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HAZARD COMMUNICATION PROGRAM

To ensure that information about the dangers of all hazardous chemicals used by this company are known by all affected employees, the following hazardous information program has been established. This written program will be available at all job locations for review by any interested employee.

1. Container Labeling

The foreman will verify that all containers received for use will be clearly labeled and include the following information: the contents, the appropriate hazard warning, and the name and address of the manufacturer.

The foreman will also ensure that all secondary containers are labeled with either an extra copy of the original manufacturer's label, or with labels that have the identity and the appropriate hazard warning. For help with labeling, contact the Loss Control/Risk Manager - LC/RM, (215) 373-8122.

2. Material Safety Data Sheets (MSDS)

The LC/RM is responsible for establishing and monitoring the company MSDS program. He will make sure procedures are developed to obtain the necessary MSDS's and will review incoming MSDS's for new or significant health and safety information. He will see that any new information is passed on to affected employees.

When a MSDS is not received at the time of initial shipment, the Loss Control/Risk Manager will make a written request for the information before allowing the material to be used.

Copies of MSDS's for all hazardous chemicals in use will be kept at all job locations and will be readily available to any interested employee. If a MSDS is not available, immediately contact your supervisor.

The following procedure will be used when new materials are purchased to ensure that our MSDS file is kept up to date:

- A. Any items bought either by purchase order or over the counter must be accompanied by a MSDS.
- B. Copies of all new MSDS's will be sent to the Loss Control/Risk Manager.
- C. When new or revised MSDS's are received, they will be forwarded to all job locations with instructions as to which sections to replace.

3. Employee Training

The LC/RM is responsible for the company employee training program. He will ensure that all program elements specified below are carried out.

Prior to starting work, each new employee of the company will receive a written hazard communication training program which will be reviewed by the foreman at the first "Tool Box Talk". The program will include the following information and training:

- A. An overview of the requirements contained in the Hazard Communication Standard.
- B. Hazardous Chemicals present at his/her workplaces.
- C. Physical and Health risks of the hazardous chemicals.
- D. The symptoms of overexposure.
- E. How to determine the presence or release of hazardous chemicals in his/her work area.
- F. How to reduce or prevent exposure to hazardous chemicals through use of control procedures, work practices and personal protective equipment.
- G. Steps the company has taken to reduce or prevent exposure to hazardous chemicals.
- H. Procedures to follow if employees are overexposed to hazardous chemicals.
- I. How to read labels and review MSDS's to obtain hazard information.
- J. Location of the MSDS file and written hazard communication program.

Prior to introducing a new chemical hazard onto any job site of this company, each employee on that jobsite will be given information and training as outlined above for the new chemical hazard.

4. Hazardous Non-Routine Tasks

Periodically, employees are required to perform hazardous non-routine tasks. Some examples of non-routine tasks are: confined space entry and tank cleaning. Prior to starting work on such projects, each affected employee will be given information by the LC/RM or project manager about the hazardous chemicals he or she may encounter during such activity. This information will include specific chemical hazards, protective and safety measures the employee can use, and steps the company is using to reduce the hazards, including ventilation, respirators, presence of another employee, and emergency procedures.

5. Chemicals in Unlabeled Pipes

Work activities are sometimes performed by employees in areas where chemicals are transferred through unlabeled pipes.

Prior to starting work in these areas, the employee shall contact the project manager for information regarding:

- A. The chemical in the pipes.
- B. Potential hazards.
- C. Safety precautions which should be taken.

6. Informing Other Employers

It is the responsibility of the project manager to provide other employers with information about hazardous chemicals their employees may be exposed to on our job sites and suggest precautions for the employees. It is also his/her responsibility to obtain information about hazardous chemicals used by other employers to which employees of this company may be exposed.

Other employers or owners will be contacted before work is started to gather and distribute information concerning any chemical hazard that may be present in the workplace.

The following methods will be used to inform other employers who have employees who may be exposed to hazardous chemicals used by employees of this company.

- A. A copy of our MSDS's will be provided to other employers before the beginning of any job.
 - B. Appropriate precautionary methods will be related to other employers to safeguard their employees.
7. A copy of this program will be made available, upon request, to employees and their representatives.

HOW TOXICS ENTER THE BODY

Chemicals can get into the body in three ways or routes of entry. The terms used to describe the three routes chemicals may take are: inhalation (breathing), absorption (through the skin), and ingestion (swallowing).

Inhalation is the most common and important route of entry. Simply stated, this occurs when you breathe the substance into the body. Chemical dusts as well as chemical vapors, when inhaled, can cause an irritation or injury in the nose, mouth or lungs.

Some chemical vapors, gases or solid particulates when inhaled, can cause lung damage. Once in the lungs, the chemical can enter your bloodstream. Once in the bloodstream, the body's circulatory system can transport the chemical to internal organs.

As a result of inhalation of chemicals, certain "target" organs can be poisoned, or your nervous system can be depressed. Breathing highly toxic chemicals can result in paralysis of your breathing center.

Common sense tells you that if you can smell a chemical, you're probably inhaling it. Unfortunately, not all chemicals can be smelled, nor do they have an odor or distinctive taste.

As a result, not all chemicals warn you of their presence. Carbon monoxide, for example, is one gaseous chemical which has no odor or taste. It is a silent killer.

Absorption is the entry of a chemical into your body through the skin. This is important; skin contact with chemicals frequently happens in the construction industry.

Your skin is normally an excellent barrier for keeping chemical contaminants from entering your body. But if your skin is cut or broken, if your skin's protective oils or cell structure is damaged, or if the chemicals you are using aren't stopped by healthy skin, then acids, alkalines, solvents, or even small amounts of solids can enter the body through this opening.

Ingestion or swallowing of toxic materials is the least common method of bodily entry. Except in construction situations where highly toxic substances such as lead, arsenic, or mercury are present, ingestion of chemicals is rare.

In areas where chemicals are present, it is good practice not to eat or smoke. Meals and breaks should be taken in a separate clean area only after washing your hands and face. In addition, proper respiratory protection will reduce your potential for ingesting airborne chemicals.

If you snack throughout the day or use tobacco products, you should be especially aware of the potential for ingestion of chemicals.

TYPES OF EXPOSURE

Two terms frequently appear on labels, Material Safety Data Sheets (MSDS) and in hazardous chemical training programs. The terms are: Acute and Chronic. You should become familiar with the meaning and usage of these two terms.

Acute exposure to a chemical involves a single exposure to a chemical over a short period of time.

Chronic exposure to chemicals involves repeated exposure to a chemical over a long period of time.

HOW TO CONTROL YOUR CHEMICAL EXPOSURE

Controlling chemical exposure is accomplished in several ways:

Engineering Controls are the preferred method of controlling chemical exposure. Typically, these take the form of ventilation systems or mechanical means which reduce or eliminate the exposure problem.
Example: exhaust fan.

