

One Hour Safety Presentation

The main goal of the Division of Safety & Hygiene is the reduction of accidents and illnesses in the workplace. Toward this goal, the *One Hour Safety Presentation* is designed to support the delivery of a presentation to co-workers in your workplace to help them understand and promote safer and healthier work environments. It is recommended that you take the DSH Training Center course as a background for using *One Hour Safety Presentation* to train others at your workplace. Call 1-800-OHI OBWC, option 2, 2, 3, for class dates and locations.

The *One Hour Safety Presentation* contains:

- **Transparency Masters** from which films can be made to use on an overhead projector,
- **Instructor Notes** which gives the instructor suggestions and script notations to use during the presentation, and
- **Student Handouts** which can be copied for those attending the presentation.

Materials are included for a one-hour presentation on each of these topics:

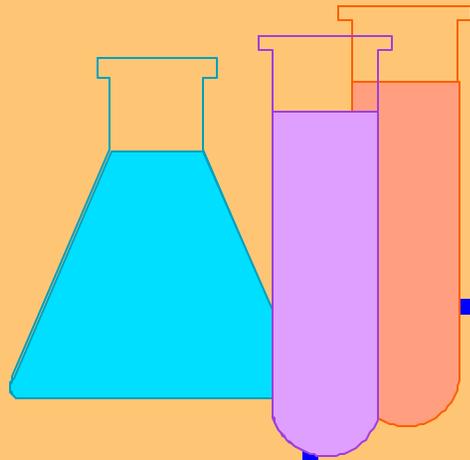
- ✓ Accident Analysis
- ✓ Bloodborne Pathogens
- ✓ Developing an Ergonomics Process
- ✓ Hazard Communication
- ✓ Lockout/Tagout
- ✓ Respiratory Protection
- ✓ Violence in the Workplace

Applications used:

- 1) Text documents (ending in **.txt**) can be opened with any word processing program.
- 2) Microsoft PowerPoint slides (ending in **.ppt**) can be opened with the Microsoft PowerPoint program. If you do not have PowerPoint and you do have Windows 95, 98, 2000 or Windows NT operating system, you can view the PowerPoint slides by downloading a free PowerPoint Viewer from the following website:
<http://office.microsoft.com/downloads/default.aspx?Product=PowerPoint&Version=95|97|98|2000|2002&Type=Converter|Viewer>
- 3) Adobe Reader document (ending in **.pdf**) contains the *One Hour Safety Presentation* in read-only format. It can be opened when you download Adobe Reader, which is available free of charge at the following website:
<http://www.adobe.com/products/acrobat/readstep2.html>

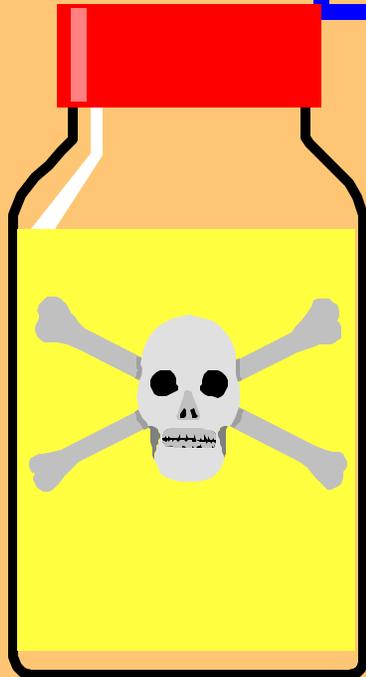
If you have comments or questions about these materials for *One Hour Safety Presentation*, please e-mail us: OCOSHTrng@bwc.state.oh.us

