HAZARD COMMUNICATION INFORMATION PROGRAM

UNIVERSITY OF SOUTH ALABAMA

Department of Safety and Environmental Compliance

Revised 2024

ACKNOWLEDGEMENT

DATE: _____

This is to certify that I have read and understand the materials in the University of South Alabama Hazard Communication Program Manual. I also understand that further information is available to me within my department/division.

It is understood the Safety Data Sheets (SDS's) which cover hazardous chemicals in my work area are available in my department or may be acquired through the Safety & Environmental Compliance Department upon request.

Please fill out this page and return to Human Resources to be placed in your personal work file.

_____
(Printed Name)

_____
(Signature)

_____
(Date)

University of South Alabama Hazard Communication Program

(Questions regarding the implementation and preparation of the USA Hazardous Communication Program should be directed to the Safety and Environmental Compliance Department; 251-460-7070)

University of South Alabama is firmly committed to providing a safe and healthy work environment for each of its employees. It is recognized that some job-related procedures and other essential scholastic activities frequently required the use of chemicals which have hazardous properties. When using these chemicals, it is important that employees are aware of the identity and hazardous properties of such chemicals, since an informed is more likely to be a careful employee.

The purpose of this Hazard Communication Manual is to provide employees with the information they need to work safely with chemicals. The manual explains the responsibilities of both supervisors and employees regarding: chemical safety, modes of exposures, Globally Harmonized System (GHS) of Classification and the labeling of chemicals.

"Hazard Communication" also known as "Right-to-Know".

Hazard Communication Standard

The hazard communication rule applies to any chemical which is known to be present in the workplace in such a manner that employees may be exposed under normal conditions of use or in a foreseeable emergency.

The phrase "**known to be present**" is essential to the scope of the standard. If a hazardous chemical is known to be present by the chemical manufacturer or the Department Manager/Supervisors, it is covered by the standard. This includes chemicals to which employees may be exposed during normal operations or in an emergency. Even though a Department Manager/Supervisors was not responsible for the manufacture of the hazardous chemical, they have the responsibility for conveying hazards to his/her employees.

The Hazardous Communication Standard (HCS) [29 CFR 1910.1200(g)], revised in 2021, requires that the chemical manufacturer, distributor or importer to provide Safety Data Sheets (SDS's) (formerly Material Safety Data Sheets—MSDS) for each hazardous chemical to users to communicate information on these hazards. The information contained in the SDS's are largely the same as the MSDS's except now the SDS's are required to be presented in a consistent user-friendly 16-section format. SDS's include information such as the properties of each chemical; the physical, health and environmental health hazards, protective measures and safety precautions for handling, storing and transporting the chemical. The information contained in the SDS must be in English, although it may be in other languages as well.

Supervisors' Responsibilities

Supervisors must ensure that SDS's are readily accessible to employees for all hazardous chemicals in their workplace. This may be done in many ways. For example, supervisors may keep the SDS's in a binder or on a computer as long as the employees have immediate access to the information without having to leave their work area and a back-up is available for rapid access to the SDS in the event of a power outage or other emergency. Furthermore, supervisors may designate a person(s) responsible for obtaining and maintaining the SDS's. SDS's can be obtained from the SDS link on the Safety & Environmental Compliance (SEC) Department's Web page, the manufacturer's web page, product packing inserts and many SDS web site via the internet. To access the University SDS Online account using the USA Homepage; access the SEC's home page at http://www.southalabama.edu/environmental/ : then click on the tab "SDS" which will then bring up a page that will direct you to click on the link "MSDS ONLINE" to access the site. No login required. Login is for administrators only.

Supervisors must determine which workplace materials are hazardous and provide employees with the information, training and equipment they need to protect them and others. An inventory of hazardous materials known to be present in their work areas is compiled, reviewed and updated (yearly) and is made available to all departmental employees. The Department of Safety and Environmental Compliance maintains a copy of the departmental chemical inventory. Employees working for independent contractors must also be educated to the hazardous materials in the workplace.

Employees Responsibilities

Employees are required to take part in safety training provided by the University and use this training, as well as, safety procedures and protective equipment to work safely. Employees, working for independent contractors that bring hazardous materials onto any USA campus, are responsible for providing SDS's upon request of University Personnel.

Employee Information and Training

Prior to starting work, each new employee should receive safety training to include the following:

1. Overview of hazard communication program requirements

2. Hazardous chemicals present in the workplace.

3. Location and availability of the written hazard communication program.

4. Physical and health effects of hazardous chemicals.

5. Methods and observation techniques used to determine the presence or release of hazardous chemicals in the work area.

6. How to reduce or prevent exposure to these hazardous chemicals through use of control/work practices and personal protective equipment.

7. Steps the department has taken to reduce or prevent exposure to these chemicals.

8. Safety and emergency procedures to follow if the employee is exposed to these chemicals.

9. How to read labels and review SDSs to obtain appropriate hazard information.

After receiving training, each employee will certify that they have received training, that they understand the information and will comply with appropriate safe work practices, and that they understand that doing so is a condition of employment.

Chemical Safety

Chemicals are a vital part of our daily life in the products we use at work, in our homes and in a wide variety of industrial processes. Each person should become familiar with chemical in the workplace and learn to recognize their associated hazards before using them.

What is considered a hazard?

Physical Hazards	Health Hazards
Corrosive to metal	Carcinogens
Compressed gas	Acute toxicity
Explosive	Reproductive toxicity
Flammable	Serious eye irritation or damage
Organic Peroxide	Skin irritation or corrosion
Pyrophoric	Respiratory or skin sensitization
Self-heating	Germ Cell mutagenicity
Self-reactive	Specific organ toxicity
Contact with water resulting in flammable gas	Aspiration hazard

The following are just some of the hazardous material that can be found on campus:

Asbestos	Chlorine
Cleaning Products	Freon
Paints & Paint related products	Solvents
Acids	Caustics

Physical Hazards

Physical state is one of the factors in determining how hazardous a material is and in deciding what precautions, such as personal protective equipment is necessary. The physical state affects the hazard.

Materials whose physical state can be hazardous include:

Flammable	Compressed gas	Explosives	Oxidizers
Gases Aerosols Liquids Solids	Gas in containers under pressure	Substances that react rapidly & violently	Materials that give off oxygen & simulate combustion

Chemicals that enter the body affect it. Different kinds and doses of chemicals can have different effects. The effects can be acute or chronic and can be systemic or localized.

Type	Consequence	Example
Localized	Site of Contact on body	Corrosive material coming in contact with skin and burning it
Systemic	Widespread throughout the body	Inhalation of vapors and causing damage to the lungs
Acute	Short-term health problems	Effects alcohol ingestion has on the brain and kidneys
Chronic	Long-term health problems	Effects that smoking has on the body over time

Some chemicals travel in the body to a particular organ where they build up in what is referred to as the target organ. Examples are carbon monoxide targeting the blood and lead targeting the blood, nervous and reproductive systems.