Personal Protective Equipment does not remove the chemical exposure. However, if properly selected for the hazard and properly worn and maintained, personal protective equipment minimizes your exposure.
Examples: gloves, safety glasses and goggles, respirators and coveralls.

Administrative Controls may often be overlooked, but can be a cost efficient and simple chemical control strategy. An example could be the substitution of a non-hazardous (or less hazardous chemical) for the hazardous chemical currently in use.

Personal Hygiene is the simplest control measure. For example, meals, breaks, and smoking should occur in a separate, clean area, only after washing your hands and face.

OSHA[®] BRIEF

Hazard Communication Standard: Safety Data Sheets

The Hazard Communication Standard (HCS) (29 CFR 1910.1200(g)), revised in 2012, requires that the chemical manufacturer, distributor, or importer provide Safety Data Sheets (SDSs) (formerly MSDSs or Material Safety Data Sheets) for each hazardous chemical to downstream users to communicate information on these hazards. The information contained in the SDS is largely the same as the MSDS, except now the SDSs are required to be presented in a consistent user-friendly, 16-section format. This brief provides guidance to help workers who handle hazardous chemicals to become familiar with the format and understand the contents of the SDSs.

The SDS includes 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). In addition, OSHA requires that SDS preparers provide specific minimum information as detailed in Appendix D of 29 CFR 1910.1200. The SDS preparers may also include additional information in various section(s).

Sections 1 through 8 contain general information about the chemical, identification, hazards, composition, safe handling practices, and emergency control measures (e.g., fire fighting). This information should be helpful to those that need to get the information quickly. Sections 9 through 11 and 16 contain other technical and scientific information, such as physical and chemical properties, stability and reactivity information, toxicological information, exposure control information, and other information including the date of preparation or last revision. The SDS must also state that no applicable information was found when the preparer does not find relevant information for any required element.

The SDS must also contain Sections 12 through 15, to be consistent with the UN Globally Harmonized System of Classification and Labeling of Chemicals (GHS), but OSHA will not enforce the content of these sections because they concern matters handled by other agencies.

A description of all 16 sections of the SDS, along with their contents, is presented below:

Section 1: Identification

This section identifies the chemical on the SDS as well as the recommended uses. It also provides the essential contact information of the supplier. The required information consists of:

- Product identifier used on the label and any other common names or synonyms by which the substance is known.
- Name, address, phone number of the manufacturer, importer, or other responsible party, and emergency phone number.
- Recommended use of the chemical (e.g., a brief description of what it actually does, such as flame retardant) and any restrictions on use (including recommendations given by the supplier).

Section 2: Hazard(s) Identification

This section identifies the hazards of the chemical presented on the SDS and the appropriate warning information associated with those hazards. The required information consists of:

- The hazard classification of the chemical (e.g., flammable liquid, category¹).
- Signal word.
- Hazard statement(s).
- Pictograms (the pictograms or hazard symbols may be presented as graphical reproductions of the symbols in black and white or be a description of the name of the symbol (e.g., skull and crossbones, flame).
- Precautionary statement(s).
- Description of any hazards not otherwise classified.
- For a mixture that contains an ingredient(s) with unknown toxicity, a statement describing how much (percentage) of the mixture consists of ingredient(s) with unknown acute toxicity. Please note that this is a total percentage of the mixture and not tied to the individual ingredient(s).

Section 3: Composition/Information on Ingredients

This section identifies the ingredient(s) contained in the product indicated on the SDS, including impurities and stabilizing additives. This section includes information on substances, mixtures, and all chemicals where a trade secret is claimed. The required information consists of:

Substances

- Chemical name.
- Common name and synonyms.
- Chemical Abstracts Service (CAS) number and other unique identifiers.
- Impurities and stabilizing additives, which are themselves classified and which contribute to the classification of the chemical.

Mixtures

- Same information required for substances.
- The chemical name and concentration (i.e., exact percentage) of all ingredients which are classified as health hazards and are:
 - Present above their cut-off/concentration limits or
 - Present a health risk below the cut-off/concentration limits.
- The concentration (exact percentages) of each ingredient must be specified except concentration ranges may be used in the following situations:
 - A trade secret claim is made,
 - There is batch-to-batch variation, or
 - The SDS is used for a group of substantially similar mixtures.

Chemicals where a trade secret is claimed

- A statement that the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret is required.

¹ Chemical, as defined in the HCS, is any substance, or mixture of substances.

Section 4: First-Aid Measures

This section describes the initial care that should be given by untrained responders to an individual who has been exposed to the chemical. The required information consists of:

- Necessary first-aid instructions by relevant routes of exposure (inhalation, skin and eye contact, and ingestion).
- Description of the most important symptoms or effects, and any symptoms that are acute or delayed.
- Recommendations for immediate medical care and special treatment needed, when necessary.

Section 5: Fire-Fighting Measures

This section provides recommendations for fighting a fire caused by the chemical. The required information consists of:

- Recommendations of suitable extinguishing equipment, and information about extinguishing equipment that is not appropriate for a particular situation.
- Advice on specific hazards that develop from the chemical during the fire, such as any hazardous combustion products created when the chemical burns.
- Recommendations on special protective equipment or precautions for firefighters.

Section 6: Accidental Release Measures

This section provides recommendations on the appropriate response to spills, leaks, or releases, including containment and cleanup practices to prevent or minimize exposure to people, properties, or the environment. It may also include recommendations distinguishing between responses for large and small spills where the spill volume has a significant impact on the hazard. The required information may consist of recommendations for:

- Use of personal precautions (such as removal of ignition sources or providing sufficient ventilation) and protective equipment to prevent the contamination of skin, eyes, and clothing.
- Emergency procedures, including instructions for evacuations, consulting experts when needed, and appropriate protective clothing.
- Methods and materials used for containment (e.g., covering the drains and capping procedures).
- Cleanup procedures (e.g., appropriate techniques for neutralization, decontamination, cleaning or vacuuming; adsorbent materials; and/or equipment required for containment/clean up).

Section 7: Handling and Storage

This section provides guidance on the safe handling practices and conditions for safe storage of chemicals. The required information consists of:

- Precautions for safe handling, including recommendations for handling incompatible chemicals, minimizing the release of the chemical into the environment, and providing advice on general hygiene practices (e.g., eating, drinking, and smoking in work areas is prohibited).
- Recommendations on the conditions for safe storage, including any incompatibilities. Provide advice on specific storage requirements (e.g., ventilation requirements).

