"Hazard Communication", in this program, refers to the methods used to communicate the hazards created by chemicals and other potentially hazardous substances are used, handled, stored or otherwise encountered during our work, and how to control them. Our Hazard Communication Program is based on 29 CFR 1910.1200, which conforms to an internationally recognized approach to hazard communication known as the Global Harmonization System (GHS). Employees may see any number of acronyms and nick-names associated with this program, including HazCom, "Right-to-Know", and HCS (Hazard Communication Standard).

Our HazCom procedures apply to all operations in our company where employees may be exposed to hazardous chemicals under normal working conditions, during non-routine tasks, or during an emergency situation. The procedures will be communicated to all affected employees and made available for subsequent review upon request.

EMPLOYEE TRAINING AND INFORMATION

Employees must be provided with effective information and training on hazardous chemicals in their work area at the time of their initial assignment, whenever a new chemical hazard for which the employees have not previously received training is introduced into their work area. Information and training may be designed to cover categories of hazards (e.g., flammability, carcinogenicity) or specific chemicals. Chemical-specific information must always be available through labels and safety data sheets (formerly known as material safety data sheets).

Employees must be informed of:

- The requirements of OSHA's Hazard Communication Standard (HCS).
- Any operations in their work area where hazardous chemicals are present; and,
- The location and availability of the written hazard communication program, including the required list(s) of hazardous chemicals, and safety data sheets.

The training must include at least:

- Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (such as monitoring conducted by the employer, continuous monitoring devices, visual appearance or odor of hazardous chemicals when being released, etc.);
- The physical, health, simple asphyxiation, combustible dust, and pyrophoric gas hazards, as well as hazards not otherwise classified, of the chemicals in the work area;
- The measures employees can take to protect themselves from these hazards, including specific procedures the employer has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used; and,
- The details of the hazard communication program developed by our company, including an explanation of the labels received on shipped containers and the workplace labeling system used; the safety data sheet, including the order of information and how employees can obtain and use the appropriate hazard information.

In some states, additional training requirements may apply. For instance, in Tennessee, the training must also be conducted annually and must include general safety instructions on the handling, cleanup, and disposal of hazardous chemicals. The training must ensure employees who may be functionally illiterate or who have problems reading and understanding English are appropriately informed and trained in accordance with this rule. The effectiveness of the training "must be measured by adequacy of reasonable basic and simple verbal recall by the employee of the required information." (Compliance officers will verify training effectiveness during their inspections through employee interviews).

WORKPLACE CHEMICAL LIST (WCL)

A workplace chemical list (WCL) of all known hazardous chemicals used by our company must be developed and maintained. The WCL must use product identifiers that provide a unique means by which the user can identify the chemical. The product identifier must permit cross-references to be made among the list of hazardous chemicals, the label and the safety data sheets (formerly known as Material Safety Data Sheets).

Supervisors must immediately notify management when a new chemical is being introduced on in a work area or on a job site so that the WCL list can be updated company-wide if necessary. A copy of the current WCL, and each subsequent revision, must be retained for at least 30 years.

In some states, additional requirements for the WCL may apply. For instance, in Tennessee, the following information must also be included:

- Employer name and mailing address;
- Workplace location if different than mailing address;
- Employer's primary Standard Industrial Classification (SIC) Code;
- Employer's federal employer identification number;
- A brief description of the workplace operation.
- The chemical name or common name used on the SDS and/or the container label;
- The chemical abstracts service number for each hazardous chemical listed if such number is known or included on the SDS; and
- The work area or workplace in which the hazardous chemical is normally used, stored, or generated.

CONTAINER LABELS

Supervisors must verify that all containers received for use are clearly labeled with an appropriate group of written, printed or graphic information elements concerning a hazardous chemical that is affixed to, printed on, or attached to the immediate container of a hazardous chemical, or to the outside packaging. Labels may not be removed, altered, or defaced. Required label elements include the containers' contents, appropriate hazard warnings, and the manufacturer name and address. Additional elements include the specified pictograms, hazard statements, signal words and precautionary statements for each hazard class and category.

