



# OSHA Hazard Communication Standard: Employee's Right to Know

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The Hazard Communications Standard is designed to inform and train employees in the proper recognition, use, and handling of hazardous chemicals and products. Written by the Occupational Safety and Health Administration (OSHA), it is also known as "Employee's Right to Know." It covers both physical hazards, such as flammability, and health hazards, such as irritation, lung damage or cancer. The substances covered under this standard include many that are used at a typical logging site and in a typical wood products mill.

Mandatory compliance began in 1988. In order to comply, a company must prepare a written hazard communication plan, maintain a current inventory of hazardous chemicals or products at the workplace, and label containers of hazardous chemicals or products. Material Safety Data Sheets (MSDSs) must be readily accessible to employees at each work site and during each work shift. The regulations apply to any chemical that is known to be present in the workplace and that an employee may be exposed to under normal conditions of use or in a foreseeable emergency.

## The MSDS - Manufacturer's Responsibility

The MSDS is a source of detailed information on a chemical or product and provides information of the hazards associated with that chemical or product. Chemical manufacturers, importers, and distributors of hazardous chemicals are required to provide the appropriate labels on their products. Manufacturers and distributors of these products must also furnish customers with MSDSs, at the time of the initial shipment or when information on the MSDS changes, for each hazardous substance or product. Therefore, the manufacturer, and not the user, is responsible for developing an MSDS for any product containing a hazardous chemical.

The employer who uses these hazardous substances or products is responsible for maintaining current MSDSs and having them readily accessible to employees. The MSDSs

must be located close to the employees and must be available during each workshift.

## Information on an MSDS

A sample MSDS for unleaded gasoline has been provided as an example (see Figure 1). However, there is no set format for producing MSDSs as long as certain information is provided. In some instances, this has caused confusion, and as a result, a set format for producing MSDSs has been suggested.

The Chemical Manufacturers Association (CMA) and the American National Standards Institute (ANSI) spent the last four years developing a standard for improving the preparation of MSDSs. The OSHA Communication Standards allow MSDSs to be presented in any format as long as the following minimal information requirements are met:

- 1) *Chemical's name*
- 2) *Chemical Abstracts Service Registry Number*
- 3) *Hazardous physical and chemical characteristics*
- 4) *Any known acute or chronic health effects.*

This unstructured format has created problems for emergency response personnel who did not know where certain information might be located on the MSDS. The standard being developed by the CMA for certification by ANSI provides a logical and internally consistent structure for MSDSs. If the standard is followed, users of the data sheets will always be able to find the information they need in the same place on every sheet. The proposed MSDS structure is determined by a sequence of four questions with corresponding sections.

The proposed format is:

- 1) *What is the material, and what do I need to know immediately in an emergency?*

Section 1. Chemical Product and Company Identification  
Section 2. Composition and Information on Ingredients  
Section 3. Hazards Identification

- 2) *What should I do if a hazardous situation occurs?*

Section 4. First-Aid Measures  
Section 5. Fire-Fighting Measures  
Section 6. Accidental Release Measures

- 3) *How can I prevent hazardous situations from occur-*

ring?

- Section 7. Handling and Storage
- Section 8. Exposure Controls - Personal Protection
- Section 9. Physical and Chemical Properties
- Section 10. Stability and Reactivity

4) *Is there any other useful information about this material?*

- Section 11. Toxicological Information
- Section 12. Ecological Information
- Section 13. Disposal Considerations
- Section 14. Transport Information
- Section 15. Regulatory Information
- Section 16. Other Information

However, there is no set standard for preparing MSDSs yet.

## Preparing and Implementing a Hazard Communication Program

The MSDSs can form the basis of a company's Hazard Communication Program. All workplaces where employees are exposed to hazardous chemicals must have a written plan that describes how the standard will be implemented in that facility. Employers must establish a training and information program for employees in their work area at the time of initial assignment and whenever a new hazard is introduced into their work area. Outside contractors who work at the facility must also be informed of hazardous chemicals or products. The written plan must describe how a contractor will be provided with copies of MSDSs, what precautionary measures the contractor needs to take for himself or his employees during normal operations or foreseeable emergencies, and how the contractor will be notified of the labeling system in use.