Transparency Masters

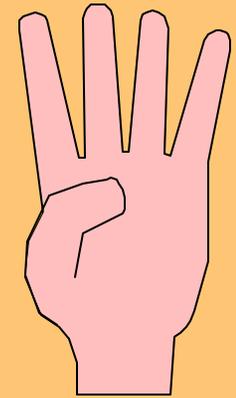


HAZARD COMMUNICATIONS

OSHA 29 CFR 1910.1200



Requirements of the Standard



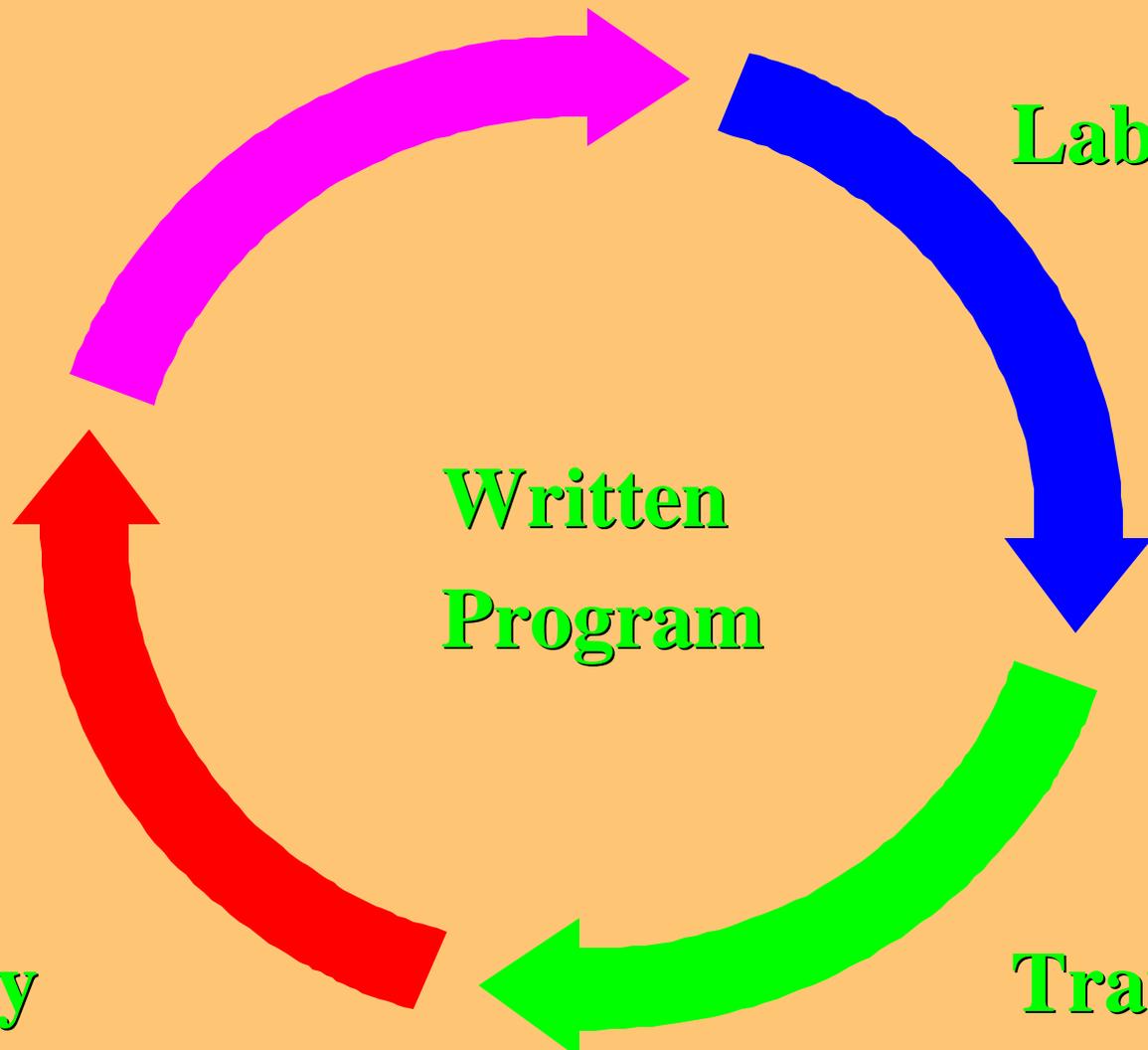
MSDS

Labeling

Written
Program

Inventory

Training



HOW TO CONDUCT A WORKPLACE INVENTORY

- ▼ **Identify Materials By Department.**
- ▼ **Note Operations Performed Dept. By Dept.**
- ▼ **Look at Labeling.**
- ▼ **Identify Material by Processes.**
- ▼ **Look at materials use by other Contractors.**
- ▼ **Look at materials on site and in storage.**
- ▼ **Look in all areas.**

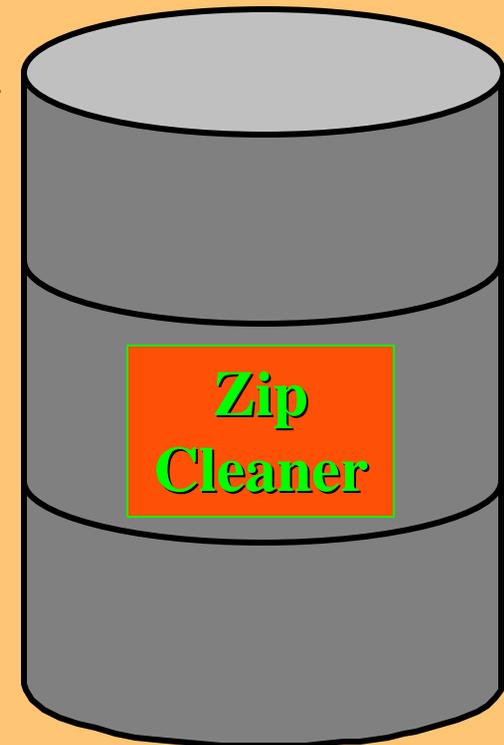
Material Safety Data Sheets (MSDS)

- ▶ **Purpose**
- ▶ **What Information they provide**
- ▶ **Readily accessible/complete/retain**
- ▶ **Someone responsible**



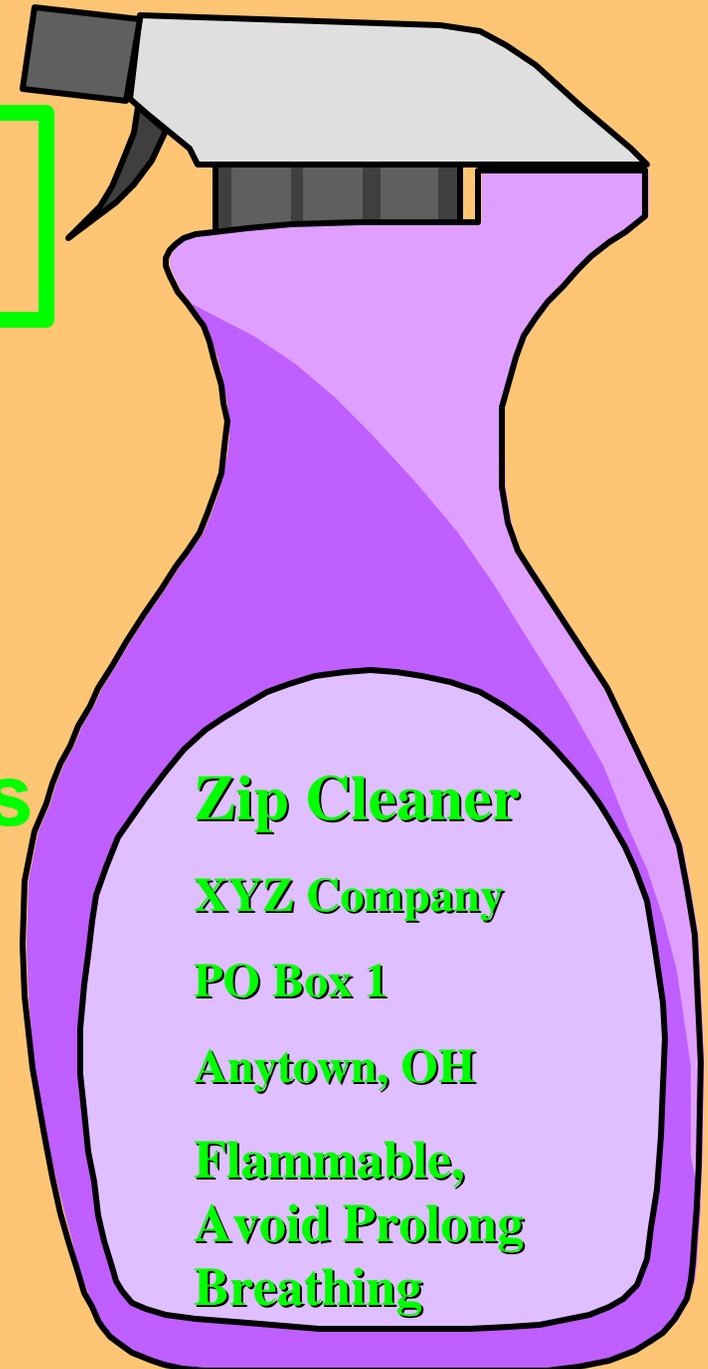
Labeling

- ▼ Purpose
- ▼ What information is required
- ▼ Accessible/Legible/in English
- ▼ Types; Mfg.'s, HMIS, NFPA
- ▼ Someone responsible



Manufacturers Label

- Mfg.'s Name/Address
- Product Name
- Physical Warnings
- Health Hazard Warnings
Including Target Organs



In House Label

- Product Name
- Physical Hazards
- Health Hazard Warnings
Including Target Organs