- Pictogram means a composition that may include a symbol plus other graphic elements, such as a border, background pattern, or color, that is intended to convey specific information about the hazards of a chemical. Eight pictograms are designated under the OSHA's HCS for application to a hazard category.
- Hazard Statement means a statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.
- Signal Word means a word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. The signal words used in this section are "danger" and "warning." "Danger" is used for the more severe hazards, while "warning" is used for the less severe.
- Precautionary Statement means a phrase that describes recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical, or improper storage or handling.

All ***secondary*** containers must be likewise labeled. Portable containers, as distinguished from secondary containers, are those that will contain no more of a hazardous chemical than an employee needs for immediate use. Portable containers do not require labels, but the employee who is using the container must directly supervise it at all times to ensure that no one else is exposed to its contents without being aware of the hazards.

SAFETY DATA SHEETS (SDSs)

In the Global Harmonization System (GHS), Safety Data Sheets (SDSs) are presented in a uniform sixteen-section format, as follows:

1. Identification
2. Hazard(s) identification
3. Composition/information on ingredients;
4. First-aid measures;
5. Fire-fighting measures;
6. Accidental release measures;
7. Handling and storage;
8. Exposure controls/personal protection;
9. Physical and chemical properties;
10. Stability and reactivity;
11. Toxicological information;

12. Ecological information;

13. Disposal considerations;

14. Transport information;

15. Regulatory information; and

16. Other information, including date of preparation or last revision.

Our company will have SDSs in the workplace for each hazardous chemical we use and will ensure that these are readily accessible to affected employees during each work shift, either in paper or electronic format. Electronic (i.e. computer network or web-based) copies and other alternatives to maintaining paper copies of the safety data sheets are permitted only if such alternatives create no barriers to immediate employee access.

Where employees must travel between workplaces during a workshift (i.e., their work is carried out at more than one geographical location), the safety data sheets may be kept at the primary workplace facility. In this situation, the company will ensure that employees can immediately obtain the required information in an emergency.

Managers are responsible for ensuring that supervisors have the necessary SDSs and for making sure new SDSs are obtained from the supplier or manufacturer when new products are introduced to the workplace. Supervisors will maintain the SDS files with the workplace chemical list and keep these readily accessible to the affected employees, who must be made aware of where and how to access the files.

Safety data sheets may be kept in any form, including operating procedures, and may be designed to cover groups of hazardous chemicals in a work area where it may be more appropriate to address the hazards of a process rather than individual hazardous chemicals. However, the company will ensure that in all cases the required information is provided for each hazardous chemical, and is readily accessible during each work shift to employees when they are in their work area(s).

Although SDSs are only required to be published in English, efforts should be made to communicate hazards to affected employees regardless of their literacy level or their primary language.

Where electronic records are maintained, employees will be provided with the means and with instruction for readily access the files and instruction.

UNLABELED PIPING

Work may sometimes be performed near unlabeled pipes on job sites, which may contain unknown hazards. If such work could create an exposure to the contents of the piping, the project manager will work with the project owner to identify the contents, the potential hazards, and the appropriate precautions. If unlabeled piping is not identified until after work begins, the supervisor must immediately notify the project manager so that appropriate measures can be taken before an exposure is created.

NON-CONTAINERIZED HAZARDS

Efforts to identify non-containerized chemical hazards should also be made. This is mandatory in some jurisdictions (e.g. TOSHA rule 0800-01-09.06), and would include hazardous chemicals that are generated or produced as a result of the process or operation taking place in a particular work area. For example, locations where welding fumes or carbon monoxide from forklift exhaust is produced on a regular basis may need to be posted with a sign or placard warning.

NON-ROUTINE TASKS

Periodically, employees may be required to perform non-routine tasks that expose them to a hazardous chemical for which they have not had adequate training. For example, a tank or a vessel at a job site, or one delivered to our main facility, may require entry for cleaning, maintenance or repair. Whatever the situation, b*efore* an employee is assigned to a non-routine, hazardous task, the supervisor must ensure that affected employees receive adequate instruction on the specific chemical hazards, the steps that are in place to reduce the hazard (e.g. ventilation, dilution, etc.), and the safety procedures that must be followed (e.g. personal protective equipment, air monitoring, fire protection, first aid, emergency response, etc.)