### Information

At a minimum, the discussion topics for employees must include the following:

- 1) *The location of the Hazard Communication Standard and the requirements of the standard.*
- 2) *The components of the company's program.*
- 3) *Operations in work areas where exposure to hazardous chemicals or products may occur.*
- 4) *The location of hazardous chemicals and the required MSDS forms.*
- 5) *The names and phone numbers of contact persons.*
- 6) *Emergency procedures.*
- 7) *Inventory list of hazardous chemicals and products.*

### Training

The employee training plan must consist of the following elements:

- 1) *How the hazard communication program is implemented in that workplace, how to read and interpret information on labels and the MSDSs, and how employees can obtain and use the available hazard information.*

2) *The hazards of the chemicals in the work area. The hazards may be discussed by individual chemical or by hazard categories such as flammability.*

3) *Measures employees can take to protect themselves from the hazards.*

4) *Specific procedures that the employer has put into effect to provide protection, such as engineering controls, work practices, and the use of personal protective equipment.*

5) *Methods and observations, such as visual appearance or smell, that workers can use to detect the presence of a hazardous chemical to which they may be exposed.*

## Other Forms of Warning

Pesticides labeled in accordance with the Federal Insecticide, Fungicide and Rodenticide Act and regulations issued by the Environmental Protection Agency comply with OSHA's Hazard Communication Standard. The same is true for products labeled in agreement with regulations of the Food and Drug Administration and for consumer products labeled in accordance with regulations of the Consumer Product Safety Act.

OSHA allows some exemptions to its in-plant individual container labeling requirement. For a group of stationary containers within a work area that have similar contents and hazards, employers may post signs that convey the hazard information rather than label individual containers.

Employers do not have to label portable containers of hazardous chemicals or products transferred from their original containers if used immediately by the employee who made the transfer. Do not allow any left-over substances to remain in unlabeled containers.

All labels must be legible at all times. Replace destroyed or difficult-to-read labels immediately.

## Hazardous Communication Checklist

This checklist will help maintain compliance with the Hazard Communication Standard.

- *List all of the hazardous chemicals or products in the work place.*
- *Establish a file for information on hazardous chemicals or products.*
- *Obtain an MSDS for each hazardous chemical or product in use or stored on site.*
- *Develop a system to ensure the labeling of all incoming hazardous chemicals or products.*
- *Review each MSDS for completeness.*
- *Ensure that MSDSs are readily available.*
- *Write a Hazard Communication Plan.*
- *Develop a method for communicating hazards to employees and to others.*
- *Inform employees of protective measures for hazardous chemicals or products used in the workplace.*
- *Alert employees to other appropriate forms of warning.*

## How Can I Obtain MSDSs?

As an employer, you may have hazardous chemicals or products at the job site but not their MSDSs. In that case, MSDSs can usually be obtained from the retail or wholesale outlet where you purchased the chemicals. If they are not available, you may obtain them by writing directly to the company listed on the package label. You may want to use the following as a suggested format when writing:

### Suggested Letter Format for Obtaining an MSDS

(Your Return Address)

(Date)

(Name and Address of Chemical Manufacturer as listed on container label)

Dear Manufacturer:

In accordance with requirements of the OSHA Hazard Communication Standard, (your company) maintains Material Safety Data Sheets on all hazardous chemicals used in our operations. Please provide us with current copies of the Data Sheets for these materials.

(List chemicals.)

Sincerely,

Your Title

*Note: Keep a copy of the letter in your files. This does not take the place of an MSDS but will show an OSHA inspector that you are attempting to comply.*

**MATERIAL SAFETY DATA SHEET**  
**(Training Purposes Only)**

PRODUCT NAME: JOHN DOE UNLEADED GASOLINE

PRODUCT CODE NO: 00600

Issue Date 8/10/91

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**MANUFACTURER:**

John Does Refining & Marketing Division  
Morgan Oil Company of California  
10000 W. 9th Avenue  
Morgantown, California 80017

Contact for further information:  
MSDS Coordinator (213) 977-XXXX

**Transportation Emergencies:**

Call CHEMTREC  
(800) 424-XXXX Cont. U.S.  
(202) 483-XXXX (Collect)  
from Alaska & Hawaii

**Health Emergencies:**

Call John Does Poison  
Information Center (24 hrs.)  
(304) 001-XXXX

**PRODUCT IDENTIFICATION**

Product Name: XXX Unleaded Gasoline  
Synonyms: XXX Unleaded Gasoline  
Generic Name: Unleaded Gasoline  
Chemical Family: Petroleum Hydrocarbon Mixture  
DOT Proper Shipping Name: Gasoline  
ID Number: UN1203

**SECTION I - INGREDIENTS TLV UNITS**

**AGENCY**

**TYPE**

Gasoline	300.00 PPM	ACGIH	Full Term TWA
Benzene	10.00 PPM	OSHA	Full Term TWA

Gasoline is a complex combination of hydrocarbons, including a small quantity of benzene. The identities of ingredients that are trade secrets are excluded from this list.