Zip Cleaner

Flammable,

**Avoid prolonged
breathing.**

Chemical Name

Health Hazard

- 4-Deadly
- 3-Extremely Hazardous
- 2-Hazardous
- 1-Slightly Hazardous
- 0-Normal material

Fire Hazard

Flash Points

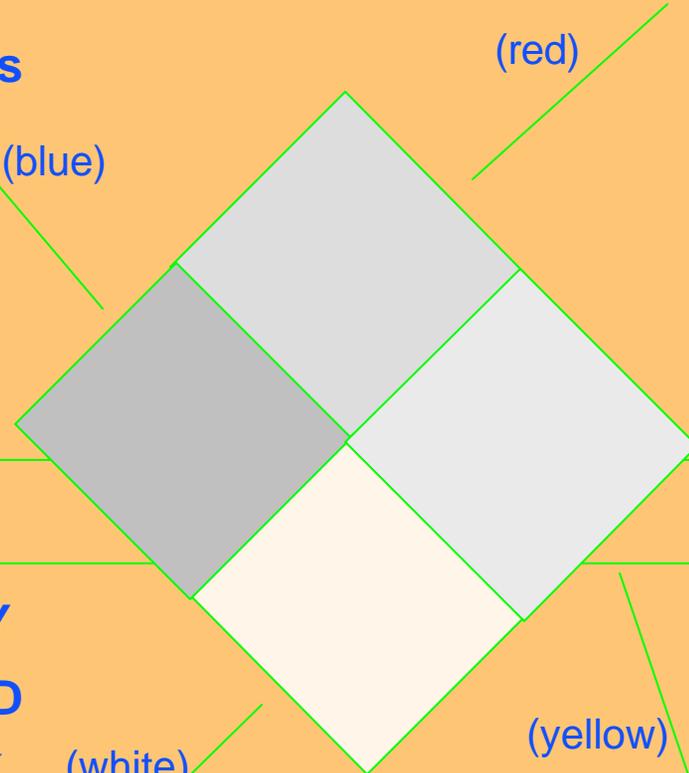
- 4-Below 73 ° F
- 3-Below 100 ° F
- 2-Below 200 ° F
- 1-Above 200 ° F
- 0-Will not burn

Specific Hazard

- Oxidizer OXY
- Acid ACID
- Alkali ALK
- Corrosive COR
- Use NO WATER W
- Radiation Hazard 

Reactivity

- 4-May detonate
- 3-Shock and heat may detonate
- 2-Violent chemical change
- 1-Unstable if heated
- 0-Stable



NFPA Label

HMIS LABEL

Health	<input type="checkbox"/>	(blue)
Flammability	<input type="checkbox"/>	(red)
Reactivity	<input type="checkbox"/>	(yellow)
Personal Protective Equipment	<input type="checkbox"/>	(white)

Chemical Name: _____

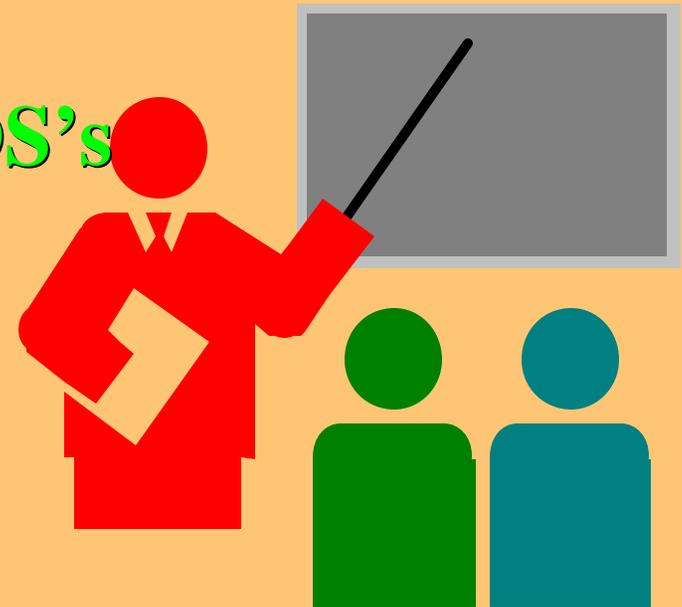
Employee Training

- ▶ **General Training**
- ▶ **Specific Training**



General Training

- ▼ Hazard Communication Standard
- ▼ Employer's Written Program
- ▼ Location/Availability Of Written Program & MSDS
- ▼ How to read labels & MSDS's



Specific Training



- ▼ **Characteristics**
- ▼ **Health & Safety Hazards**
- ▼ **Work practices or SOPs**
- ▼ **Emergency action plans**
- ▼ **Personal Protective Equipment (PPE)**
- ▼ **Non-routine tasks**
- ▼ **Industrial Hygiene monitoring results**

Written Program

- ▼ **Must be developed, implemented & maintained**
- ▼ **A blueprint for how the requirements will be met**
- ▼ **Readily accessible**



Miscellaneous

- ▼ **Non-Routine Tasks**
- ▼ **Piping Systems**
- ▼ **Contractors/
Multi-Employer Worksites**



Summary

- ▶ What is Hazcom?
- ▶ Why was the Hazcom Standard implemented?
- ▶ What are the 4 major elements of our written Hazcom program?
- ▶ Why is a workplace inventory important?
- ▶ What is the purpose of an MSDS?

Summary (continued)

- ▶ Where do we keep MSDSs & Written Program?
- ▶ Who is responsible for maintaining MSDS in your area?
- ▶ What labeling system do we use?
- ▶ Why do we need MSDS and labeling?
- ▶ Why do we train on Hazcom?
- ▶ What's the difference between General and Specific training?

Instructor Notes

Thank you for your interest in teaching the basics of Hazard Communication to your employees and for promoting self-sufficiency on behalf of the Division of Safety & Hygiene.

A few points to keep in mind while teaching this class to your employees.

Try to do everything you can to get your students “involved” with the information that you will be presenting. This means using actual work place examples wherever possible. Try to use your own MSDS sheets, your own inventory forms, your own labels, and certainly refer to your company specific procedures when at all possible.

If possible, incorporate some exercises into your training. These exercises might be as simple as small groups reviewing a specific MSDS sheet or as involved as having people actually perform a chemical inventory for their immediate work area. If you already have an inventory you might have an exercise where a review is conducted to check for accuracy and completeness. The key is to get your class involved so that they are not just listening to you lecture.

Encourage questions and repeat questions for clarity to be sure that everyone has heard and understood. Even if you know the answer, a good technique is to ask the class if anyone can answer the question. On questions where you’re not sure of the answer or there is disagreement within the class, tell the class that you’ll check on it during a break or as soon after the class as possible. Follow-up and make sure everyone gets the information.