Routes of Entry

Chemicals enter the body in several different ways:

- Inhalation: Breathing in hazardous chemicals can cause dizziness, nausea, headache, etc. and damage the respiratory system.
  - Asphyxiation can occur through inhalation if there is not enough oxygen (O_2) in the area or if something prevents the body from getting the oxygen it needs. Asphyxiation decreases the amount of available oxygen resulting in brain damage or death.
  - Example: Carbon Monoxide attaches to the red blood cells and prevents the cells from carrying oxygen to the rest of the body (chemical asphyxiate)
- NOTE: Beware of your surroundings. Smell is an unreliable indicator of chemical hazard as some chemicals have no smell and the nose can become desensitized and unable to detect a smell.
- Absorption: Contact with chemicals can cause burns, rashes or allergies. It is possible for some chemicals to pass through the skin, eyes or mucous membranes into the bloodstream. Many chemicals can cause direct effects at the point of contact with the skin. Some chemicals can be absorbed into the body through the skin.
- Ingestion: Chemicals can be ingested through the mouth. In the workplace, ingestion can result from hand-to-mouth contact, consuming contaminated food or drink, or smoking cigarettes that have come into contact with a chemical or unclean hand. Sometimes workplace chemicals are accidentally swallowed.

- Injection: Biological or chemical substances can be injected into the body by accidentally puncturing the skin with a contaminated needle or other sharp device. A cut or puncture can allow chemicals to enter the bloodstream.

- Eye Contact: Chemicals can also come in contact with the eyes as dusts, mists, gases, vapors or when liquids are splashed. Some chemicals can be absorbed through the eyes causing harmful effects elsewhere in the body.

An exposure is the amount of a chemical that a person comes in contact with. It is usually measured by its concentration in the air. Skin exposure is more difficult to measure than exposure through breathing. A smaller person is more likely to take in a bigger dose per pound of weight.

Hazards That Might be encountered on Campus

- Dust, Mist, Gases, Vapors, Droplets and Fumes:
  Because all of these materials can become suspendered in air, they settle on the skin and can enter the body via the eyes, nose, lungs and mouth. All of these materials can irritate, build up in the body and damage many different organs.
  The smaller the particles the more reactive the dust can become. As the particle becomes smaller, they disperse and remain suspended in the air increasing the potential for ignition and propagation of the reaction. At very high concentrations and under the right conditions some dusts can be explosive.
  Gases float in the air at normal temperatures and pressures. Because gases float, they are difficult to contain if released. They move in air and they can be inhaled, which can be very dangerous if they are poisonous. Gases can irritate and burn the skin on contact.

- Liquids that irritate or burn: Liquids can spill, run, splatter and splash. Chemical burns/irritation can occur if certain liquids splash in the eyes. Skin contact with some chemicals can cause rashes or be absorbed through the skin.

i.e. Battery Acid i.e. Pure Water i.e. Oven Cleaner

Acids have pH readings between 1 and 6. Bases (caustics) have a pH between 8 and 14. Acids and bases will burn the skin. Corrosiveness is the ability of a chemical to eat into materials. The farther the pH is from 7, the more corrosive a material is. Corrosive materials are hazardous and anyone working with a corrosive material must handle them with caution and wear the proper protective gear.

- Flammable Liquids/Vapors: Flammable Liquids/Vapors include:

  - Flammables that Ignite at Normal Temperatures
    - Flammable liquids having flash points below 100°
    - Combustible liquids having a flash point above 100°
    - NOTE: The lower the flash point, the more hazardous it is. Such liquid are dangerous because their flash points may be near room temperature
  - Vapors that can fuel a fire
    - A vapor's Flash point is the temperature at which enough liquid evaporates into the air to fuel a fire. When there are enough vapors, a spark or other source can ignite it and in an enclosed space can cause an explosion.
  - Solvents
    - Solvents can produce skin irritation or be inhaled as a vapor which can cause adverse health effects. Adequate ventilation is the first line of defense against exposure and proper personal protective equipment must be used.

Always use safe work practices when handling chemicals. Do not spill, splash or drop them. Use flammable and combustibles away from open flames, sparks and other sources of heat/ignition. Do not eat, drink or smoke on the job and wash your hands after handling any hazardous materials.

Personal Protective Equipment (PPE)

PPE is the barrier between the worker and the hazardous material that is being worked with. PPE that is required to safely conduct University work should be purchased by the department. Supervisors are responsible for ensuring that PPE is available and worn and employees are responsible for wearing and maintaining their PPE and reporting worn/defective PPE to the supervisor.

There are many factors to consider when choosing the proper PPE. For example:

- Type of PPE recommended as per SDS
- Materials PPE should be made of
- Durability
- Care of PPE
- Availability of PPE

Choosing the Proper PPE

Check the SDS first to find out which PPE is right for the particular chemical. PPE is used to protect from injury to the eyes, hands, face, skin and respiratory system.

- Gloves: To prevent skin absorption you must wear personal protective equipment made of the proper material. Choosing the right glove is especially important to protect the hands. No glove is good against all hazards. They have a finite lifespan and must be periodically replaced. When donning the gloves inspect for tears, cracks and dry rot. Only certain gloves can offer the proper protection from certain chemicals. Hands should always be washed after the work has been completed and the gloves removed.

- Face Protection and Eye Protection: Face protection is necessary when splashing or flying pieces may be encountered and even when working around dust. The eyes are very sensitive and delicate and therefore are easily injured. You do not want to get chemical in your eyes. Equipment that can be used for eye protection includes face shields, safety eye glasses and eye goggles.

- Respiratory Protection: Respiratory protection is the most important PPE workplace component and becomes necessary when hazardous chemicals reach dangerous levels in the workplace. Workers can inhale many substances in many work operations. Inhaled substances come in many forms including vapors, gases, dusts, mists, metallic fumes and fibers. Respirators protect the highly absorbent tissues in the nose and lungs from being damaged and material being transported throughout the body if chemicals enter through inhalation. If it is determined that a respirator is needed for the job being performed, the employee will become a part of the university's Respiratory Protection Plan.

- Protective Clothing: Protective clothing is often hazard specific and to be considered effective must prevent contaminants from reaching the clothing/skin of the wearer. Types of protective clothes include vests, aprons, lab coats, TYVEC suits, gloves, boots, coveralls, etc.

Training

The Departmental Supervisor or their designee is responsible for providing effective workplace specific training on the hazardous chemicals that are located in the employees work area and whenever a new physical or health hazard is introduced into the work area.

Workplace specific training must provide information on:

- How to access an SDS for each chemical in the workplace
- The type labeling system used in the workplace
- The physical/health hazards of the hazardous chemicals used in the workplace
- Special precautions to follow when working with hazardous chemicals

- How to reduce/prevent overexposure to hazardous chemicals
- Steps that the department takes to reduce/prevent exposure to hazardous chemicals
- Procedures to follow in the event of an exposure to a hazardous chemical
- Procedures to follow when a spill/leak occurs
- How and when to use PPE

The workplace area supervisor or his/her designee should be asked for help if the employee is unsure about the use and handling of a chemical.

