TO STATIC DISCHARGE = Not appl.			
SECTION 5 - REACTIVITY DATA					
CHEMICAL STABILITY = YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> (See index)					
INCOMPATIBILITY WITH OTHER SUBSTANCES = Strong acids, many organic compounds, leather, wool, aluminum, zinc, and tin.					
REACTIVITY AND UNDER WHAT CONDITIONS = Slowly picks up moisture and CO ₂ from the air to form sodium carbonate.					
HAZARDOUS DECOMPOSITION PRODUCTS = None					

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HazCom: Pictograms

The Health Hazard pictogram represents the following hazards:

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

Health Hazard



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HazCom: Pictograms

The Flame pictogram represents the following hazards:

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

Flame



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Hazardous Communications

HazCom: Pictograms

- The Exclamation Mark pictogram represents the following hazards:
 - Irritant (skin and eye)
 - Skin Sensitizer
 - Acute Toxicity (harmful)
 - Narcotic Effects
 - Respiratory Tract
 - Irritant
 - Hazardous to Ozone
 - Layer (Non-Mandatory)

Exclamation Mark



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HazCom: Pictograms

The Gas Cylinder pictogram represents a hazard from Gases Under Pressure.

Gas Cylinder



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HazCom: Pictograms

The Corrosion pictogram represents the following hazards:

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

Corrosion



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Hazardous Communications

HazCom: Pictograms

The Exploding Bomb pictogram

- Explosives
- Self-Reactives
- Organic Peroxides

Exploding Bomb



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HazCom: Pictograms

The Flame Over Circle hazard represents a hazard from oxidizers.

Flame Over Circle



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The Environment Hazard represents aquatic toxicity. Displaying this pictogram is not mandatory.

Environment



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HazCom: Pictograms

The Skull and Crossbones represents Acute Toxicity (fatal or toxic).

Skull and Crossbones



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HazCom: Employee Training

Employers are required to provide training to all employees who might be exposed to hazardous chemicals. At a minimum, the training must include:

- Hazard communication standard
- Components of the hazard communication program
- Operations where hazardous chemicals are present
- Location of the written HazCom program
- Methods and observations that may be used to detect the presence of a hazardous chemical

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Summary

Working with chemicals can be done safely. In order to be StartSafe and StaySafe when working with chemicals, you should:

- Know the chemicals you are using
- Know where the SDSs are located and how to read them
- Ask your supervisor if you have questions
- Be trained before using any chemicals
- Make sure you are using the appropriate PPE and that it is in good condition