Remember, your goal is to teach your employees to be safe and to provide accurate information about hazard communication and your specific hazcom program.



What is Hazard Communication or Hazcom?

Answers will vary but should include:

- employees have a right to know hazards and identities of chemicals they will be exposed to;
- should know what protective measures are available

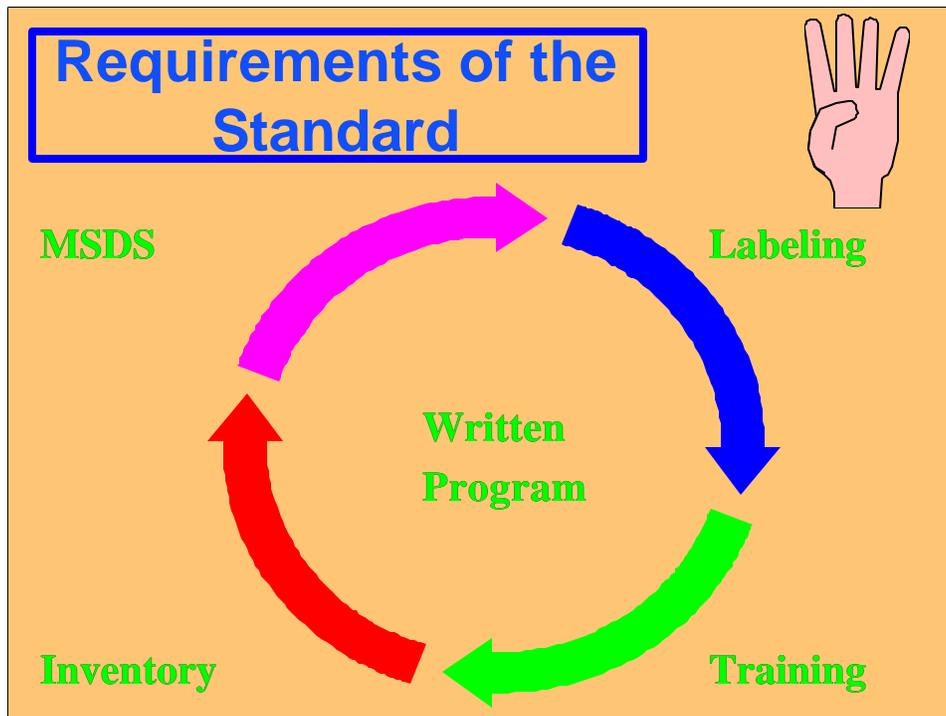
What is the Hazcom standard and why was it promulgated?

- Designed to reduce incidence of chemically-related occupational illnesses and injuries;
- Called “worker right to know” standard;
- Ensures that all chemical hazards in workplace are identified and explained
- Emphasis on communication

Standard covers both physical hazards (flammability) and health hazards (irritation, lung damage, etc.)

Chemical manufacturers and importers must evaluate hazards of their chemicals and prepare labels and Material Safety Data Sheets or MSDS.

A Performance standard. This means can adapt the standard to our specific needs and our work environment.



Today we'll cover an overview of the Hazcom Standard, 29 CFR 1910.1200 and familiarize you with the 4 major requirements of the standard and our written program:

Inventory of the workplace

Material Safety Data Sheets (MSDS)

Labeling and other forms of warning

Employee training and information

HOW TO CONDUCT A WORKPLACE INVENTORY

- ▼ **Identify Materials By Department.**
- ▼ **Note Operations Performed Dept. By Dept.**
- ▼ **Look at Labeling.**
- ▼ **Identify Material by Processes.**
- ▼ **Look at materials use by other Contractors.**
- ▼ **Look at materials on site and in storage.**
- ▼ **Look in all areas.**

Is there anything that should be included that we've forgotten?

Review purchases, check warehouse, identify any by-products such as fumes from welding operations, janitorial supplies, piping within the facility, certain operations performed on an irregular basis but may involve hazardous substances such as confined space entry.

Key Point-must be a comprehensive list and must take a comprehensive approach and remember, the standard covers more than just chemicals in containers. The standard covers chemicals in all physical forms such as solids, liquids, gases, vapors, fumes, and mists whether they are contained or not.

Material Safety Data Sheets (MSDS)

- ▼ **Purpose**
- ▼ **What Information they provide**
- ▼ **Readily accessible/complete/retain**
- ▼ **Someone responsible**

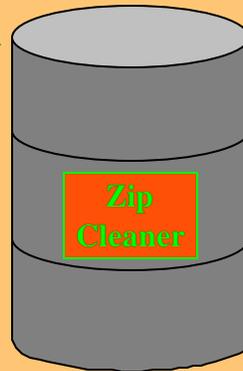


An MSDS is a technical bulletin whose purpose is to provide detailed information on each hazardous chemical in the workplace. Chemical manufacturers and importers are required to obtain or develop an MSDS for each hazardous chemical they produce or import. Distributors are responsible for ensuring that their customers get MSDS and employers must have an MSDS for each hazardous chemical that they use. Remember, we also refer to this standard as the “right to know” standard. If you notice an MSDS with blank spaces, please notify the responsible person or your supervisor and they will see that a complete MSDS is obtained.

There is no specified format for an MSDS but they must be in English and at a minimum they must contain: (refer to your MSDS or sample provided) identity (chemical or common name) used on container label, chemical and common name of all ingredients having known health hazards in concentrations greater than 1% and for known carcinogens at 0.1% or more, physical and chemical characteristics of hazardous components, physical and health hazards including signs and symptoms, primary routes of entry, any known exposure limits, is it a potential carcinogen, precautions for safe handling and use, control measures, emergency first aid procedures, date of preparation, and name, address, phone number of company or responsible person distributing the MSDS. Also, the MSDS must be readily accessible-during workshifts, in the immediate work area, and a responsible-designated person to keep MSDS current, correct, and available. Any questions?

Labeling

- ▼ Purpose
- ▼ What information is required
- ▼ Accessible/Legible/in English
- ▼ Types; Mfg.'s, HMIS, NFPA
- ▼ Someone responsible



All in-plant containers of hazardous chemicals must be labeled

All products shipped by manufacturers must include:

identity of material

appropriate hazard warnings

name and address of the producer or other responsible party

All in-plant containers should include:

identity of material

appropriate hazard warnings

Must be in English but other languages may be supplied as well

Responsible person to ensure that all labels are in use, legible, and prominently displayed

If possible, have some examples of your in-house containers that are properly labeled. Make the point that these container labels are only to serve as an immediate warning and **are not** substitutes for MSDS that must be available and accessible as mentioned earlier.