Protective Measures

To prevent harmful health effects, take steps to eliminate or reduce the hazard. Control at the source, such as substitution with a less hazardous material or industrial process, is the best method.

Bear in mind the specific hazards of the material and the extent and pattern of exposure

<table>
<tr><th colspan="3">Workplace Control Measures</th></tr>
<tr><th>Route of Exposure</th><th>Controls /Practices (apply to all routes of exposure)</th><th>Personal Protective Equipment (PPE)</th></tr>
<tr><td>Inhalation</td><td rowspan="4">Engineering Controls (isolating or removing the hazard):
Enclose process
Provide local exhaust ventilation

Administrative Practices
Time work so fewer workers are exposed,
Work upwind of mixing operations,
Shower after shift
Change clothes
No food in work areas</td><td>Respirators and protective clothing suitable for the chemical</td></tr>
<tr><td>Skin Contact</td><td>Chemical protective clothing suitable for the chemical - gloves to full suits</td></tr>
<tr><td>Eye Contact</td><td>Chemical safety goggles, face shield</td></tr>
<tr><td>Ingestion</td><td>Chemical protective clothing suitable for the chemical
gloves to full suits</td></tr>
<tr><td colspan="3">*Personal Protective Equipment (PPE) can be unreliable. If it fails, it can leave a person unprotected.</td></tr>
</table>

BIOSAFETY

The USA Biosafety Manual applies to all RESEARCH laboratories within the University setting (such as College of Medicine, divisions of Allied Health, Departments of Biology and Chemistry, etc.) that handle infectious substances categorized as bio-hazardous by the CDC/NIH or that handle biological materials that may contain them. It describes procedures to protect staff from health risks associated with human and non-human primate blood-borne pathogens and any bodily fluids or products. Working with these biohazards merits special precautions. Individual work sites should have a detailed Exposure Control Plan (ECPs) based on the properties and use of the specific bio-hazardous material(s) used and the management criteria for those biohazards based on the most recent edition of the Biosafety in Microbiological and Biomedical Laboratories (BMBL). The lab-specific ECPs for lab-safety procedures should be followed in addition to the general guidance provided by the USA Biosafety Manual. Each University hospital and clinical facility treating patients has its own separate biosafety requirements and procedures; their biosafety programs are internally managed. For more information, please call 251-460-6625.

RADIATION SAFETY

The Radiation Safety Procedures Manual is designed to define the proper procedures for procuring and using radionuclides at the University of South Alabama. The procedures are based on the Alabama Health Department's regulations and shall be followed. Unless other provisions are approved, in writing, by the University of South Alabama Radiation Safety Committee, the procedures set forth in the USA Radiation Safety Procedures Manual shall be used by all University personnel. For more information, please call 251-460-7063.

Globally Harmonized System of Classification and Labeling of Chemicals or GHS is an internationally agreed-upon system, created by the United Nations. It is designed to replace the various classification and labeling standards used in different countries by using consistent criteria for classification and labeling on a global level.

Before the GHS was created and implemented by the United Nations, there were many different regulations on hazard classification in use in different countries. While those systems may have been similar in content and approach, they resulted in multiple standards and classifications and labels for the same hazard in different countries. Given the extent of international trade in chemicals, and the potential impact on neighboring countries when controls are not implemented, it was determined that a worldwide approach was necessary.

The GHS was designed to replace all the diverse classification systems and creates one universal standard which all countries should follow (however, the GHS is not compulsory under UN law). The system provides the infrastructure for participating countries to implement a hazard classification and communication system, which many less economically developed countries would not have had the money to create themselves. In the longer term, the GHS is expected to improve knowledge of the chronic health hazards of chemicals and encourage a move towards the elimination of hazardous chemicals, especially carcinogens, mutagens and reproductive toxins, or their replacement with less hazardous ones.

Hazard classification

The GHS classification system is a complex system with data obtained from tests, literature, and practical experience.

The main elements of the hazard classification criteria are summarized below:

Physical hazards

Physical hazards are largely based on those of the United Nations Dangerous Goods System. These regulations and UN test methods can be found at the United Nations website. Some additions and changes were necessary since the scope of the GHS includes all target audiences:

- **Explosives**, which are assigned to one of six subcategories depending on the type of hazard they present, as used in the UN Dangerous Goods System.

- **A Flammable Gas** is one that has a flammable range in air at 20 °C and a standard pressure of 101.3 kPa. Substances and mixtures of this hazard class are assigned to one of two hazard categories on the basis of the outcome of the test or calculation method.

- **Flammable Aerosols** should be considered for classification as Category 1 or Category 2 if they contain any component, which is classified as flammable according to the GHS criteria, that is, flammable liquids, flammable gases or flammable solids.

- **Oxidizing Gases** are any gas that may, generally by providing oxygen, cause or contribute to the combustion of other material more than air does. Substances and mixtures of this hazard class are assigned to a single hazard category on the basis that, generally by providing oxygen, they cause or contribute to the combustion of other material more than air does.

- **Gases under Pressure** are gases contained in a receptacle at a pressure not less than 280 Pa at 20 °C or as a refrigerated liquid. This endpoint covers four types of gases or gaseous mixtures to address the effects of sudden release of pressure or freezing which may lead to serious damage to people, property, or the environment independent of other hazards the gases may pose.

- **A Flammable Liquid** is a liquid with a flash point of not more than 93 °C. Substances and mixtures of this hazard class are assigned to one of four hazard categories on the basis of the flash point and boiling point.

- **A Flammable Solid** is one that is readily combustible or may cause or contribute to fire through friction. Readily combustible solids are powdered, granular, or pasty substances which are dangerous if they can be easily ignited by brief contact with an ignition source, such as a burning match, and if the flame spreads rapidly.

- **Self-Reactive Substances** are thermally unstable liquids or solids liable to undergo a strongly exothermic thermal decomposition even without participation of oxygen (air). This definition excludes materials classified under the GHS as explosive, organic peroxides or as oxidizing.

- **A Pyrophoric Liquid** is a liquid that, even in small quantities, is liable to ignite within five minutes after coming into contact with air. Substances and mixtures of this hazard class are assigned to a single hazard category on the basis of the outcome of the UN Test N.3.

- **A Pyrophoric Solid** is a solid that, even in small quantities, is liable to ignite within five minutes after coming into contact with air. Substances and mixtures of this hazard class are assigned to a single hazard category on the basis of the outcome of the UN Test N.2.

- **Self-Heating Substances** are solids or liquids, other than a pyrophoric substance, which, by reaction with air and without energy supply, is liable to self-heat. Substances and mixtures of this hazard class are assigned to one of two hazard categories on the basis of the outcome of the UN Test N.4.