EXPOSURES TO HAZARDOUS CHEMICALS USED AT OTHER FACILITIES OR BY OTHER CONTRACTORS

It is the project manager's and the job supervisor's responsibility to determine if the project owner and/or other contractors involved in a particular job have hazardous chemicals to which company employees may be exposed. The project manager and supervisor must then determine what steps should be taken to inform the employees of the hazards and the necessary precautions that must be taken. This will always include a review of the appropriate SDS and the precautions contained therein.

EXPOSING CUSTOMERS OR OTHER CONTRACTORS TO OUR HAZARDOUS CHEMICALS

It is also the project manager's and the job supervisor's responsibility to evaluate the potential for other parties to be exposed to hazardous chemicals being used by our company, either at our facilities or on a remote job site. The project manager and supervisor must then determine what steps should be taken to inform the other parties of the hazards and the necessary precautions. This will always include making the appropriate SDS and the precautions contained therein available for review by the affected parties.

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SUMMARY

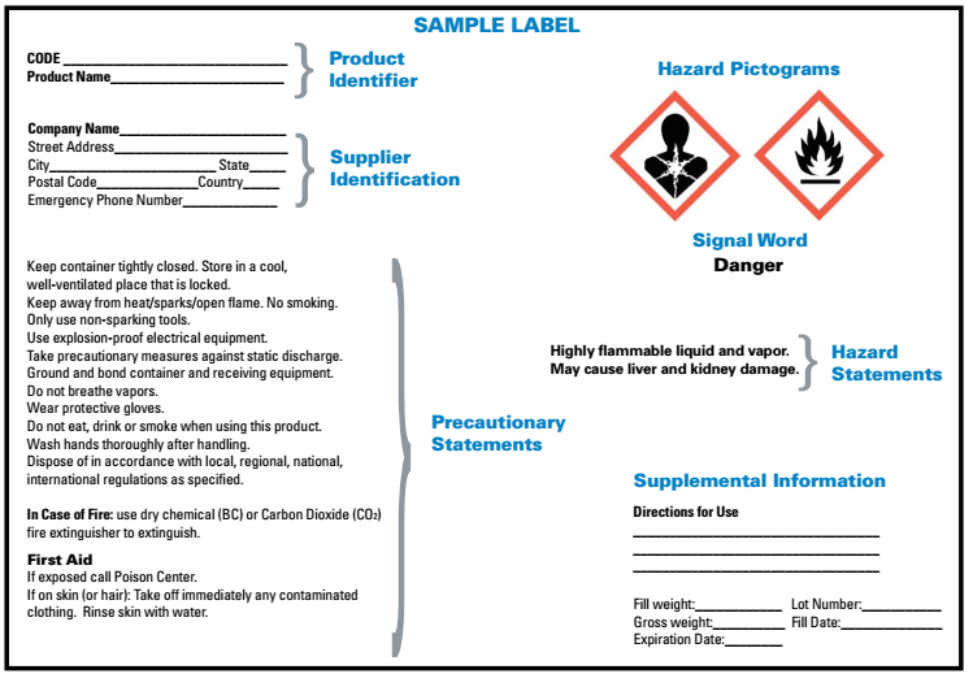
Our company has a "Hazard Communication" program, or "Right-to-Know" program, to help ensure that employees are made aware of the precautions that must be taken in regard to hazardous chemicals to which there is exposure through our own use, or through the use by other contractors or facility personnel, or even through contact with or proximity to piping, tanks and vessels.

This program applies to all work operations in our company where employees may be exposed to hazardous chemicals under normal working conditions, during non-routine tasks, or during an emergency situation. The complete program is maintained in the company safety manual, copies of which are available for employee review in the corporate office and on long-term job sites. Workers must pay close attention to the hazard warnings and safe handling procedures identified on container labels and the safety data sheets.