Manufacturers Label

- **Mfg.'s Name/Address**
- **Product Name**
- **Physical Warnings**
- **Health Hazard Warnings Including Target Organs**



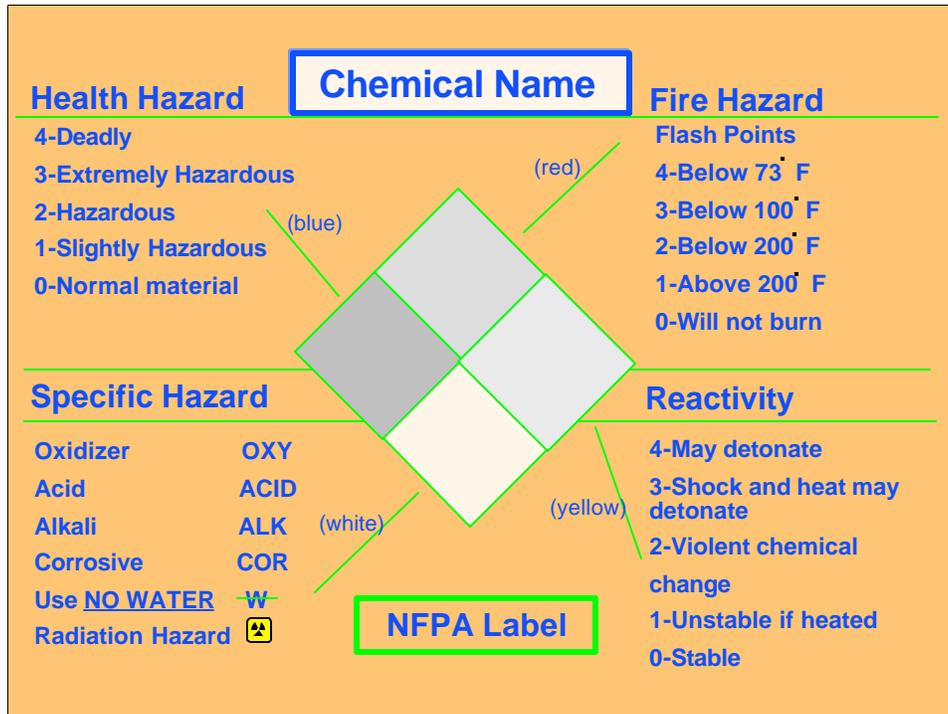
Can show this overhead if manufacturer's labeling not readily available.

In House Label

- **Product Name**
- **Physical Hazards**
- **Health Hazard Warnings Including Target Organs**



Can show this overhead if in-house labeling is not readily available



In addition to manufacturer's labels, you might see National Fire Protection Association (NFPA) labels (briefly review areas on the label).

OR

HMIS LABEL		
Health	<input style="width: 100%; height: 20px;" type="text"/>	(blue)
Flammability	<input style="width: 100%; height: 20px;" type="text"/>	(red)
Reactivity	<input style="width: 100%; height: 20px;" type="text"/>	(yellow)
Personal Protective Equipment	<input style="width: 100%; height: 20px;" type="text"/>	(white)
Chemical Name: _____		

Hazardous Materials Identification System (HMIS) labels (briefly review areas on the label).

Like the MSDS, to ensure that labeling is accomplished properly, there should be someone designated as being responsible for ensuring that all in-plant containers are labeled.

Someone should also be responsible for ensuring that any shipped containers are properly labeled.

Within our Hazcom written program there is a description of the labeling system that we use (mention exactly where this can be found and have an example if possible),

Our program also details procedures we use to review and update label information when necessary.

(If possible have copies of your Hazcom program that talks about labeling.)

Employee Training

- ▼ **General Training**
- ▼ **Specific Training**



All employers are required to institute an information and training program that provides workers with training not only on their Hazcom program but on the hazardous materials that they will be exposed to in performing their work.

Training divided into two categories, General and Specific.

General Training

- ▼ **Hazard Communication Standard**
- ▼ **Employer's Written Program**
- ▼ **Location/Availability Of Written Program & MSDS**
- ▼ **How to read labels & MSDS's**



Who should receive General Training?

General Training is common to all employees and includes:

the Hazcom standard,

specifics of our written program,

how our hazards will be communicated,

the labeling system that we use, and

how to read and understand the MSDS along with pertinent terminology necessary for understanding.

Specific Training



- ▼ **Characteristics**
- ▼ **Health & Safety Hazards**
- ▼ **Work practices or SOPs**
- ▼ **Emergency action plans**
- ▼ **Personal Protective Equipment (PPE)**
- ▼ **Non-routine tasks**
- ▼ **Industrial Hygiene monitoring results**

Who should receive specific training?

Those workers who will be handling or will be exposed to the hazardous substances in the facility. It includes: characteristics of the hazardous substance (what does it look like, solid, liquid or vapor, how is its presence detected), physical and health hazards associated with the substance, work practices or standard operating procedures (SOPs) to be used, Emergency action plans associated with the substance, personal protective equipment (PPE) required when using or while exposed to the substance, non-routine task training (i.e. confined space entry), results of any monitoring done within the work area.

Once general and specific training have been accomplished, the following training is required: new employees before they begin, temporary employees before they begin work, all employees on any new substances that may present a hazard, transferred employees if they will be working with new or different substances in their new job assignment, all employees on any new hazards associated with substances already in use, retraining for employees returning from extended leaves or layoff, and finally, all employees should get refresher training as needed.

Written Program

- ▼ **Must be developed, implemented & maintained**
- ▼ **A blueprint for how the requirements will be met**
- ▼ **Readily accessible**



We've briefly discussed The 4 major elements of a written Hazcom program.

Our written program is designed to outline the process our company uses to protect us all from the hazardous materials in our workplace.

Our written program must be kept current and it must provide a blueprint for how we implement our hazcom program.

Finally, our written program is readily available and accessible to all of us.

It can be found at ... (identify where your written program is kept)

Miscellaneous

- ▼ **Non-Routine Tasks**
- ▼ **Piping Systems**
- ▼ **Contractors/
Multi-Employer Worksites**



Finally, in addition to the four major elements of a hazcom program discussed above, there are some miscellaneous items that also need to be addressed in a written program.

Non-routine tasks are tasks that are not performed on an everyday or a regular basis such as cleaning out vats or changing filters (give examples of your non-routine tasks if applicable)

Piping systems would identify how unlabeled piping is to be dealt with

Contractors and multi-employer worksites would spell out how information will be exchanged on hazardous substances. It is also important to note that your employees may need to be trained on any hazards that contractors might bring to your site as well.

Summary

- ▼ What is Hazcom?
- ▼ Why was the Hazcom Standard implemented?
- ▼ What are the 4 major elements of our written Hazcom program?
- ▼ Why is a workplace inventory important?
- ▼ What is the purpose of an MSDS?