- **Substances which on Contact with Water Emit Flammable Gases** are substances that, in contact with water, emit flammable gases; or, are solids or liquids which, by interaction with water, are liable to become spontaneously flammable or to give off flammable gases in dangerous quantities. Substances and mixtures of this hazard class are assigned to one of three hazard categories on the basis of the outcome of UN Test N.5, which measures gas evolution and speed of evolution.

- **Oxidizing Liquids** are liquids that, while in it is not necessarily combustible, may, generally by yielding oxygen, cause or contribute to the combustion of other material. Substances and mixtures of this hazard class are assigned to one of three hazard categories on the basis of the outcome of UN Test O.2.

- **Oxidizing Solid**s are solids that, while it is not necessarily combustible, may, generally by yielding oxygen, cause or contribute to the combustion of other material. Substances and mixtures of this hazard class are assigned to one of three hazard categories on the basis of the outcome of UN Test O.1.

- **Organic Peroxides** are organic liquids or solids that contain the bivalent -0-0- structure and may be considered a derivative of hydrogen peroxide, where one or both of the hydrogen atoms have been replaced by organic radicals. The term also includes organic peroxide formulations (mixtures). Substances and mixtures of this hazard class are assigned to one of seven 'Types', A to G, on the basis of the outcome of the UN Test Series A to H.

- **Substances Corrosive to Metal** are substances or mixtures that by chemical action will materially damage, or even destroy metals. These substances or mixtures are classified in a single hazard category on the basis of tests (Steel: ISO 9328 (II): 1991 - Steel type P235; Aluminum: ASTM G31-72 (1990) - non-clad types 7075-T6 or AZ5GU-T66). The GHS criteria are a corrosion rate on steel or aluminum surfaces exceeding 6.25 mm per year at a test temperature of 55 °C.

Health hazards

Acute Toxicity includes five GHS categories from which the appropriate element relevant to transport, consumer, worker and environment protection can be selected. Substances are assigned to one of the five toxicity categories on the basis of LD50 (oral, dermal) or LC50 (inhalation).

- **Skin Corrosion** means the production of irreversible damage to the skin following the application of a test substance for up to 4 hours. Substances and mixtures in this hazard class are assigned to a single harmonized corrosion category.

- **Skin Irritation** means the production of reversible damage to the skin following the application of a test substance for up to 4 hours. Substances and mixtures in this hazard class are assigned to a single irritant category. For those authorities, such as pesticide regulators, wanting more than one designation for skin irritation, an additional mild irritant category is provided.

- **Serious Eye Damage** means the production of tissue damage in the eye, or serious physical decay of vision, following application of a test substance to the front surface of the eye, which is not fully reversible within 21 days of application. Substances and mixtures in this hazard class are assigned to a single harmonized category.

- **Eye Irritation** means changes in the eye following the application of a test substance to the front surface of the eye, which are fully reversible within 21 days of application. Substances and mixtures in this hazard class are assigned to a single harmonized hazard category. For authorities, such as pesticide regulators, wanting more than one designation for eye irritation, one of two subcategories can be selected, depending on whether the effects are reversible in 21 or 7 days.

- **Respiratory Sensitizer** means a substance that induces hypersensitivity of the airways following inhalation of the substance. Substances and mixtures in this hazard class are assigned to one hazard category.

- **Skin Sensitizer** means a substance that will induce an allergic response following skin contact. The definition for “skin sensitizer” is equivalent to “contact sensitizer”. Substances and mixtures in this hazard class are assigned to one hazard category.

- **Germ Cell Mutagenicity** means an agent giving rise to an increased occurrence of mutations in populations of cells and/or organisms. Substances and mixtures in this hazard class are assigned to one of two hazard categories. Category 1 has two subcategories.

- **Carcinogenicity** means a chemical substance or a mixture of chemical substances that induce cancer or increase its incidence. Substances and mixtures in this hazard class are assigned to one of two hazard categories. Category 1 has two subcategories.

- **Reproductive Toxicity** includes adverse effects on sexual function and fertility in adult males and females, as well as developmental toxicity in offspring. Substances and mixtures with reproductive and/or developmental effects are assigned to one of two hazard categories, ‘known or presumed’ and ‘suspected’. Category 1 has two subcategories for reproductive and developmental effects. Materials, which cause concern for the health of breastfed children, have a separate category, effects on or via Lactation.

- **Specific Target Organ Toxicity (STOT)** category distinguishes between single and repeated exposure for Target Organ Effects. All significant health effects, not otherwise specifically included in the GHS, which can impair function, reversible and irreversible, immediate and/or delayed are included in the non-lethal target organ/systemic toxicity class (TOST). Narcotic effects and respiratory tract irritation are considered to be target organ systemic effects following a single exposure. Substances and mixtures of the single exposure target organ toxicity hazard class are assigned to one of three hazard categories. Substances and mixtures of the repeated exposure target organ toxicity hazard class are assigned to one of two hazard categories.

- **Aspiration Hazard** includes severe acute effects such as chemical pneumonia, varying degrees of pulmonary injury or death following aspiration. Aspiration is the entry of a liquid or solid directly through the oral or nasal cavity, or indirectly from vomiting, into the trachea and lower respiratory system. Substances and mixtures of this hazard class are assigned to one of two hazard categories this hazard class on the basis of viscosity.

Environmental hazards

- **Acute Aquatic Toxicity** means the intrinsic property of a material to cause injury to an aquatic organism in a short-term exposure. Substances and mixtures of this hazard class are assigned to one of three toxicity categories on the basis of acute toxicity data: LC_{50} (fish) or EC_{50} (crustacean) or ErC_{50} (for algae or other aquatic plants). In some regulatory systems these acute toxicity categories may be subdivided or extended for certain sectors.

- **Chronic Aquatic Toxicity** means the potential or actual properties of a material to cause adverse effects to aquatic organisms during exposures that are determined in relation to the lifecycle of the organism. Substances and mixtures in this hazard class are assigned to one of four toxicity categories on the basis of acute data and environmental fate data: LC_{50} (fish) or EC_{50} (crustacean) or ErC_{50} (for algae or other aquatic plants) and degradation or bioaccumulation.

Classification of mixtures

The GHS approach to the classification of mixtures for health and environmental hazards is also complex. It uses a tiered approach and is dependent upon the amount of information available for the mixture itself and for its components. Principles that have been developed for the classification of mixtures, drawing on existing systems such as the European Union (EU) system for classification of preparations laid down in Directive 1999/45/EC. The process for the classification of mixtures is based on the following steps:

1. Where toxicological or eco-toxicological test data are available for the mixture itself, the classification of the mixture will be based on that data;
2. Where test data are not available for the mixture itself, then the appropriate bridging principles should be applied, which uses test data for components and/or similar mixtures;
3. If (1) test data is not available for the mixture itself, and (2) the bridging principles cannot be applied, then use the calculation or cutoff values described in the specific endpoint to classify the mixture.