Container Labeling – All original and secondary containers must be clearly labeled with the following:

- Pictogram(s), which means a composition that may include a symbol plus other graphic elements, such as a border, background pattern, or color, that is intended to convey specific information about the hazards of a chemical. Eight pictograms are designated under the OSHA's HCS for application to a hazard category.
- Hazard Statement(s), which means a statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.
- Signal Word(s), which means a word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. The signal words used in this section are "danger" and "warning." "Danger" is used for the more severe hazards, while "warning" is used for the less severe.
- Precautionary Statement(s), which means a phrase that describes recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical, or improper storage or handling.

Labels are required on both primary and secondary containers and must not be removed, altered, or defaced. Portable containers, as distinguished from secondary containers, are those that will contain no more of a hazardous chemical than an employee needs for immediate use. Portable containers do not require labels, but the employee who is using the container must directly supervise it at all times to ensure that no one else is exposed to its contents without being aware of the hazards.



RESUMEN DE LA CAPACITACIÓN – COMUNICACIÓN DE RIESGOS

Nuestra compañía tiene un programa de "comunicación de riesgos" o "derecho a saber" que ayuden a asegurar que nuestros empleados estén al tanto de las precauciones que deben tomarse referente a químicos peligrosos con los cuales existe exposición a través del uso propio o por el uso de otros contratistas o personal de la instalación o incluso a través de contacto o proximidad a tuberías, tanques y recipientes.

Este programa se aplica a todas las operaciones de trabajo en nuestra compañía donde los empleados pueden ser expuestos a químicos peligrosos bajo condiciones normales de trabajo, durante tareas no rutinarias, o durante una situación de emergencia. El programa completo se encuentra en el manual de seguridad de la compañía, copias de la cual se encuentra disponible para evaluación del empleado en la oficina corporativa y sitios de trabajo a largo plazo. Los trabajadores deben prestar especial atención a las advertencias de peligros y procedimientos seguros para el manejo identificado en las etiquetas de los contenedores y hojas de seguridad (anteriormente conocido como hojas de datos de seguridad de los materiales).

Etiquetando Contenedores – Todos los contenedores originales y secundarios deben ser claramente etiquetados con lo siguiente:

- El/Los pictograma (s), lo cual significa una composición que puede incluir un símbolo más otros elementos gráficos tales como el borde, patrón de fondo o color, aquellos tratan de transmitir información específica acerca de los peligros de un químico. Se designan ocho pictogramas bajo la HCS (Declaración Principal de Hanoi) de OSHA (Administración de salud y seguridad ocupacional) para aplicarse a una categoría de peligrosidad.
- La/Las indicación(es) de peligro, es una indicación asignada a una categoría o clase de peligrosidad que describe la naturaleza del/de los peligro(s), que incluye, si es apropiado, el grado de peligrosidad.
- La/Las palabra(s)de aviso, es/son una palabra utilizada para indicar un nivel relativo de severidad del daño y alertar al lector de un peligro potencial en la etiqueta. Las palabras de aviso utilizadas en esta sección son "peligro" y "advertencia" "Peligro" se utiliza para los daños más severos mientras que "precaución" se utiliza para daños menores.
- El/Los consejo(s) de prudencia, significa(n) una frase que describe medidas recomendadas que se deben tomar para minimizar o prevenir efectos adversos por exposición a químicos peligrosos o almacenamiento o manejo impropios.

Se requieren etiquetas en ambos contenedores primarios y secundarios y no deben quitarse, alterarse o dañarse. Los envases portátiles, distinguidos de los envases secundarios, son aquellos que no contendrán más de un químico peligroso que necesita un empleado para uso inmediato. Envases portátiles no requieren etiquetas pero el empleado quien utiliza el envase debe supervisarlo directamente todas las veces para asegurarse que ningún otro se exponga a sus contenidos sin estar al tanto de los peligros.