Section 8: Exposure Controls/Personal Protection

This section indicates the exposure limits, engineering controls, and personal protective measures that can be used to minimize worker exposure. The required information consists of:

- OSHA Permissible Exposure Limits (PELs), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available.
- Appropriate engineering controls (e.g., use local exhaust ventilation, or use only in an enclosed system).
- Recommendations for personal protective measures to prevent illness or injury from exposure to chemicals, such as personal protective equipment (PPE) (e.g., appropriate types of eye, face, skin or respiratory protection needed based on hazards and potential exposure).
- Any special requirements for PPE, protective clothing or respirators (e.g., type of glove material, such as PVC or nitrile rubber gloves; and breakthrough time of the glove material).

Section 9: Physical and Chemical Properties

This section identifies physical and chemical properties associated with the substance or mixture. The minimum required information consists of:

- | | |
|---------------------------------------------|-------------------------------------------------|
| • Appearance (physical state, color, etc.); | • Upper/lower flammability or explosive limits; |
| • Odor; | • Vapor pressure; |
| • Odor threshold; | • Vapor density; |
| • pH; | • Relative density; |
| • Melting point/freezing point; | • Solubility(ies); |
| • Initial boiling point and boiling range; | • Partition coefficient: n-octanol/water; |
| • Flash point; | • Auto-ignition temperature; |
| • Evaporation rate; | • Decomposition temperature; and |
| • Flammability (solid, gas); | • Viscosity. |

The SDS may not contain every item on the above list because information may not be relevant or is not available. When this occurs, a notation to that effect must be made for that chemical property. Manufacturers may also add other relevant properties, such as the dust deflagration index (Kst) for combustible dust, used to evaluate a dust's explosive potential.

Section 10: Stability and Reactivity

This section describes the reactivity hazards of the chemical and the chemical stability information. This section is broken into three parts: reactivity, chemical stability, and other. The required information consists of:

Reactivity

- Description of the specific test data for the chemical(s). This data can be for a class or family of the chemical if such data adequately represent the anticipated hazard of the chemical(s), where available.

Chemical stability

- Indication of whether the chemical is stable or unstable under normal ambient temperature and conditions while in storage and being handled.
- Description of any stabilizers that may be needed to maintain chemical stability.
- Indication of any safety issues that may arise should the product change in physical appearance.

Other

- Indication of the possibility of hazardous reactions, including a statement whether the chemical will react or polymerize, which could release excess pressure or heat, or create other hazardous conditions. Also, a description of the conditions under which hazardous reactions may occur.
- List of all conditions that should be avoided (e.g., static discharge, shock, vibrations, or environmental conditions that may lead to hazardous conditions).
- List of all classes of incompatible materials (e.g., classes of chemicals or specific substances) with which the chemical could react to produce a hazardous situation.
- List of any known or anticipated hazardous decomposition products that could be produced because of use, storage, or heating. (Hazardous combustion products should also be included in Section 5 (Fire-Fighting Measures) of the SDS.)

Section 11: Toxicological Information

This section identifies toxicological and health effects information or indicates that such data are not available. The required information consists of:

- Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact). The SDS should indicate if the information is unknown.
- Description of the delayed, immediate, or chronic effects from short- and long-term exposure.
- The numerical measures of toxicity (e.g., acute toxicity estimates such as the LD50 (median lethal dose)) - the estimated amount [of a substance] expected to kill 50% of test animals in a single dose.
- Description of the symptoms. This description includes the symptoms associated with exposure to the chemical including symptoms from the lowest to the most severe exposure.
- Indication of whether the chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest editions) or found to be a potential carcinogen by OSHA.

Section 12: Ecological Information (non-mandatory)

This section provides information to evaluate the environmental impact of the chemical(s) if it were released to the environment. The information may include:

- Data from toxicity tests performed on aquatic and/or terrestrial organisms, where available (e.g., acute or chronic aquatic toxicity data for fish, algae, crustaceans, and other plants; toxicity data on birds, bees, plants).
- Whether there is a potential for the chemical to persist and degrade in the environment either through biodegradation or other processes, such as oxidation or hydrolysis.
- Results of tests of bioaccumulation potential, making reference to the octanol-water partition coefficient (K_{ow}) and the bioconcentration factor (BCF), where available.
- The potential for a substance to move from the soil to the groundwater (indicate results from adsorption studies or leaching studies).
- Other adverse effects (e.g., environmental fate, ozone layer depletion potential, photochemical ozone creation potential, endocrine disrupting potential, and/or global warming potential).

Section 13: Disposal Considerations (non-mandatory)

This section provides guidance on proper disposal practices, recycling or reclamation of the chemical(s) or its container, and safe handling practices. To minimize exposure, this section should also refer the reader to Section 8 (Exposure Controls/Personal Protection) of the SDS. The information may include:

- Description of appropriate disposal containers to use.
- Recommendations of appropriate disposal methods to employ.
- Description of the physical and chemical properties that may affect disposal activities.
- Language discouraging sewage disposal.
- Any special precautions for landfills or incineration activities.

Section 14: Transport Information (non-mandatory)

This section provides guidance on classification information for shipping and transporting of hazardous chemical(s) by road, air, rail, or sea. The information may include:

- UN number (i.e., four-figure identification number of the substance)².
- UN proper shipping name².
- Transport hazard class(es)².
- Packing group number, if applicable, based on the degree of hazard².
- Environmental hazards (e.g., identify if it is a marine pollutant according to the International Maritime Dangerous Goods Code (IMDG Code)).
- Guidance on transport in bulk (according to Annex II of MARPOL 73/78³ and the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code (IBC Code))).
- Any special precautions which an employee should be aware of or needs to comply with, in connection with transport or conveyance either within or outside their premises (indicate when information is not available).

²Found in the most recent edition of the United Nations Recommendations on the Transport of Dangerous Goods.

³MARPOL 73/78 means the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, as amended.

Section 15: Regulatory Information (non-mandatory)

This section identifies the safety, health, and environmental regulations specific for the product that is not indicated anywhere else on the SDS. The information may include:

- Any national and/or regional regulatory information of the chemical or mixtures (including any OSHA, Department of Transportation, Environmental Protection Agency, or Consumer Product Safety Commission regulations).

Section 16: Other Information

This section indicates when the SDS was prepared or when the last known revision was made. The SDS may also state where the changes have been made to the previous version. You may wish to contact the supplier for an explanation of the changes. Other useful information also may be included here.

Employer Responsibilities

Employers must ensure that the SDSs are readily accessible to employees for all hazardous chemicals in their workplace. This may be done in many ways. For example, employers may keep the SDSs in a binder or on computers as long as the employees have immediate access to the information without leaving their work area when needed and a back-up is available for rapid access to the SDS in the case of a power outage or other emergency. Furthermore, employers may want to designate a person(s) responsible for obtaining and maintaining the SDSs. If the employer does not have an SDS, the employer or designated person(s) should contact the manufacturer to obtain one.

References

OSHA, 29 CFR 1910.1200(g) and Appendix D.

United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS), third revised edition, United Nations, 2009.