Hazard communication

After the substance or mixture has been classified according to the GHS criteria, the hazards need to be communicated. As with many existing systems, the communication methods incorporated in GHS include labels and SDS's. The GHS attempts to standardize hazard communication so that the intended audience can better understand the hazards of the chemicals in use. The GHS has established guiding principles:

- The problem of trade secret or confidential business information has not been addressed within the GHS, except in general terms. For example, non-disclosure of confidential business information should not compromise the health and safety of users.
- Hazard communication should be available in more than one form (for example, placards, labels or SDS's).
- Hazard communication should include hazard statements and precautionary statements.
- Hazard communication information should be easy to understand and standardized.
- Hazard communication phrases should be consistent with each other to reduce confusion.
- Hazard communication should take into account all existing research and any new evidence.

Comprehensibility is challenging for a single culture and language. Global harmonization has numerous complexities. Some factors that affected the work include:

- Different philosophies in existing systems on how and what should be communicated;
- Language differences around the world;
- Ability to translate phrases meaningfully;
- Ability to understand and appropriately respond to symbols/pictograms

GHS label elements

The standardized label elements included in the GHS are:

- **Symbols** (GHS hazard pictograms): Convey health, physical and environmental hazard information, assigned to a GHS hazard class and category. Pictograms include the harmonized hazard symbols plus other graphic elements, such as borders, background patterns or cozers and substances which have target organ toxicity. Also, harmful chemicals and irritants are marked with an exclamation mark, replacing the European saltire. Pictograms will have a black symbol on a white background with a red diamond frame. For transport, pictograms will have the background, symbol and colors currently used in the UN Recommendations on the Transport of Dangerous Goods. Where a transport pictogram appears, the GHS pictogram for the same hazard should not appear.
- **Signal Words**: "Danger" or "Warning" will be used to emphasize hazards and indicate the relative level of severity of the hazard, assigned to a GHS hazard class and category. Some lower level hazard categories do not use signal words. Only one signal word corresponding to the class of the most severe hazard should be used on a label.
- **Hazard Statements**: Standard phrases assigned to a hazard class and category that describe the nature of the hazard. An appropriate statement for each GHS hazard should be included on the label for products possessing more than one hazard.

The additional label elements included in the GHS are:

- **Precautionary Statements**: Measures to minimize or prevent adverse effects. There are four types of precautionary statements covering: prevention, response in cases of accidental spillage or exposure, storage, and disposal. The precautionary statements have been linked to each GHS hazard statement and type of hazard.
- **Product Identifier (ingredient disclosure)**: Name or number used for a hazardous product on a label or in the SDS. The GHS label for a substance should include the chemical identity of the substance. For mixtures, the label should include the chemical identities of all ingredients that contribute to acute toxicity, skin corrosion or serious eye damage, germ cell mutagenicity, carcinogenicity, reproductive toxicity, skin or respiratory sensitization, or Target Organ Systemic Toxicity (TOST), when these hazards appear on the label.

- **Supplier identification**: The name, address and telephone number should be provided on the label.

- **Supplemental information**: Non-harmonized information on the container of a hazardous product that is not required or specified under the GHS. Supplemental information may be used to provide further detail that does not contradict or cast doubt on the validity of the standardized hazard information.

GHS Label Format
Under the GHS regulations, all labels will be required to have pictograms, a signal word, hazard and precautionary statements, the product identifier and supplier identification. Supplemental information can also be provided on the label as needed.

The GHS includes directions for application of the hazard communication elements on the label. In particular, it specifies for each hazard, and for each class within the hazard, what signal word, pictogram, and hazard statement should be used. The GHS hazard pictograms, signal words and hazard statements should be located together on the label. The actual label format or layout is not specified in the GHS.

The label tells you the contents, the hazard associated with the chemical and what part of your body it affects. Never remove a label from a container—the container could contain water or a strong acid.

GHS Pictograms

The new Hazard Communication Standard (HCS) will require pictograms on labels to alert users of the chemical hazards to which they may be exposed. A pictogram is a symbol or picture which represents a word or an idea. The distinction between a pictogram and a symbol is important. Certain circumstances require a pictogram, while others require only the symbol or pictogram name.

Under the GHS, a **pictogram** is a graphical composition representation that includes a symbol plus other graphic elements, such as a border, background pattern or color intended to convey specific information. In the most basic terms, a pictogram is a picture plus a border used to convey information.

A **symbol** is a graphical element intended to succinctly convey information—it is the picture or graphic without the border or background color.

When Pictogram and Symbol are required under the GHS

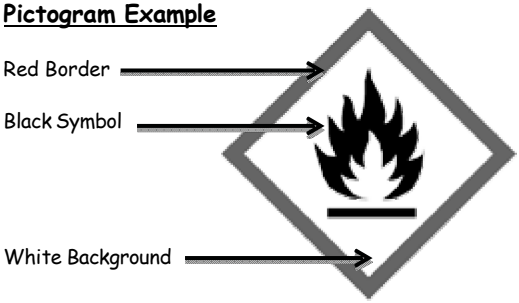
Labels

- When chemical meet classification under any of the hazard classes identified by the GHS, the corresponding pictogram must be printed on the chemical label.
- The pictogram must have a black symbol on a white background with a red border frame. Where transport pictograms are required (i.e., under DOT Hazardous Materials Regulations), the GHS pictogram for the same hazard should NOT appear.

SDS's

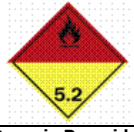
- The pictograms or symbols based on chemical hazards may appear on the SDS. Alternately, the pictogram name(s) may be listed.

Pictogram Example



Pictogram Name: Flame

GHS Pictograms and Hazard Classes		
		
▪ Oxidizers	▪ Flammables ▪ Self-Reactive ▪ Pyrophorics ▪ Self-Heating ▪ Emits Flammable Gas ▪ Organic Peroxides ▪ Contact with water emits flammable gas	▪ Explosives ▪ Self Reactives ▪ Organic Peroxides
		
▪ Acute toxicity (Fatal or Toxic)	▪ Corrosive to metal ▪ Skin corrosion ▪ Eye Damage	▪ Gases Under Pressure
		
▪ Carcinogen ▪ Respiratory Sensitizer ▪ Reproductive Toxicity ▪ Target Organ Toxicity ▪ Mutagenicity ▪ Aspiration Toxicity	▪ Environmental Toxicity ▪ Hazardous to Aquatic Environment	▪ Irritant ▪ Dermal Sensitizer ▪ Acute toxicity (harmful) ▪ Narcotic Effects ▪ Respiratory Tract ▪ Irritation

Transport "Pictograms"		
		
Flammable Liquid Flammable Gas Flammable Aerosol	Flammable solid Self-Reactive Substances	Pyrophorics (Spontaneously Combustible) Self-Heating Substances
		
Substances, which in contact with water, emit flammable gases (Dangerous When Wet)	Oxidizing Gases Oxidizing Liquids Oxidizing Solids	Explosive Divisions 1.1, 1.2, 1.3
		