Health Hazard  • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity	**Flame**  • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides	**Exclamation Mark**  • Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
Gas Cylinder  • Gases Under Pressure	**Corrosion**  • Skin Corrosion/ Burns • Eye Damage • Corrosive to Metals	**Exploding Bomb**  • Explosives • Self-Reactives • Organic Peroxides
Flame Over Circle  • Oxidizers	**Environment** **(Non-Mandatory)**  • Aquatic Toxicity	**Skull and Crossbones**  • Acute Toxicity (fatal or toxic)

Peligro para la salud  • Carcinógeno • Mutagenicidad • Toxicidad para la reproducción • Sensibilización respiratoria • Toxicidad especifica de órganos Diana • Peligro por aspiración	**Llama**  • Inflamables • Pirofóricos • Calentamiento espontáneo • Desprenden gases inflamables • Reaccionan espontáneamente (autorreactivas) • Peróxidos orgánicos	**Signo de exclamación**  • 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  • Gases a presión	**Corrosión**  • Corrosión o quemaduras cutáneas • Lesion ocular • Corrosivo para los metales	**Bomba explotando**  • Explosivos • Reaccionan espontáneamente (autorreactivas) • Peróxidos orgánicos
Llama sobre círculo  • Comburentes	**Medio ambiente** **(No Obligatorio)**  • Toxicidad acuática	**Calavera y tibias cruzadas**  • Toxicidad aguda (mortal o tóxica)

Safety Data Sheets (Material Safety Data Sheets)

SDS stands fo Safety Data Sheet (formerly, MSDS or Material Safety Data Sheet) and are available for every hazardous chemicals to which employees and other workers may be exposed. These sheets are kept in SDS files (both paper and electronic) at our main location and also on long-term job sites and are available for review upon request.

SDS's are generally in English. Do not hesitate to ask your supervisor for assistance if you have trouble reading, regardless of the language in which you are fluent.

SDS's include information on the chemical's components, the specific hazards, including means of exposure, health effects, and fire hazards. SDS's also provide information on the personal protective equipment, first-aid procedures, and clean-up procedures. The sixteen (16) section SDS format includes:

1. Product Identification
2. Hazard(s) Identification
3. Composition/information on ingredients
4. First-aid measures
5. Fire-fighting measures
6. Accidental release measures
7. Handling and storage
8. Exposure controls/personal protection
9. Physical and chemical properties
10. Stability and reactivity
11. Toxicological information
12. Ecological information
13. Disposal considerations
14. Transport information
15. Regulatory information
16. Other information, including date of preparation or last revision

These sections contain very important information necessary to the safe performance of our work. If there is difficulting understanding the information, then assistance must be immediately sought from a supervisor. Examples of the many facts that should be reviewed on the SDS are a chemical's flash point, vapor density, and pH factor.

- **Flash Point** – The Flash Point is the lowest temperature at which a liquid or a solid gives off enough vapor to form flammable air-vapor mixture near its surface. The lower the flash point, the greater the fire hazard.
- **Vapor Density** – The vapor density is commonly given as a ratio of the density of the gas or vapor to the density of air. The density of air is given a value of 1. Light gases (density less than 1) such as helium and acetylene rise in air and can be trapped in the ceiling. Heavy gases and vapors (density greater than 1) can accumulate in low lying areas such as in trenches, drains and manholes. Dangerous vapors that are heavier than air include those generated by chemicals often found in solvent based products, such as degreasers and adhesives. Sewer gases (e.g. methane and hydrogen sulfide) and liquid fuel vapors (e.g. gasoline) are also heavier than air.
- **pH** - The pH scale, ranging from 0 – 14 measures how acidic or basic a substance is (the word “basic” and “alkaline” are used interchangeably). A pH of 7 is neutral. A pH less than 7 is acidic. A pH greater than 7 is basic. Pure water is neutral, with a pH of 7.0. Examples of mild acids are vinegar and lemon juice, while laundry detergents and ammonia are mild bases. Chemicals that are very basic or very acidic are called “reactive” and can cause severe burns (e.g. automobile battery acid with a low pH and high pH lye in some drain cleaners).