These references and other information related to the revised Hazard Communication

Standard can be found on OSHA's Hazard Communication Safety and Health Topics page, located at:
<http://www.osha.gov/dsg/hazcom/index.html>.

Disclaimer: This brief provides a general overview of the safety data sheet requirements in the Hazard Communication Standard (see 29 CFR 1910.1200(g) and Appendix D of 29 CFR 1910.1200). It does not alter or determine compliance responsibilities in the standard or the Occupational Safety and Health Act of 1970. Since interpretations and enforcement policy may change over time, the reader should consult current OSHA interpretations and decisions by the Occupational Safety and Health Review Commission and the courts for additional guidance on OSHA compliance requirements. Please note that states with OSHA-approved state plans may have additional requirements for chemical safety data sheets, outside of those outlined above. For more information on those standards, please visit:
<http://www.osha.gov/dcsp/osp/statestandards.html>.

This is one in a series of informational briefs highlighting OSHA programs, policies or standards. It does not impose any new compliance requirements. For a comprehensive list of compliance requirements of OSHA standards or regulations, refer to Title 29 of the Code of Federal Regulations. This information will be made available to sensory-impaired individuals upon request. The voice phone is (202) 693-1999; teletypewriter (TTY) number: (877) 889-5627.

For assistance, contact us. We can help. It's confidential.



**Occupational
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OSHA[®] BRIEF

Hazard Communication Standard: Labels and Pictograms

OSHA has adopted new hazardous chemical labeling requirements as a part of its recent revision of the Hazard Communication Standard, 29 CFR 1910.1200 (HCS), bringing it into alignment with the United Nations' Globally Harmonized System of Classification and Labelling of Chemicals (GHS). These changes will help ensure improved quality and consistency in the classification and labeling of all chemicals, and will also enhance worker comprehension. As a result, workers will have better information available on the safe handling and use of hazardous chemicals, thereby allowing them to avoid injuries and illnesses related to exposures to hazardous chemicals.

The revised HCS changes the existing Hazard Communication Standard (HCS/HazCom 1994¹) from a performance-based standard to one that has more structured requirements for the labeling of chemicals. The revised standard requires that information about chemical hazards be conveyed on labels using quick visual notations to alert the user, providing immediate recognition of the hazards. Labels must also provide instructions on how to handle the chemical so that chemical users are informed about how to protect themselves.

The label provides information to the workers on the specific hazardous chemical. While labels provide important information for anyone who handles, uses, stores, and transports hazardous chemicals, they are limited by design in the amount of information they can provide. Safety Data Sheets (SDSs), which must accompany hazardous chemicals, are the more complete resource for details regarding hazardous chemicals. The revised

standard also requires the use of a 16-section safety data sheet format, which provides detailed information regarding the chemical. There is a separate [OSHA Brief on SDSs](#) that provides information on the new SDS requirements.

All hazardous chemicals shipped after June 1, 2015, must be labeled with specified elements including pictograms, signal words and hazard and precautionary statements. However, manufacturers, importers, and distributors may start using the new labeling system in the revised HCS before the June 1, 2015 effective date if they so choose. Until the June 1, 2015 effective date, manufacturers, importers and distributors may maintain compliance with the requirements of HazCom 1994 or the revised standard. Distributors may continue to ship containers labeled by manufacturers or importers (but not by the distributor themselves) in compliance with the HazCom 1994 until December 1, 2015.

This document is designed to inform chemical receivers, chemical purchasers, and trainers about the label requirements. It explains the new labeling elements, identifies what goes on a label, and describes what pictograms are and how to use them.

Label Requirements

Labels, as defined in the HCS, are an appropriate group of written, printed or graphic informational elements concerning a hazardous chemical that are affixed to, printed on, or attached to the immediate container of a hazardous chemical, or to the outside packaging.

The HCS requires chemical manufacturers, importers, or distributors to ensure that each container of hazardous chemicals leaving the workplace is labeled, tagged or marked with the following information: product identifier; signal word; hazard statement(s); precautionary

¹ Prior to the 2012 update, the Hazard Communication Standard had last been amended in 1994. 'HazCom 1994' refers to the version of the Hazard Communication Standard in effect directly prior to the 2012 revision, printed in the 1995 through 2011 versions of the Code of Federal Regulations. It is also available on OSHA's webpage.

statement(s); and pictogram(s); and name, address and telephone number of the chemical manufacturer, importer, or other responsible party.

Labels for a hazardous chemical must contain:

- Name, Address and Telephone Number
- Product Identifier
- Signal Word
- Hazard Statement(s)
- Precautionary Statement(s)
- Pictogram(s)

To develop labels under the revised HCS, manufacturers, importers and distributors must first identify and classify the chemical hazard(s). Appendices A, B, and C are all mandatory. The classification criteria for health hazards are in Appendix A and the criteria for physical hazards are presented in Appendix B of the revised Hazard Communication Standard. After classifying the hazardous chemicals, the manufacturer, importer or distributor then consults Appendix C to determine the appropriate pictograms, signal words, and hazard and precautionary statement(s), for the chemical label. Once this information has been identified and gathered, then a label may be created.

Label Elements

The HCS now requires the following elements on labels of hazardous chemicals:

- **Name, Address and Telephone Number** of the chemical manufacturer, importer or other responsible party.
- **Product Identifier** is how the hazardous chemical is identified. This can be (but is not limited to) the chemical name, code number or batch number. The manufacturer, importer or distributor can decide the appropriate product identifier. The same product identifier must be both on the label and in section 1 of the SDS.
- **Signal Words** are used to indicate the relative level of severity of the hazard and

alert the reader to a potential hazard on the label. There are only two words used as signal words, "Danger" and "Warning." Within a specific hazard class, "Danger" is used for the more severe hazards and "Warning" is used for the less severe hazards. There will only be one signal word on the label no matter how many hazards a chemical may have. If one of the hazards warrants a "Danger" signal word and another warrants the signal word "Warning," then only "Danger" should appear on the label.

- **Hazard Statements** describe the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard. For example: "Causes damage to kidneys through prolonged or repeated exposure when absorbed through the skin." All of the applicable hazard statements must appear on the label. Hazard statements may be combined where appropriate to reduce redundancies and improve readability. The hazard statements are specific to the hazard classification categories, and chemical users should always see the same statement for the same hazards no matter what the chemical is or who produces it.
- **Precautionary Statements** describe recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to the hazardous chemical or improper storage or handling. There are four types of precautionary statements: prevention (to minimize exposure); response (in case of accidental spillage or exposure emergency response, and first-aid); storage; and disposal. For example, a chemical presenting a specific target organ toxicity (repeated exposure) hazard would include the following on the label: "Do not breathe dust/fume/gas/mist/vapors/spray. Get medical advice/attention if you feel unwell. Dispose of contents/container in accordance with local/regional/national and international regulations."