Explosive Division 1.4	Explosive Division 1.5	Explosive Division 1.6
		
Compressed Gases	Acute Toxicity (Poison): Oral, Dermal, Inhalation	Corrosive
		
Marine Pollutant	Organic Peroxides	

ACUTE ORAL TOXICITY - Annex 1					
	Category 1	**Category 2**	**Category 3**	**Category 4**	**Category 5**
LD_{50}	£ 5 mg/kg	> 5 < 50 mg/kg	³ 50 < 300 mg/kg	³ 300 < 2000 mg/kg	³ 2000 < 5000 mg/kg
Pictogram					No symbol
Signal word	Danger	Danger	Danger	Warning	Warning
Hazard statement	Fatal if swallowed	Fatal if swallowed	Toxic if swallowed	Harmful if swallowed	May be harmful if swallowed

GHS material safety data sheet or safety data sheet

The GHS has dropped the word "material" from material safety data sheet. It will now be called the safety data sheet or SDS. The safety data sheet is specifically aimed at use in the workplace. It should provide comprehensive information about the chemical product that allows supervisors and workers to obtain concise, relevant and accurate information that can be put in perspective with regard to the hazards, uses and risk management of the chemical product in the workplace. The SDS should contain 16 sections. While there were some differences in existing industry recommendations, and requirements of countries, there was widespread agreement on a 16 section SDS that includes the following headings in the order specified:

Minimum information for an SDS

1.	Identification of the substance or mixture and of the supplier	• GHS product identifier • Other means of identification • Recommended use of the chemical and restrictions on use • Supplier's details (including name, address, phone number, etc.) • Emergency phone number
2.	Hazards identification	• GHS classification of the substance/ mixture and any national or regional information • GHS label elements, including precautionary statements. (Hazard symbols may be provided as a graphical reproduction of the symbols in black and white or the name of the symbol, e.g., flame, skull and crossbones.) • Other hazards which do not result in classification (e.g., dust explosion hazard) or are not covered by the GHS

3.	Composition/information on ingredients	Substance • Chemical identity • Common name, synonyms, etc. • CAS number, EC number, etc. • Impurities and stabilizing additives which are themselves classified and which contribute to the classification of the substance Mixture • The chemical identity and concentration or concentration ranges of all ingredients which are hazardous within the meaning of the GHS and are present above their cutoff levels NOTE: For information on ingredients, the competent authority rules for CBI take priority over the rules for product identification.
4.	First aid measures	• Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion • Most important symptoms/effects, acute and delayed • Indication of immediate medical attention and special treatment needed, if necessary
5.	Firefighting measures	• Suitable (and unsuitable) extinguishing media • Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products) • Special protective equipment and precautions for firefighters
6.	Accidental release measures	• Personal precautions, protective equipment and emergency procedures • Environmental precautions • Methods and materials for containment and cleaning up
7.	Handling and storage	• Precautions for safe handling • Conditions for safe storage, including any incompatibilities
8.	Exposure controls/ personal protection.	• Control parameters, e.g., occupational exposure limit values or biological limit values • Appropriate engineering controls • Individual protection measures, such as personal protective equipment

9.	Physical and chemical properties	• Appearance (physical state, color, etc.) • Odor • Odor threshold • pH • Melting point/freezing point • Initial boiling point and boiling range • Flash point • Evaporation rate • Flammability (solid, gas) • Upper/lower flammability or explosive limits • Vapor pressure • Vapor density • Relative density • Solubility • Partition coefficient: n-octanol/water • Auto-ignition temperature • Decomposition temperature
10.	Stability and reactivity	• Chemical stability • Possibility of hazardous reactions • Conditions to avoid (e.g., static discharge, shock or vibration) • Incompatible materials • Hazardous decomposition products
11.	Toxicological information	Concise but complete and comprehensible description of the various toxicological (health) effects and the available data used to identify those effects, including: • information on the likely routes of exposure (inhalation, ingestion, skin and eye contact) • Symptoms related to the physical, chemical and toxicological characteristics • Delayed and immediate effects and also chronic effects from short- and long-term exposure • Numerical measures of toxicity (such as acute toxicity estimates)
12.	Ecological information	• Eco-toxicity (aquatic and terrestrial, where available) • Persistence and degradability • Bio-accumulative potential • Mobility in soil • Other adverse effects
13.	Disposal considerations	• Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging.

14.	Transport information	• UN Number • UN Proper shipping name • Transport Hazard classes • Packing group, if applicable • Marine pollutant (Yes/No) • Special precautions which a user needs to be aware of or needs to comply with in connection with transport or conveyance either within or outside their premises.
15.	Regulatory information	• Safety, health and environmental regulations specific for the product in question
16.	Other information including information on preparation and revision of the SDS	

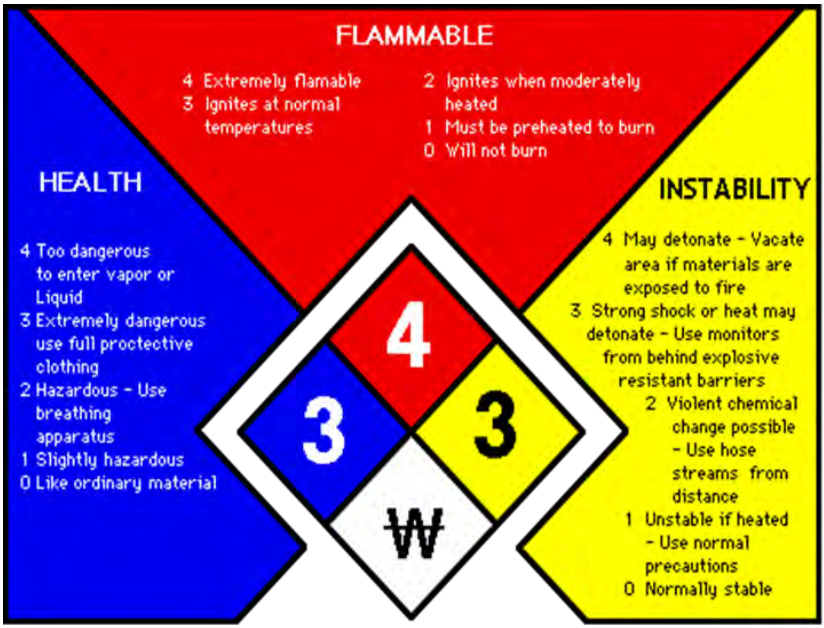
Labeling and Other Marking Systems

National Fire Protection Association --NFPA Diamond

The NFPA-704 Marking System is a fire protection hazard warning system designed to provide rapid, clear information to emergency responders on materials under conditions of fire, chemical spill, or other emergency situations. This labelling system was developed by the NFPA. It includes labels and a numerical rating system, but the basic purpose of the label information is different.

There are currently no changes proposed to the National Fire Protection Association (NFPA) standard with respect to the modified Hazard Communication Standard. The NFPA 704 Marking System is used to regulate fixed facilities to address the health, flammability, instability and related hazards that presented by short term, acute exposure to a materials under conditions of fire, spill or similar emergencies NFPA 704. The new SDS format does not include the NFPA 704 system as a required component of the section or the entire SDS.