Use these questions as major points for review.

Summary (continued)

- ▼ Where do we keep MSDSs & Written Program?
- ▼ Who is responsible for maintaining MSDS in your area?
- ▼ What labeling system do we use?
- ▼ Why do we need MSDS and labeling?
- ▼ Why do we train on Hazcom?
- ▼ What's the difference between General and Specific training?

Hazard Communication Frequently Asked Questions

Why was the Hazard Communication Standard promulgated?

OSHA promulgated the Hazard Communication Standard to ensure that all employers receive the information they need to inform and train their employees properly on the hazardous substances they work with and to help design and put in place employee protection programs. It also provides necessary hazard information to employees, so they can participate in and support the protective measures in place at their workplaces.

What are the associated benefits of implementing the Hazard Communication Standard?

The Hazard Communication Standard provides workers exposed to hazardous chemicals with the right-to-know the identities and hazards of those materials, as well as appropriate protective measures. When workers have such information, they are able to take steps to protect themselves from experiencing adverse effects from exposure. In addition, providing such information to employers helps them to design better protective programs for exposed employees.

There are significant benefits associated with the implementation of the hazard communication standard in the workplace. Employers have used the information provided to select personal protective equipment, design engineering controls, and substitute less hazardous chemicals. All of these actions will improve protection of workers. In addition, the written information can be used to train workers to properly handle the chemicals.

How do I know if I need HazCom training?

You need HazCom training if you may be exposed to or clean up non-emergency releases of hazardous substances.

When is hazard communication training and retraining required?

Employers must provide employee training on the hazardous chemicals in their work area at the time of the worker's initial assignment to that area, and

whenever a new physical or health hazard that the worker has not been trained on is about to be introduced into the work area. Unlike some OSHA regulations, the Hazard Communication standard does not set requirements for specific refresher training.

Training serves to explain and reinforce the information presented through labels and Material Safety Data Sheets. Using these labels and MSDS will only be successful when workers understand the information presented and are aware of the actions to be taken to avoid or minimize exposure. Always take into consideration the education and technical background of the trainees to ensure that they completely understand the information being given to them.

Is there a list of substances regulated by the Hazard Communication Standard?

No. The rule requires chemical manufacturers and importers to evaluate the hazards of the chemicals they produce or import and to prepare appropriate labels and material safety data sheets to convey the hazards and precautionary measures to users of the chemicals. As a user, you can rely on the suppliers to provide you with appropriate information to comply with the Hazard Communication Standard

What are temporary agency employers required to do to meet HAZCOM requirements?

In meeting the requirements of OSHA's Hazard Communication Standard, the temporary agency employer would, for example, be expected to provide generic hazard training and information concerning categories of chemicals employees may potentially encounter. Host employers would then be responsible for providing site-specific hazard training pursuant to sections [1910.1200\(h\)\(1\)](#) and [1910.59\(h\)\(1\)](#)

Can MSDSs be stored on a computer to meet the accessibility requirements of HAZCOM?

If the employee's work area includes the area where the MSDSs can be obtained, then maintaining MSDSs on a computer would be in compliance. If the MSDSs can only be accessed out of the employee's work area(s), then

the employer would not be in compliance with [1910.1200\(g\)\(8\)or\(9\)](#) and [1926.59\(h\)\(1\)\(i-v\)](#).

What are the container labeling requirements under HAZCOM?

Under HCS, the manufacturer, importer, or distributor is required to label each container of hazardous chemicals. If the hazardous chemicals are transferred into unmarked containers, these containers must be labeled with the required information, unless the container into which the chemical is transferred is intended for the immediate use of the employee who performed the transfer.

How does HAZCOM apply to pharmaceutical drugs?

The HCS only applies to pharmaceuticals that the drug manufacturer has determined to be hazardous and that are known to be present in the workplace in such a manner that employees are exposed under normal conditions of use or in a foreseeable emergency. The pharmaceutical manufacturer and the importer have the primary duty for the evaluation of chemical hazards. The employer may rely upon the hazard determination performed by the pharmaceutical manufacturer or importer.

When is the chemical manufacturer required to distribute MSDSs?

Hazard information must be transmitted on Material Safety Data Sheets (MSDSs) that must be distributed to the customer at the time of first shipment of the product. The Hazard Communication Standard also requires that MSDSs be updated by the chemical manufacturer or importer within three months of learning of "new or significant information" regarding the chemical's hazard potential.

What is considered proper training under the HAZCOM standard?

Employees are to be trained at the time they are assigned to work with a hazardous chemical. The intent of this provision ([1910.1200\(h\)](#)) is to have information prior to exposure to prevent the occurrence of adverse health effects. This purpose cannot be met if training is delayed until a later date.

The training provisions of the HCS are not satisfied solely by giving employee the data sheets to read. An employer's training program is to be a forum for explaining to employees not only the hazards of the chemicals in their work area, but also how to use the information generated in the hazard communication program. This can be accomplished in many ways (audiovisuals, classroom instruction, interactive video), and should include an opportunity for employees to ask questions to ensure that they understand the information presented to them.

Training need not be conducted on each specific chemical found in the workplace, but may be conducted by categories of hazard (e.g., carcinogens, sensitizers, acutely toxic agents) that are or may be encountered by an employee during the course of his duties.

Furthermore, the training must be comprehensible. If the employees receive job instructions in a language other than English, then the training and information to be conveyed under the HCS will also need to be conducted in a foreign language.

What are the requirements for refresher training or retraining a new hire?

Additional training is to be done whenever a new physical or health hazard is introduced into the work area, not a new chemical. For example, if a new solvent is brought into the workplace, and it has hazards similar to existing chemicals for which training has already been conducted, then no new training is required. As with initial training, and in keeping with the intent of the standard, the employer must make employees specifically aware which hazard category (i.e., corrosive, irritant, etc.) the solvent falls within. The substance-specific data sheet must still be available, and the product must be properly labeled. If the newly introduced solvent is a suspect carcinogen, and there has never been a carcinogenic hazard in the workplace before, then new training for carcinogenic hazards must be conducted for employees in those work areas where employees will be exposed.

It is not necessary that the employer retrain each new hire if that employee has received prior training by a past employer, an employee union, or any other entity. General information, such as the rudiments of the HCS could be expected to remain with an employee from one position to another. The employer, however, maintains the responsibility to ensure that their employees are adequately trained and are equipped with the knowledge and information necessary to conduct their jobs safely. It is likely that additional

training will be needed since employees must know the specifics of their new employers' programs such as where the MSDSs are located, details of the employer's in-plant labeling system, and the hazards of new chemicals to which they will be exposed. For example, (h)(3)(iii) requires that employees be trained on the measures they can take to protect themselves from hazards, including specific procedures the employer has implemented such as work practices, emergency procedures, and personal protective equipment to be used. An employer, therefore, has a responsibility to evaluate an employee's level of knowledge with regard to the hazards in the workplace, their familiarity with the requirements of the standard, and the employer's hazard communication program.