A forward slash (/) designates that the classifier can choose one of the precautionary statements. In the example

above, the label could state, "Do not breathe vapors or spray. Get medical attention if you feel unwell. Dispose of contents in accordance with local/regional/national/international regulations." See Examples 1 and 2A of this document as an example.

In most cases, the precautionary statements are independent. However, OSHA does allow flexibility for applying precautionary statements to the label, such as combining statements, using an order of precedence or eliminating an inappropriate statement.

Precautionary statements may be combined on the label to save on space and improve readability. For example, "Keep away from heat, spark and open flames," "Store in a well-ventilated place," and "Keep cool" may be combined to read: "Keep away from heat, sparks and open flames and store in a cool, well-ventilated place." Where a chemical is classified for a number of hazards and the precautionary statements are similar, the most stringent statements must be included on the label. In this case, the chemical manufacturer, importer, or distributor may impose an order of precedence where phrases concerning response require rapid action to ensure the health and safety of the exposed person. In the self-reactive hazard category Types C, D, E or F, three of the four precautionary statements for prevention are:

- "Keep away from heat/sparks/open flame/hot surfaces. - No Smoking.";
- "Keep/Store away from clothing/.../combustible materials";
- "Keep only in original container."

These three precautionary statements could be combined to read: "Keep in original container and away from heat, open flames, combustible materials and hot surfaces. - No Smoking."

Finally, a manufacturer or importer may eliminate a precautionary statement if

it can demonstrate that the statement is inappropriate.

- **Supplementary Information.** The label producer may provide additional instructions or information that it deems helpful. It may also list any hazards not otherwise classified under this portion of the label. This section must also identify the percentage of ingredient(s) of unknown acute toxicity when it is present in a concentration of $\geq 1\%$ (and the classification is not based on testing the mixture as a whole). If an employer decides to include additional information regarding the chemical that is above and beyond what the standard requires, it may list this information under what is considered "supplementary information." There is also no required format for how a workplace label must look and no particular format an employer has to use; however, it cannot contradict or detract from the required information.

An example of an item that may be considered supplementary is the personal protective equipment (PPE) pictogram indicating what workers handling the chemical may need to wear to protect themselves. For example, the Hazardous Materials Identification System (HMIS) pictogram of a person wearing goggles may be listed. Other supplementary information may include directions of use, expiration date, or fill date, all of which may provide additional information specific to the process in which the chemical is used.

- Pictograms are graphic symbols used to communicate specific information about the hazards of a chemical. On hazardous chemicals being shipped or transported from a manufacturer, importer or distributor, the required pictograms consist of a red square frame set at a point with a black hazard symbol on a white background, sufficiently wide to be clearly visible. A square red frame set at a point without a hazard symbol is not a pictogram and is not permitted on the label.

The pictograms OSHA has adopted improve worker safety and health, conform with the GHS, and are used worldwide.

While the GHS uses a total of nine pictograms, OSHA will only enforce the use of eight. The environmental pictogram is not mandatory but may be used to provide additional information. Workers may see the ninth symbol on a label because label preparers may choose to add the environment pictogram as supplementary information. Figure 1 shows the symbol for each pictogram, the written name for each pictogram, and the hazards associated with each of the pictograms. Most of the symbols are already used for transportation and many chemical users may be familiar with them.

Figure 1: Pictograms and Hazards

Health Hazard  <ul style="list-style-type: none"> • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity 	Flame  <ul style="list-style-type: none"> • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides 	Exclamation Mark  <ul style="list-style-type: none"> • Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
Gas Cylinder  <ul style="list-style-type: none"> • Gases Under Pressure 	Corrosion  <ul style="list-style-type: none"> • Skin Corrosion/ Burns • Eye Damage • Corrosive to Metals 	Exploding Bomb  <ul style="list-style-type: none"> • Explosives • Self-Reactives • Organic Peroxides
Flame Over Circle  <ul style="list-style-type: none"> • Oxidizers 	Environment (Non-Mandatory)  <ul style="list-style-type: none"> • Aquatic Toxicity 	Skull and Crossbones  <ul style="list-style-type: none"> • Acute Toxicity (fatal or toxic)

It is important to note that the OSHA pictograms do not replace the diamond-shaped labels that the U.S. Department of Transportation (DOT) requires for the transport of chemicals, including chemical drums, chemical totes, tanks or other containers. Those labels must be on the external part of a shipped container and must meet the

DOT requirements set forth in 49 CFR 172, Subpart E. If a label has a DOT transport pictogram, Appendix C.2.3.3 states that the corresponding HCS pictogram shall not appear. However, DOT does not view the HCS pictogram as a conflict and for some international trade both pictograms may need to be present on the label. Therefore, OSHA intends to revise C.2.3.3. In the meantime, the agency will allow both DOT and HCS pictograms for the same hazard on a label. While the DOT diamond label is required for all hazardous chemicals on the outside shipping containers, chemicals in smaller containers inside the larger shipped container do not require the DOT diamond but do require the OSHA pictograms. (See Example 2.)

Labels must be legible, in English, and prominently displayed. Other languages may be displayed in addition to English. Chemical manufacturers, importers, and distributors who become newly aware of any significant information regarding the hazards of a chemical must revise the label within six months.

Employer Responsibilities

Employers are responsible for maintaining the labels on the containers, including, but not limited to, tanks, totes, and drums. This means that labels must be maintained on chemicals in a manner which continues to be legible and the pertinent information (such as the hazards and directions for use) does not get defaced (i.e., fade, get washed off) or removed in any way.

The employer is not responsible for updating labels on shipped containers, even if the shipped containers are labeled under HazCom 1994. The employer must relabel items if the labels are removed or defaced. However, if the employer is aware of newly-identified hazards that are not disclosed on the label, the employer must ensure that the workers are aware of the hazards as discussed below under workplace labels.

Workplace Labels

OSHA has not changed the general requirements for workplace labeling. Employers have the option to create their own workplace labels. They can either provide all of the required information that is on the

label from the chemical manufacturer or, the product identifier and words, pictures, symbols or a combination thereof, which in combination with other information immediately available to employees, provide specific information regarding the hazards of the chemicals.

If an employer has an in-plant or workplace system of labeling that meets the requirements of HazCom 1994, the employer may continue to use this system in the workplace as long as this system, in conjunction with other information immediately available to the employees, provides the employees with the information on all of the health and physical hazards of the hazardous chemical. This workplace labeling system may include signs, placards, process sheets, batch tickets, operating procedures, or other such written materials to identify hazardous chemicals. Any of these labeling methods or a combination thereof may be used instead of a label from the manufacturer, importer or distributor as long as the employees have immediate access to all of the information about the hazards of the chemical. Workplace labels must be in English. Other languages may be added to the label if applicable.

If the employer chooses to use the pictograms that appear in Appendix C on the workplace (or in-plant) labels, these pictograms may have a black border, rather than a red border.