The (NFPA) system uses a diamond shaped diagram of symbols and numbers to indicate the degree of hazard associated with a particular chemical or material. These diamond shaped symbols are placed on containers of chemicals or materials to identify the degree of hazard associated with the chemical or material.



Special Hazard Information: The white open space at the bottom of the NFPA diagram can be used to indicate additional information about the chemical or material. This information may include the chemical/material's radioactivity, proper fire extinguishing agent, skin hazard and its use in pressurized containers, protective equipment required or unusual reactivity with water.

Examples include:
-OX or OXY indicates a material that is an Oxidizer
-W indicates a materials that is Water Reactive
-ALK indicates a material that is Alkaline
- COR indicates a material that is Corrosive
-RAD indicates a material the is Radioactive

Hazardous Material Information System—HMIS System

The HMIS is a complete system designed to aid supervisor and their employees in day-to-day compliance with the Hazard Communication Standard. It includes hazard evaluations; a rating system for acute and chronic health, flammability and physical hazards; labels providing at-a-glance information on the hazards and PPE; employee training; and a written compliance program. HMIS was developed by the American Coating Association.

At first glance, the HMIS and NFPA labeling systems appear quite similar. Both have four sections colored blue, red, yellow and white. HMIS uses colored bars, while NFPA uses colored diamonds. HMIS attempts to convey full health warning information to all employees while NFPA is meant primarily for fire fighters and other emergency responders. **Key point: HMIS is not intended for emergency circumstances**.

The NFPA & HMIS ratings in the Health and Flammability categories are different because the defining criteria are not the same and because HMIS must be concerned with chronic as well as acute health hazards. Additionally, NFPA neither rates nor provides rating criteria for Physical Hazard.

Numerical ratings from other rating systems should not be substituted for HMIS ratings; the criteria for different systems (often developed for different purposes) can vary significantly. Rating substitution can cause confusion. Always use the correct rating system for the intended purpose and be sure to identify which system is in use.

The four bars are color-coded, using the modern color bar symbols with blue indicating the level of health hazard, red for flammability, orange for a physical hazard, and white for Personal Protection. The number ratings range from 0-4.

Blue/Health

The Health section conveys the health hazards of the material. In the latest version of HMIS, the green Health bar has two spaces, one for an asterisk and one for a numeric hazard rating. If present, the asterisk signifies a chronic health hazard, meaning that long-term exposure to the material could cause a health problem such as emphysema or kidney damage. According to NPCA, the numeric hazard assessment procedure differs from that used by NFPA.

- 4. Life-threatening, major or permanent damage may result from single or repeated overexposures (e.g., hydrogen cyanide).
- 3. Major injury likely unless prompt action is taken and medical treatment is given.
- 2. Temporary or minor injury may occur.
- 1. Irritation or minor reversible injury possible.
- 0. No significant risk to health.

Red/Flammability

For HMIS I and II, the criteria used to assign numeric values (0 = low hazard to 4 = high hazard) are identical to those used by NFPA. In other words, in this category, the systems are identical. For HMIS III, the flammability criteria are defined according to OSHA standards.

- ❖ 4. Flammable gases, or very volatile flammable liquids with flash points below 73 °F (23 °C), and boiling points below 100 °F (38 °C). Materials may ignite spontaneously with air (e.g., Propane).
- ❖ 3. Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 °F (23 °C) and boiling points above 100 °F (38 °C), as well as liquids with flash points between 73 °F and 100 °F. (e.g. xylene, gasoline)
- ❖ 2. Materials which must be moderately heated or exposed to high ambient temperatures before ignition will occur. Includes liquids having a flash point at or above 100 °F (38 °C) but below 200 °F (93 °C) (e.g., Diesel fuel).
- ❖ 1. Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 °F (93 °C) (e.g., Canola oil).
- ❖ 0. Materials that will not burn (e.g., Water).

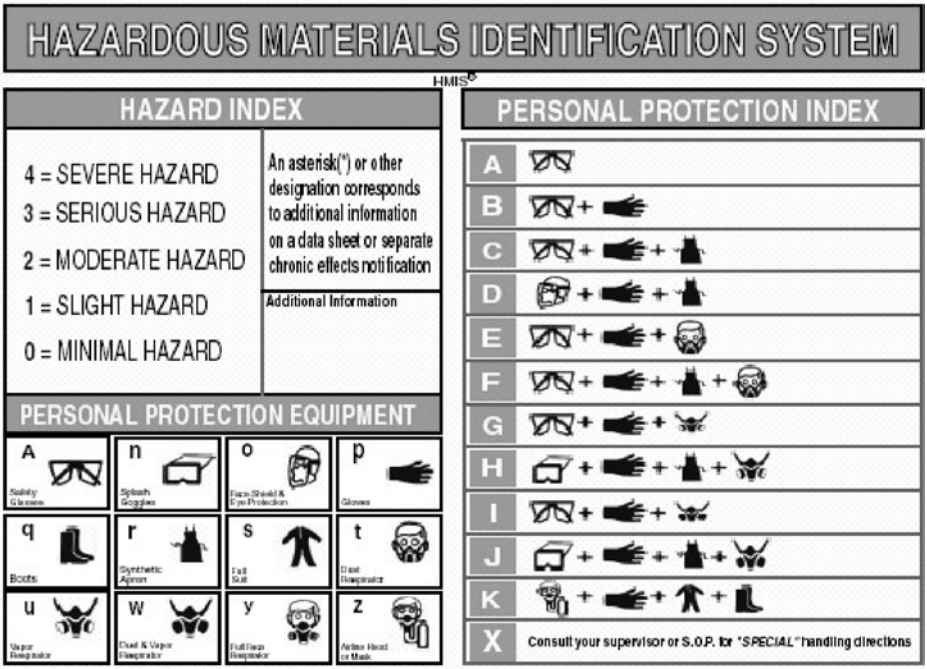
Orange/Physical Hazard

Reactivity hazard are assessed using the OSHA criterion of physical hazard. Seven such hazard classes are recognized: Water Reactive, Organic Peroxides, Explosives, Compressed gases, Pyrophoric materials, Oxidizers, and Unstable Reactive.

- ❖ 4. Materials that are readily capable of explosive water reaction, detonation or explosive decomposition, polymerization, or self-reaction at normal temperature and pressure
- ❖ 3. Materials that may form explosive mixtures with water and are capable of detonation or explosive reaction in the presence of a strong initiating source. Materials may polymerize, decompose, self-react, or undergo other chemical change at normal temperature and pressure with moderate risk of explosion.
- ❖ 2. Materials that are unstable and may undergo violent chemical changes at normal temperature and pressure with low risk for explosion. Materials may react violently with water or form peroxides upon exposure to air.
- ❖ 1. Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.
- ❖ 0. Materials that are normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosives.