**SECTION II - EMERGENCY FIRST AID PROCEDURES**

**\*\*\*EMERGENCY\*\*\***

Have physician call John Does  
Poison Information Center (24 hrs.) (304) 001-XXXX

**EYE CONTACT:**

For direct contact, flush the affected eye(s) with clean water. If irritation or redness develops, seek medical attention.

**SKIN CONTACT:**

Wipe material from skin and remove contaminated clothing. Cleanse affected area(s) thoroughly by washing with soap and water. If irritation or redness develops and persists, seek medical attention.

**INHALATION (Breathing):**

If symptoms of exposure develop (see Section III), move away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing or if breathing difficulties develop, artificial respiration or oxygen should be administered by qualified personnel. Seek immediate medical attention.

**SECTION II - EMERGENCY AND FIRST AID PROCEDURES  
(cont'd)**

**\*\*\*EMERGENCY\*\*\***

Have physician call John Does Poison  
Information Center (24 hrs.) (304) 001-XXXX

INGESTION (Swallowing):

\*\*\*ASPIRATION HAZARD: Do not induce vomiting because gasoline can enter lungs and cause severe lung damage.\*\*\*If victim is conscious and alert, give 2 to 3 cups of milk or water to drink. Seek medical attention. To physician: Emesis or lavage is not recommended for ingestions of minute quantities or tastes of most hydrocarbons. Medical opinion is divided for larger ingestions. Emesis or lavage has been recommended for those petroleum products which have a high oral toxicity. Gastric lavage with a cuffed endotracheal tube is recommended by some physicians to prevent aspiration.

**SECTION III - POTENTIAL ADVERSE HEALTH EFFECTS**

EYE CONTACT:

This material may cause eye irritation. Direct contact may cause burning, tearing and redness.

SKIN CONTACT:

This material may cause skin irritation. Prolonged or repeated contact may cause redness and burning, drying, and cracking, and dermatitis.

INHALATION (Breathing):

Exposure to mists or prolonged or repeated exposure to fumes or vapors may cause initial nervous system stimulation followed by nervous system depression. Symptoms include: flushing, blurred vision, dizziness, nausea, headache, drowsiness, loss of coordination, and fatigue. A severe acute exposure may cause loss of consciousness, convulsions, respiratory collapse, and death.

INGESTION (Swallowing):

Accidental ingestion of this material may cause irritation of the digestive tract. Ingestion of excessive quantities may cause signs of nervous system depression (e.g., drowsiness, dizziness, loss of coordination, and fatigue). This material is an aspiration hazard; gasoline can enter lungs during swallowing or vomiting and cause lung inflammation and damage.

COMMENTS:

Gasoline inhalation has been shown to cause tumors in laboratory animals after long-term exposure. Gasoline contains a small amount of benzene. Benzene is associated with leukemia, other blood disorders and chromosome damage in humans, and adverse reproductive effects in laboratory animals. While there is insufficient evidence to show that gasoline poses any hazard related to its low benzene content, prudent handling is advised.

**SECTION IV - SPECIAL PROTECTION INFORMATION**

VENTILATION:

If current ventilation practices are not adequate in maintaining airborne concentrations below the established exposure limits (see Section I), additional explosion-proof ventilation or exhaust systems may be required.

RESPIRATORY PROTECTION:

The use of respiratory protection is advised when vapor or gas concentrations exceed the established exposure limits (see Section I). Depending on the airborne concentration, use a respirator or gas mask with appropriate cartridges and canisters (NIOSH approved, if available) or supplied air equipment.

**SECTION IV - SPECIAL PROTECTION INFORMATION (cont'd)**

PROTECTIVE GLOVES:

The use of gloves impermeable to the specific material handled is advised to prevent skin contact, possible irritation and absorption.

EYE PROTECTION:

Approved eye protection to safeguard against potential eye contact, irritation or injury is recommended.

OTHER PROTECTIVE EQUIPMENT:

It is suggested that a source of clean water be available in work area for flushing eyes and skin. Barrier creams that are specific for oil-based materials are recommended when gloves are impractical.

**SECTION V - REACTIVITY DATA**

STABILITY:

Stable

CONDITIONS TO AVOID (stability):

Avoid contact of liquid, fumes, or vapors with any source of heat, sparks, or flames.

INCOMPATIBILITY (materials to avoid):

Strong oxidizing agents such as chlorine, permanganates and dichromates may cause fire or explosion.

HAZARDOUS DECOMPOSITION PRODUCTS:

Combustion may yield significant amounts of carbon monoxide and small amounts of oxides of sulfur and nitrogen, benzene and other organic compounds.