Employers may use additional instructional symbols that are not included in OSHA's HCS pictograms on the workplace labels. An example of an instructional pictogram is a person with goggles, denoting that goggles must be worn while handling the given chemical. Including both types of pictograms on workplace labels is acceptable. The same is true if the employer wants to list environmental pictograms or PPE pictograms from the HMIS to identify protective measures for those handling the chemical.

Employers may continue to use rating systems such as National Fire Protection Association (NFPA) diamonds or HMIS requirements for workplace labels as long as they are consistent with the requirements of the Hazard Communication Standard and the employees have immediate access to the specific hazard

information as discussed above. An employer using NFPA or HMIS labeling must, through training, ensure that its employees are fully aware of the hazards of the chemicals used.

If an employer transfers hazardous chemicals from a labeled container to a portable container that is only intended for immediate use by the employee who performs the transfer, no labels are required for the portable container.

Sample Labels

The following examples demonstrate how a manufacturer or importer may display the appropriate information on the label. As mentioned above, once the manufacturer determines the classification of the chemical (class and category of each hazard) using Appendices A and B, it would determine the required pictograms, signal words, hazard statements, and precautionary statements using Appendix C. The final step is to put the information on the label.

The examples below show what a sample label might look like under the revised HCS requirements. The examples break the labeling out into "steps" to show the order of information gathering and how label creation occurs. Step 1 is performing classification; step 2 is gathering full label information; and step 3 is creating the label.

These examples are for informational purposes only and are not meant to represent the only labels manufacturers, importers and distributors may create for these hazards.

Example 1: This example demonstrates a simple label.

The Substance:

HS85

Batch Number: 85L6543

Step 1: Perform Classification

Class: Acute Oral Toxicity; Category 4

Step 2: Gather Labeling Information

Pictograms:



Signal Word:

WARNING

Hazard Statements:

Harmful if Swallowed

Precautionary Statements:

Prevention:

- Wash hands and face thoroughly after handling.
- Do not eat, drink or smoke when using this product.

Response:

- If swallowed: Call a doctor if you feel unwell.²
- Rinse mouth

Storage:

None specified


Disposal:

- Dispose of contents/container in accordance with local/regional/national/international regulations.³

Step 3: Create the Label

Putting together the above information on HS85, a label might list the following information:

Example 1: HS85 Label

<p>HS85 Batch number: 85L6543</p> <p></p> <p>Warning Harmful if swallowed</p> <p>Wash hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Dispose of contents/container in accordance with local, state and federal regulations.</p> <p>First aid: If swallowed: Call a doctor if you feel unwell. Rinse mouth.</p> <p>GHS Example Company, 123 Global Circle, Anyville, NY 130XX</p> <p>Telephone (888) 888-8888</p>

² The manufacturer of this chemical determined that calling a doctor was the most appropriate emergency medical advice; therefore, it is listed as part of the first-aid procedures.

³ The downstream users must familiarize themselves with the proper disposal methods in accordance with local, regional, state and federal regulations. It is impractical to expect the label preparer to list all potential regulations that exist.

Example 2: This example demonstrates a more complex label.

Example 2 is for a substance that is a severe physical and health hazard. For shipping packages of chemicals that will be transported in the United States (i.e., drums, totes, tanks, etc.), the U.S. DOT requires a DOT label(s) on the outside container(s) for hazardous chemicals. Two versions of this label are presented below to demonstrate the difference between an OSHA label with pictograms from the HCS and a DOT label required for transport of a shipping container.

The Substance:

OXI252 (disodiumflammy)

CAS number: 111-11-11xx

Step 1: Perform Classification

Class: Oxidizing Solid, Category 1

Class: Skin Corrosive, Category 1A

Step 2: Gather Labeling Information

Pictograms:



Signal Word:

DANGER

Hazard Statements:

- May cause fire or explosion; strong oxidizer
- Causes severe skin burns and eye damage

Precautionary Statements:

Prevention:

- Keep away from heat.
- Keep away from clothing and other combustible materials.
- Take any precaution to avoid mixing with combustibles.
- Wear protective neoprene gloves, safety goggles and face shield with chin guard.
- Wear fire/flame resistant clothing.
- Do not breathe dust or mists.
- Wash arms, hands and face thoroughly after handling.

Response:

- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
- IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Wash contaminated clothing before reuse.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- Immediately call poison center.⁴

Specific Treatment:

Treat with doctor-prescribed burn cream.⁵

In case of fire:

Use water spray. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Storage:

Store locked up.

Disposal:

- Dispose of contents/container in accordance with local/regional/national/international regulations.³

Step 3: Create the Label



Putting together the above information on OXI252, a label might list the following information:

⁴ In this example, the manufacturer determined that calling a poison control center is the most appropriate emergency medical advice.

⁵ Not all SDSs will have direction for "specific treatment" on the label. This is only if the manufacturer specifically notes a certain treatment that needs to be used to treat a worker who has been exposed to this chemical.

Example 2A: OXI252 Label inner package label with OSHA pictograms

OXI252
(disodiumflammy)
CAS #: 111-11-11xx



Danger
May cause fire or explosion; strong oxidizer
Causes severe skin burns and eye damage

Keep away from heat. Keep away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Wear protective neoprene gloves, safety goggles and face shield with chin guard. Wear fire/flammable resistant clothing. Do not breathe dust or mists. Wash arms, hands and face thoroughly after handling. Store locked up. Dispose of contents and container in accordance with local, state and federal regulations.



First aid:
IF ON SKIN (or hair) or clothing⁶: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Wash contaminated clothing before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
Immediately call poison center.
Specific Treatment: Treat with doctor-prescribed burn cream.

Fire:
In case of fire: Use water spray. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Great Chemical Company, 55 Main Street, Anywhere, CT 064XX Telephone (888) 777-8888

Example 2B: OXI252 Label meeting DOT requirements for shipping⁷

OXI252
(disodiumflammy)
CAS #: 111-11-11xx



Danger
May cause fire or explosion; strong oxidizer
Causes severe skin burns and eye damage

Keep away from heat. Keep away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Wear protective neoprene gloves, safety goggles and face shield with chin guard. Wear fire/flammable resistant clothing. Do not breathe dust or mists. Wash arms, hands and face thoroughly after handling. Store locked up. Dispose of contents and container in accordance with local, state and federal regulations.

First aid:
IF ON SKIN (or hair) or clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Wash contaminated clothing before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a doctor.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
Immediately call poison center.
Specific Treatment: Treat with doctor-prescribed burn cream.

Fire:
In case of fire: Use water spray. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Great Chemical Company, 55 Main Street, Anywhere, CT 064XX Telephone (888) 777-8888

⁶ There are occasions where label preparers may combine statements on the label. In this case the similar statements were combined and the most stringent were listed. For example, the first-aid pre-

cautionary statements were combined for exposure to skin, hair and clothing.