White/Personal Protection

This is by far the largest area of difference between the NFPA and HMIS systems. In the NFPA system, the white area is used to convey special hazards whereas HMIS uses the white section to indicate what personal protective equipment (PPE) should be used when working with the material. HMIS uses a letter coding system or variant for this section. Below is the lettering scheme along with a series of graphics meant to reinforce the meaning of each letter.



Chemical Container Labeling

Labels are useless unless they accurately communicate the hazards of their associated chemicals. It's important to keep labels in good condition at all times. The supervisor must not remove or deface existing labels on incoming containers of hazardous chemicals, unless the container is immediately marked with the required information.

The supervisor must ensure that labels or other forms of warning are:

- ❖ legible, in English,
- ❖ prominently displayed on the container, or
- ❖ readily available in the work area throughout each work shift

Supervisors having employees who speak other languages may add the information in their language to the material presented, as long as the information is presented in English as well.

Types of Containers

Container labeling can be a very effective method to communicate the physical and health hazards of chemicals used in the workplace. The information on a container label will vary depending on what type of container it is and how it is used.

There are labeling requirements for each of the four types of containers referred to in the hazard communication standard:

- Primary containers
- Secondary containers
- Stationary containers
- Portable containers

Primary container labeling

The chemical manufacturer, importer, or distributor must ensure that each container of hazardous chemicals leaving the workplace is labeled, tagged or marked with the following three elements of information:

- Identity of the hazardous chemical(s);
- Appropriate hazard warnings, including target organ effects of the hazardous chemical; and
- Name and address of the chemical manufacturer, importer, or other responsible party.

Most containers received directly from the manufacturer or purchased from a distributor are called Primary Containers. Labeling with the above information on these containers is usually adequate in communicating the hazards of the chemical.

The label is intended to be an immediate visual reminder of the hazards of a chemical. It is not necessary, however, that every hazard presented by a chemical be listed on the label. The Safety Data Sheet (SDS) is used for this purpose. Manufacturers, importers, and distributors will have to assess the evidence regarding the product's hazards and must consider exposures under normal conditions of use or in foreseeable emergencies when evaluating what hazards are listed on the label. This is not to say that only acute hazards are to be listed on the label, or that well-substantiated hazards should be left off the label because they appear on the data sheet.

It's important to understand that the hazard warning must convey the particular physical and health hazards of the chemical, including target organ effects. Employees exposed to health hazards must be apprised of both changes in body functions and the signs and symptoms that may occur to signal those changes. Statements such as "Hazardous if inhaled," "Caution," "Danger," are precautionary statements and are not to be considered appropriate hazard warnings. If, when inhaled, a chemical causes lung damage, then the appropriate warning is "lung damage," not inhalation. A label may not be shipped separately, even prior to shipment of the hazardous chemical, since to do so

defeats the purpose of providing an immediate hazard warning. Mailing labels directly to the purchaser by-passes employees involved in transporting and handling the hazardous chemical.

Secondary container labeling

Most workplaces use the primary containers they purchase to store and use chemicals. However, containers such as drums, plastic jugs, spray bottles, etc. used to store smaller quantities of chemicals are called "Secondary Containers".

- Identity of the hazardous chemical(s) contained
- Appropriate hazard warnings, or words, pictures, and/or symbols which provide at least general information regarding the hazards of the chemicals, and which, in conjunction with the other information (an SDS) will provide employees with the specific information regarding the physical and health hazards of the hazardous chemical

Stationary Process Containers

Labeling is also important to stationary process containers. These are containers that normally stay in place and are not moved or carried around by employees. There are certain rules regarding chemical labeling for these special types of containers.

Some of the more common chemical labeling that you see with stationary process containers include:

- Sign
- Placard
- Process sheet
- Operating procedures

Instead of labeling individual stationary process containers, alternative methods may be used as long as they convey the required information including:

- Identity of the hazardous material that is contained within the container must be posted in such a way that it is easily read by those working in the area.
- The appropriate hazard warnings associated with the product must be posted and easy to read by those working in the area.
- Signs can be posted in a room that has a number of chemical storage tanks. The piping from each tank could be painted a different color, and the signs would show that each color represents a different chemical, for example.

- ❖ Placards are often placed on tanks. These usually include NFPA placards. NFPA labels are primarily found on stationary tanks and bulk storage systems. They consist of color- and number-coded diamonds.

- ❖ Process sheets stored near a process would also include the names and hazards of the chemicals used in that process.

- ❖ Operating procedures might tell you more than just what, when, and how much chemical needs adding – they would also tell you the identity and hazards of those chemicals.

Supervisors should ensure that all at-risk employees are trained on the use of any dangerous chemicals that they may be exposed to during the performance of their work. Supervisors and employees should inspect chemical containers to ensure that the labels, signs, placards, etc. are intact and legible. Employees who are unsure about labeling stationary containers should seek guidance from their manager or supervisor. It is much better to be prepared should an accident occur than to be searching for vital information when it is actually needed

Portable container labeling

Portable containers are used to transfer hazardous chemicals from labeled containers, and are intended only for the immediate use of the employee who performs the transfer.

EMERGENCY TELEPHONE NUMBERS FOR USA FACILITIES

(Area code is 251 unless otherwise indicated)

USA MAIN CAMPUS		
USA Main Campus	Main Number	251-460-6101
USA University Police	Non-emergency	251-460-6312
USA Central Plant	24-hr operator	251-460-7047
USA Maintenance	(M-F 7 am-3: 30 pm)	251-460-7111
	(After 3:30 pm)	251-460-7047
Safety & Environmental Compliance		251-460-7070
Radiation Safety		251-460-7063
USA Weather Line		251-460-6999
USA BALDWIN COUNTY	Main Number	251-928-8133 or
USA University Police		251-460-6312
Fairhope Volunteer Fire	Emergency	911
	Non-emergency	251-990-0143 or
Fairhope Police	Emergency	233-5181 911
	Non-emergency	251-928-2385
USA UNIVERSITY HOSPITAL	Main Number	251-471-7000
	Emergency (In-House Only)	511
	Security	251-471-7525 or 251-471-7195
USA CHILDREN'S & WOMEN'S HOSPITAL	Main Number	251-415-1000
	Emergency (In-House Only)	511
	Security	251-415-1135
USA HEALTH PROVIDENCE HOSPITAL	Main Number	251-633-10000
	Emergency (In-House Only)	25
	Security	251-266-1790

OTHER EMERGENCY TELEPHONE NUMBERS

Mobile City Fire/Rescue	Emergency	911
	Non-emergency	251-208-7311
Mobile Police Department	Emergency	911
	Non-emergency	251-208-7211
Mobile County Emergency Management	460-8000	
Baldwin County Emergency Management	(Eastern Shore)	990-4605
Coast Guard National Response Center		1-800-424-8802
Alabama Department of Environmental Management		1-334-271-7700
Alabama State Troopers		1-251-660-2300

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