HAZARDOUS POLYMERIZATION:

Will not occur.

**SECTION VI - SPILL OR LEAK PROCEDURES**

\*\*\*HIGHWAY OR RAILWAY SPILLS\*\*\*  
 Call CHEMTREC (800) 424-XXXX Cont. U.S.  
 (Collect) (202) 483-XXXX from Alaska & Hawaii

PRECAUTIONS IN CASE OF RELEASE OR SPILL:

Stay upwind and away from spill unless wearing a self-contained breathing apparatus (SCBA). Isolate hazard area and restrict entry. Stop and/or contain discharge if it can be done safely. Flammable; keep all sources of ignition and hot metal surfaces away from spill. Use non-sparking tools for cleanup. Keep out of drains, sewers, or waterways. Spilled material may be absorbed into an appropriate absorbent. Contact fire authorities and appropriate state/local agencies. If spill of any amount is made into or upon U.S. Navigable Waters, the contiguous zone, or adjoining shorelines, notify Coast Guard National Response Center (Phone Number 800-424-XXXX).

WASTE DISPOSAL METHOD:

Dispose of product in accordance with local, county, state, and federal regulations.

**SECTION VII - STORAGE AND SPECIAL PRECAUTIONS**

HANDLING AND STORAGE PRECAUTIONS:

Store only in approved containers. Keep containers tightly closed, out of direct sunlight, and away from all sources of ignition. Keep away from incompatible materials (see Section V). Outdoor or detached storage is preferred. Indoor storage should be in a standard flammable liquid storage room. Provide adequate ventilation and post area "No Smoking or Open Flame." Bond and ground all equipment when transferring from one vessel to another. Keep work area free of hot metal surfaces and other sources of ignition. Avoid inhalation of vapors and personal contact with the product. Wash thoroughly after handling. Launder saturated clothing before wearing.

**SECTION VIII - FIRE AND EXPLOSION HAZARD DATA**

HAZARD RANKING

NFPA	Health Hazard: 2	0 = Least	DOT FLAMMABILITY	<u>FLASH POINT</u>
Hazard	Flammability: 3	1 = Slight	<u>CLASSIFICATION</u>	
Class	Reactivity: 0	2 = Moderate	Flammable Liquid	-45 TCC F
	Other:	3 = High		
		4 = Extreme		

EXTINGUISHING MEDIA:

The use of dry chemical, foam or CO<sub>2</sub> is recommended. Water may be ineffective.

FIRE AND EXPLOSION HAZARDS:

This material is extremely flammable and may be ignited by heat, sparks, or flame. Flashback along vapor trail may occur.

FIRE FIGHTING PROCEDURES:

The use of a self-contained breathing apparatus (SCBA) is recommended for fire fighters. Water spray may be useful in minimizing vapors and cooling containers exposed to heat and flame. Avoid spreading burning liquid with water used for cooling purposes. Move undamaged containers from fire area if you can do so without risk.

**SECTION IX - PHYSICAL DATA**

<u>APPROX. BOILING RANGE</u>	<u>VAPOR DENSITY</u>	<u>VAPORATION RATE</u>	<u>%VOLATILE</u>
85 - 430 F 29 - 221 C	HEAVIER THAN AIR	SLOWER THAN ETHER	100%
<u>%SOLUBILITY IN WATER</u>	<u>SPECIFIC GRAVITY</u>	<u>APPEARANCE</u>	<u>ODOR</u>
NEGLIGIBLE	0.75	CLEAR LIQUID	GASOLINE

**SECTION X - PRECAUTIONARY LABEL**

DANGER! Extremely Flammable. Vapors may explode. Harmful or fatal if swallowed. Vapor harmful. Possible cancer hazard based on tests with laboratory animals. No smoking. Keep away from heat, sparks, or flame, including pilot lights, electric motors and other sources of ignition. Vapors may be ignited by spark or flame source many feet away. Do not overfill tank. Use only with adequate ventilation. Avoid prolonged breathing of vapors. Keep face away from nozzle and container opening. Keep away from eyes, skin, and clothing. Wash thoroughly if eye or skin contact occurs. Never siphon by mouth. For use as motor fuel only. Do not use for any other purpose. Do not cut, puncture, or weld on or near this container. After container has been emptied, it will contain explosive vapors. Keep out of reach of children. Failure to use caution may cause serious injury or illness.

**SECTION XI - DOCUMENTARY INFORMATION**

ISSUE DATE: 8/10/91                      PREV. DATE: 0/0/0                      PRODUCT CODE NO. 00600

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