⁷ DOT Labels must comply with the size requirements presented in 49 CFR 172.

For more detailed information about labels and Safety Data Sheets (SDSs) under the revised Hazard Communication Standard, please refer to 29 CFR 1910.1200 - paragraphs (f) and (g), and Appendix C.

The revised Hazard Communication Standard and additional guidance materials are available on OSHA's Hazard Communication page, located at: www.osha.gov/dsg/hazcom/index.html.

Disclaimer: This OSHA Brief provides a general overview of the label requirements in the Hazard Communication Standard (see 29 CFR 1910.1200(f) and Appendix C of 29 CFR 1910.1200). It does not alter or determine compliance responsibilities in the standard or the Occupational Safety and Health Act of 1970. Since interpretations and enforcement policy may change over time, the reader should consult current OSHA interpretations and decisions by the Occupational Safety and Health Review Commission and the courts for additional guidance on OSHA compliance requirements.

This is one in a series of informational briefs highlighting OSHA programs, policies or standards. It does not impose any new compliance requirements. For a comprehensive list of compliance requirements of OSHA standards or regulations, refer to Title 29 of the Code of Federal Regulations. This information will be made available to sensory-impaired individuals upon request. The voice phone is (202) 693-1999; teletypewriter (TTY) number: (877) 889-5627.



For assistance, contact us. We can help. It's confidential.



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Comparison of NFPA 704 and HazCom 2012 Labels

	 NFPA 704	 HazCom 2012
Purpose	Provides basic information for emergency personnel responding to a fire or spill and those planning for emergency response.	Informs workers about the hazards of chemicals in workplace under normal conditions of use and foreseeable emergencies.
Number System: NFPA Rating and OSHA's Classification System	0-4 0-least hazardous 4-most hazardous	1-4 1-least severe hazard 4-least severe hazard <ul style="list-style-type: none"> The Hazard category numbers are NOT required to be on labels but are required on SDSs in Section 2. Numbers are used to CLASSIFY hazards to determine what label information is required.
Information Provided on Label	<ul style="list-style-type: none"> Health-Blue Flammability-Red Instability-Yellow Special Hazards*-White <p>*OX Oxidizers W Water Reactives SA Simple Asphyxiants</p>	<ul style="list-style-type: none"> Product Identifier Signal Word Hazard Statement(s) Pictogram(s) Precautionary statement(s); and Name address and phone number of responsible party.
Health Hazards on Label	Acute (short term) health hazards ONLY. Acute hazards are more typical for emergency response applications. Chronic health effects are not covered by NFPA 704.	Acute (short term) and chronic (long term) health hazards. Both acute and chronic health effects are relevant for employees working with chemicals day after day. Health hazards include acute hazards such as eye irritants, simple asphyxiants and skin corrosives as well as chronic hazards such as carcinogens.
Flammability/Physical Hazards on Label	NFPA divides flammability and instability hazards into two separate numbers on the label. Flammability in red section Instability in yellow section	A broad range of physical hazard classes are listed on the label including explosives, flammables, oxidizers, reactives, pyrophorics, combustible dusts and corrosives.
Where to get information to place on label	Rating system found in NFPA Fire Protection Guide to Hazardous Materials OR NFPA 704 Standard System for Identification of the Hazards of Materials for Emergency Response 2012 Edition. Tables 5.2, 6.2, 7.2 and Chapter 8 of NFPA 704	OSHA Hazard Communication Standard 29 CFR 1910.1200 (2012). 1) Classify using Appendix A (Health Hazards) and Appendix B (Physical Hazards) 2) Label using Appendix C
Other	The hazard category numbers found in section 2 of the HC2012 compliant SDSs are NOT to be used to fill in the NFPA 704 diamond.	Supplemental information may also appear on the label such as any hazards not otherwise classified, and directions for use.
website	www.nfpa.org/704	www.osha.gov OR www.osha.gov/dsg/hazcom/index.html

For more information:



National Fire Protection Association
www.nfpa.org
(800) 344-3555



OSHA Occupational Safety and Health Administration

U.S. Department of Labor
www.osha.gov (800) 321-OSHA (6742)



The substance: "NOMIXUP 7042012"

To create an OSHA label per HazCom 2012:

Step 1: Perform the classification in accordance with Appendix A: Health Hazards & Appendix B Physical Hazards of 29 CFR 1910.1200 — this is where you find the criteria for each hazard class and hazard category.

Class: Flammable Gas, Category 1


Class: Carcinogen, Category 1B

Class: Specific Target Organ Toxicity (Single Exposure), Category 3

Class: Substances and Mixtures Which, in Contact with Water, Emit Flammable Gases, Category 3

Step 2: Gather labeling information (Pictograms, Signal Word, Hazard Statements) from Appendix C of 29 CFR 1910.1200 based on the chemical's hazard class and category.

Step 3: Create the Label

Identifier: NOMIXUP 7042012	
	
DANGER!	
Hazard Statements:	Extremely Flammable Gas May Cause Cancer May Cause Respiratory Irritation In Contact with Water Releases Flammable Gas
Precautionary Statements:	Keep away from heat/sparks/open flames/hot surfaces—No Smoking Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing vapors and mists. Wear protective gloves and eye protection. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call poison center/doctor if you feel unwell. Leaking Gas Fire: Do not extinguish unless leak can be stopped safely. Eliminate all ignition sources if safe to do so. Store in tightly closed container in a well-ventilated place, locked up. Use outdoors or use in a well-ventilated place. Dispose of contents in accordance with local/regional/national regulations.
XYZ Chemical Company 123 Main St. Anywhere, NY, USA 1-800-000-1111	

To Create NFPA 704 label:

Step 1: Collect information on hazards from applicable sections of SDS. Some SDSs may provide the NFPA diamond symbol with hazard rating numbers filled in already. **Note: Do NOT use the hazard category numbers given in section 2 of HazCom 2012 compliant SDS on 704 label!**

If the diamond is not provided on the SDS you can obtain the information under the following sections of the SDS. Note that additional information may be provided in other sections of the SDS.

- Health hazard information under Section 11
- Flammability information under Section 9
- Instability information under Section 10
- Special information under Section 9, 10, 11



Step 2: Obtain current edition copy of NFPA 704 or view on line at www.nfpa.org/704. Compare the criteria on the SDS sections as shown above with the criteria shown in Tables 5.2 (Health), 6.2 (Flammability), 7.2 (Instability) and 8.2 (Special Hazards).

Step 3: Place numbers for the degree of hazard associated with the criteria obtained in Step 2 in the correct quadrant of NFPA 704 placard.