Do you need to keep MSDSs for commercial products such as “windex” and “white-out”?

OSHA does not require that MSDSs be provided to purchasers of household consumer products when the products are used in the workplace in the same manner that a consumer would use them, i.e.; where the duration and frequency of use (and therefore exposure) is not greater than what the typical consumer would experience. This exemption in OSHA's regulation is based, however, not upon the chemical manufacturer's intended use of his product, but upon how it actually is used in the workplace. Employees who are required to work with hazardous chemicals in a manner that results in a duration and frequency of exposure greater than what a normal consumer would experience have a right to know about the properties of those hazardous chemicals.

What are the requirements and limits to using generic MSDSs?

... [Regarding] the suitability of a generic material safety data sheet (MSDS). As you are probably aware, the requirements for MSDSs are found in paragraph (g) of 29 CFR 1910.1200. MSDSs must be developed for hazardous chemicals used in the workplace, and must list the hazardous chemicals that are found in a product in quantities of 1% or greater, or 0.1% or greater if the chemical is a carcinogen. The MSDS does not have to list the amount that the hazardous chemical occurs in the product.

Therefore, a single MSDS can be developed for the various combinations of ... [chemicals], as long as the hazards of the various... mixtures are the same. This "generic" MSDS must meet all of the minimum requirements found in

29 CFR 1910.1200(g), including the name, address and telephone number of the responsible party preparing or distributing the MSDS who can provide additional information.

What is the application of HAZCOM to an office environment?

Office workers who encounter hazardous chemicals only in isolated instances are not covered by the rule. The Occupational Safety and Health Administration (OSHA) considers most office products (such as pens, pencils, adhesive tape) to be exempt under the provisions of the rule, either as articles or as consumer products. For example, Mrs. Schissler specifically mentioned copy toner. OSHA has previously stated that intermittent or occasional use of a copying machine does not result in coverage under the rule. However, if an employee handles the chemicals to service the machine, or operates it for long periods of time, then the program would have to be applied.

Student Handouts

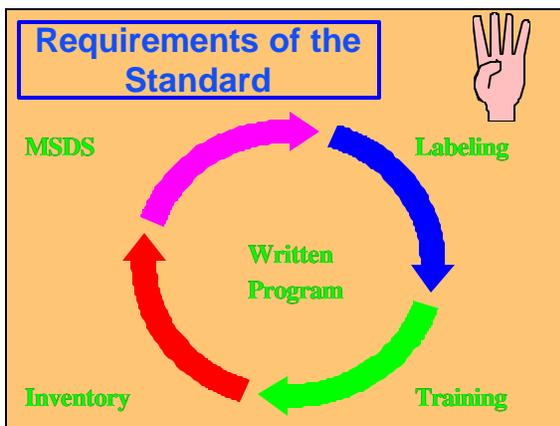
Hazard Communication

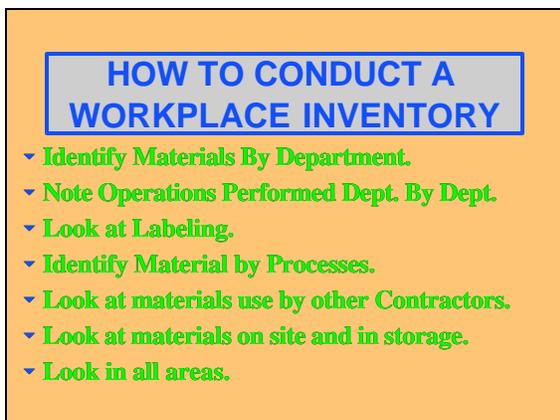


HAZARD COMMUNICATION

OSHA 29 CFR 1910.1200

The graphic features a blue box with the title 'HAZARD COMMUNICATION' and the regulation 'OSHA 29 CFR 1910.1200'. To the left is a yellow bottle with a skull and crossbones. Above the box are three test tubes (blue, purple, red) and a flask. To the right is a red fire extinguisher.





HOW TO CONDUCT A WORKPLACE INVENTORY

- Identify Materials By Department.
- Note Operations Performed Dept. By Dept.
- Look at Labeling.
- Identify Material by Processes.
- Look at materials use by other Contractors.
- Look at materials on site and in storage.
- Look in all areas.

The graphic has a blue box with the title 'HOW TO CONDUCT A WORKPLACE INVENTORY' and a list of seven steps in green text.

Hazard Communication

Manufacturers Label

- Mfg.'s Name/Address
- Product Name
- Physical Warnings
- Health Hazard Warnings Including Target Organs



In House Label

- Product Name
- Physical Hazards
- Health Hazard Warnings Including Target Organs



NFPA Label

Health Hazard	Chemical Name	Fire Hazard
4-Deadly		Flash Points
3-Extremely Hazardous		4-Below 73 °F
2-Hazardous		3-Below 100 °F
1-Slightly Hazardous		2-Below 200 °F
0-Normal material		1-Above 200 °F
		0-Will not burn
Specific Hazard		Reactivity
Oxidizer OXY		4-May detonate
Acid ACID		3-Shock and heat may detonate
Alkali ALK		2-Violent chemical change
Corrosive COR		1-Unstable if heated
Use <u>NO WATER</u>		0-Stable
Radiation Hazard ☐		

Hazard Communication

HMIS LABEL		
Health	<input type="text"/>	(blue)
Flammability	<input type="text"/>	(red)
Reactivity	<input type="text"/>	(yellow)
Personal Protective Equipment	<input type="text"/>	(white)

Chemical Name: _____

Employee Training

- General Training
- Specific Training



General Training

- Hazard Communication Standard
- Employer's Written Program
- Location/Availability Of Written Program & MSDS
- How to read labels & MSDS's



Hazard Communication

Specific Training

- ▼ Characteristics
- ▼ Health & Safety Hazards
- ▼ Work practices or SOPs
- ▼ Emergency action plans
- ▼ Personal Protective Equipment (PPE)
- ▼ Non-routine tasks
- ▼ Industrial Hygiene monitoring results



Written Program

- ▼ Must be developed, implemented & maintained
- ▼ A blueprint for how the requirements will be met
- ▼ Readily accessible



Miscellaneous

- ▼ Non-Routine Tasks
- ▼ Piping Systems
- ▼ Contractors/
Multi-Employer Worksites



Hazard Communication

Summary

- ▾ What is Hazcom?
- ▾ Why was the Hazcom Standard implemented?
- ▾ What are the 4 major elements of our written Hazcom program?
- ▾ Why is a workplace inventory important?
- ▾ What is the purpose of an MSDS?

Summary (continued)

- ▾ Where do we keep MSDSs & Written Program?
- ▾ Who is responsible for maintaining MSDS in your area?
- ▾ What labeling system do we use?
- ▾ Why do we need MSDS and labeling?
- ▾ Why do we train on Hazcom?
- ▾ What's the difference between General and Specific training?

GLOSSARY OF COMMON TERMS

ABSORPTION: When material is absorbed into the skin.

ACUTE EFFECTS: An adverse effect on a human or animal body, with severe symptoms developing rapidly and coming quickly to a crisis.

ACUTE TOXICITY: The adverse effects resulting from a single dose of exposure to a substance.

ACGIH: American Conference of Governmental Industrial Hygienists.

ASPHYXIATE: A vapor or gas which can cause unconsciousness or death by suffocation (lack of oxygen).

CARCINOGEN: A substance or agent capable of causing or producing cancer in mammals.

CEILING: The maximum allowable human exposure limit for an airborne substance, not to be exceeded even momentarily

CFR: Code of Federal Regulations.

CHEMICAL NAME: The scientific designation of a chemical in accordance with the nomenclature system developed by the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS) rules of nomenclature, or a name which will clearly identify the chemical for the purpose of conducting a hazard evaluation.

CHRONIC EFFECTS: An adverse effect on a human or animal body, with symptoms which develop slowly over a long period of time or which recur frequently.

CHRONIC TOXICITY: Adverse effects resulting from repeated doses of or exposures to a substance over a relatively prolonged period of time.

COMBUSTIBLE: A liquid having a flash point of 100 degrees Fahrenheit or higher, also solids such as wood and paper.

COMMON NAME: Any designation or identification such as code name, code number, trade name, brand name, or generic name used to identify a chemical other than by its chemical name.

CONTAINER: Any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. For purposes of this section, pipes or piping systems, and engines fuel tanks, or other operating systems in a vehicle, are not considered to be containers.

CORROSIVE: A liquid or solid that has corrosive characteristics and will cause visible destruction to skin or metals.

DOT: US Department of Transportation

EMPLOYEE: A worker who may be exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies. Workers such as office workers or bank tellers who encounter hazardous chemicals only in non-routine, isolated instances are not covered by the federal Standard.

EPA: US Environmental Protection Agency.

EPCRA: Emergency Planning and Community Right-To-Know Act (Title III or SARA)

FLASH POINT: The temperature at which a liquid will give off enough flammable vapor to ignite.

FLAMMABLE: A flammable liquid is a liquid with a flash point below 100 degrees F.

HAZARDOUS CHEMICAL: Any chemical which is a physical hazard or a health hazard.

HEALTH HAZARD: A chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes.

HEMATOPOIETIC SYSTEM: The blood forming organs, especially bone marrow and lymph nodes.

IARC: International Agency for Research on Cancer.

IDENTITY: Any chemical or common name which is indicated on the MSDS for the chemical. The identity used shall permit cross-references to be made among the required list of hazardous chemicals, the label, and the MSDS.

INCOMPATIBLE: Materials which could cause dangerous reactions from direct contact with one another.

INGESTION: The taking of a substance by mouth.

INHALATION: The breathing of a substance.

IRRITANT: A substance which, by contact in sufficient concentration for a sufficient period of time, will cause reaction to the eyes, skin or respiratory system.

LABORATORY: A facility where the "laboratory use of hazardous chemicals" occur. It is a workplace where relatively small quantities of hazardous chemicals are used on a non-production basis.

LABORATORY SCALE: Work with substances in which the containers used for reactions, transfers, and other handling of substances are designed to be easily and safely manipulated by one person. "Laboratory scale" excluded those workplaces whose function is to produce commercial quantities of materials.

LABORATORY USE OF HAZARDOUS CHEMICALS: Handling or use of such chemicals in which all of the following conditions are met:

1. chemical manipulations are carried out on a "laboratory scale;"
2. multiple chemical procedures or chemicals are used;
3. the procedures involved are not part of a production process, nor in any way simulate a production process; and
4. "protective laboratory practices and equipment" are available and in common use to minimize the potential for employee exposure to hazardous chemicals.

LD50: Lethal dose needed to kill 50% of the test population.

LEL: Lower Explosive Limit.

MSDS: Material Safety Data Sheet.

NFPA: National Fire Protection Association.

NIOSH: National Institute for Occupational Safety and Health.

NTP: National Toxicology Program.

OSHA: Occupational Safety and Health Administration.

OXIDIZER: A substance that yields oxygen readily to stimulate combustion or organic matter.

PEL: Permissible Exposure Limit; a limit set by OSHA setting the quantity of a material that you can safely be exposed to.

PHYSICAL HAZARD: A chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, and oxidizer, pyrophoric, unstable (reactive) or water-reactive.

PPM: Parts per million; a unit of measurement used when setting the PEL.

PYROPHORIC: Igniting spontaneously in air.

RCRA: Resource Conservation and Recovery Act.

REACTIVITY: A description of the tendency of a substance to undergo chemical reaction with the release of energy.

SARA: Superfund Amendments and Reauthorization Act of 1986.

SELECT CARCINOGEN: Any substance which meets one of the following criteria:

1. it is regulated by OSHA as a carcinogen;
2. it is listed under the category "known to be a carcinogen" in the NTP Annual Report on Carcinogens;
3. it is listed under Group 1 (carcinogenic to humans) by IARC;

or

1. it is listed in either Group 2A or 2B by IARC or under the category "reasonably anticipated to be carcinogens" by NTP.

The "select carcinogen" applies only to work areas in the laboratory chemical hygiene plan.

SENSITIZER: A substance which upon first exposure causes little or no reaction, but which on repeated exposure may cause a marked response not necessarily limited to the contact site.

SIC: Standard Industrial Classification Code.

SODIUM: Is a flammable solid.

SPECIFIC CHEMICAL IDENTITY: The chemical name, Chemical Abstracts Service (CAS) Registry Number, or any other information that reveals the precise chemical designation of the substance.

STEL: Short Term Exposure Limit.

TLV: Threshold Limit Values (TLVs) ® refer to airborne concentrations of substances and represent conditions under which it is believed that nearly all workers may be repeatedly exposed day after day without adverse health effects. American Conference of Governmental Industrial Hygienists (ACGIH).

TRADE SECRET: Any confidential formula, pattern, process, device, information or compilation of information that is used in an employer's business, and that gives the employer an opportunity to obtain an advantage over competitors who do not know or use it.

TWA: Time Weighted Average, usually figured over an 8-hour work day.

UEL: Upper Explosive Limit.