For more information:



National Fire
Protection Association
www.nfpa.org
(800) 344-3555












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Hazard Communication Standard Pictogram

As of June 1, 2015, the Hazard Communication Standard (HCS) will require pictograms on labels to alert users of the chemical hazards to which they may be exposed. Each pictogram consists of a symbol on a white background framed within a red border and represents a distinct hazard(s). The pictogram on the label is determined by the chemical hazard classification.

HCS Pictograms and Hazards

Health Hazard  <ul style="list-style-type: none"> • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity 	Flame  <ul style="list-style-type: none"> • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides 	Exclamation Mark  <ul style="list-style-type: none"> • Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
Gas Cylinder  <ul style="list-style-type: none"> • Gases Under Pressure 	Corrosion  <ul style="list-style-type: none"> • Skin Corrosion/ Burns • Eye Damage • Corrosive to Metals 	Exploding Bomb  <ul style="list-style-type: none"> • Explosives • Self-Reactives • Organic Peroxides
Flame Over Circle  <ul style="list-style-type: none"> • Oxidizers 	Environment (Non-Mandatory)  <ul style="list-style-type: none"> • Aquatic Toxicity 	Skull and Crossbones  <ul style="list-style-type: none"> • Acute Toxicity (fatal or toxic)

For more information:

Pictograma para la norma sobre la comunicación de peligros

A partir del 1.º de junio de 2015, la norma de comunicación de peligros (HCS, por sus siglas en inglés) exigirá pictogramas en las etiquetas para advertir a los usuarios de los peligros químicos a los que puedan estar expuestos. Cada pictograma representa un peligro definido y consiste en un símbolo sobre un fondo blanco enmarcado con un borde rojo. La clasificación del peligro químico determina el pictograma que muestra la etiqueta.

Pictogramas y peligros según la HCS

Peligro para la salud  <ul style="list-style-type: none"> • Carcinógeno • Mutagenicidad • Toxicidad para la reproducción • Sensibilización respiratoria • Toxicidad específica de órganos diana • Peligro por aspiración 	Llama  <ul style="list-style-type: none"> • Inflamables • Pirofóricos • Calentamiento espontáneo • Desprenden gases inflamables • Reaccionan espontáneamente (autorreactivos) • Peróxidos orgánicos 	Signo de exclamación  <ul style="list-style-type: none"> • Irritante (piel y ojos) • Sensibilizador cutáneo • Toxicidad aguda (dañino) • Efecto narcótico • Irritante de vías respiratorias • Peligros para la capa de ozono (no obligatorio)
Botella de gas  <ul style="list-style-type: none"> • Gases a presión 	Corrosión  <ul style="list-style-type: none"> • Corrosión o quemaduras cutáneas • Lesión ocular • Corrosivo para los metales 	Bomba explotando  <ul style="list-style-type: none"> • Explosivos • Reaccionan espontáneamente (autorreactivos) • Peróxidos orgánicos
Llama sobre círculo  <ul style="list-style-type: none"> • Comburentes 	Medio ambiente (No obligatorio)  <ul style="list-style-type: none"> • Toxicidad acuática 	Calavera y tibias cruzadas  <ul style="list-style-type: none"> • Toxicidad aguda (mortal o tóxica)

Para más información:



Hazard Communication Standard Labels

OSHA has updated the requirements for labeling of hazardous chemicals under its Hazard Communication Standard (HCS). All labels are required to have pictograms, a signal word, hazard and precautionary statements, the product identifier, and supplier identification. A sample revised HCS label, identifying the required label elements, is shown on the right. Supplemental information can also be provided on the label as needed.

For more information:



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SAMPLE LABEL

CODE _____
Product Name _____

Company Name _____
Street Address _____
City _____ State _____
Postal Code _____ Country _____
Emergency Phone Number _____

Product Identifier

Supplier Identification

Hazard Pictograms

Signal Word
Danger

Keep container tightly closed. Store in a cool, well-ventilated place that is locked.
Keep away from heat/sparks/open flame. No smoking.
Only use non-sparking tools.
Use explosion-proof electrical equipment.
Take precautionary measures against static discharge.
Ground and bond container and receiving equipment.
Do not breathe vapors.
Wear protective gloves.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
Dispose of in accordance with local, regional, national, international regulations as specified.

In Case of Fire: use dry chemical (BC) or Carbon Dioxide (CO₂) fire extinguisher to extinguish.

First Aid
If exposed call Poison Center.
If on skin (or hair): Take off immediately any contaminated clothing. Rinse skin with water.

Precautionary Statements

Highly flammable liquid and vapor.
May cause liver and kidney damage.

Hazard Statements

Supplemental Information

Directions for Use

Fill weight: _____ Lot Number: _____
Gross weight: _____ Fill Date: _____
Expiration Date: _____

OSHA 3492-01 R 2016

Hazard Communication Safety Data Sheets

The Hazard Communication Standard (HCS) requires chemical manufacturers, distributors, or importers to provide Safety Data Sheets (SDSs) (formerly known as Material Safety Data Sheets or MSDSs) to communicate the hazards of hazardous chemical products. As of June 1, 2015, the HCS will require new SDSs to be in a uniform format, and include the section numbers, the headings, and associated information under the headings below:

Section 1, Identification includes product identifier; manufacturer or distributor name, address, phone number; emergency phone number; recommended use; restrictions on use.

Section 2, Hazard(s) identification includes all hazards regarding the chemical; required label elements.

Section 3, Composition/information on ingredients includes information on chemical ingredients; trade secret claims.

Section 4, First-aid measures includes important symptoms/effects, acute, delayed; required treatment.

Section 5, Fire-fighting measures lists suitable extinguishing techniques, equipment; chemical hazards from fire.

Section 6, Accidental release measures lists emergency procedures; protective equipment; proper methods of containment and cleanup.

Section 7, Handling and storage lists precautions for safe handling and storage, including incompatibilities.

(Continued on other side)

For more information:



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Hazard Communication Safety Data Sheets

Section 8, Exposure controls/personal protection lists OSHA's Permissible Exposure Limits (PELs); ACGIH Threshold Limit Values (TLVs); and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the SDS where available as well as appropriate engineering controls; personal protective equipment (PPE).

Section 9, Physical and chemical properties lists the chemical's characteristics.

Section 10, Stability and reactivity lists chemical stability and possibility of hazardous reactions.

Section 11, Toxicological information includes routes of exposure; related symptoms, acute and chronic effects; numerical measures of toxicity.

Section 12, Ecological information*

Section 13, Disposal considerations*

Section 14, Transport information*

Section 15, Regulatory information*

Section 16, Other information, includes the date of preparation or last revision.

*Note: Since other Agencies regulate this information, OSHA will not be enforcing Sections 12 through 15 (29 CFR 1910.1200(g)(2)).

Employers must ensure that SDSs are readily accessible to employees.

See Appendix D of 29 CFR 1910.1200 for a detailed description of SDS contents.

For more information:



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