

**ENVIRONMENTAL
RISK ASSESSMENT
HAZARDOUS
MATERIALS
EMPLOYEE 'RIGHT TO KNOW' MANUAL**

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HAZ-COM



Maricopa County

**Employee Right-to-Know
Program**

1199.020

MSDS - MATERIAL SAFETY DATA SHEET

What is a hazardous material?

Federal law defines a hazardous material as one which “may cause or significantly contribute to an increase in serious, irreversible or incapacitating illness; pose substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed.”

What is a chemical?

A chemical is any element, chemical compound or mixture of elements and/or compounds.

Household bleach is a chemical. So are vitamin capsules and prescription drugs, paint thinner and hair spray, powerful acids and food preservatives, poisonous insecticides and artificial sweeteners, tear gas and expensive perfume.

Since the dawning of civilization, human beings have used chemicals to improve the quality of their lives. Prehistoric man discovered some basic chemical processes and used them to create fire, cook food, tan and dye skins, and make tools.

Today, chemicals play a larger role in our lives than ever before. Chemicals are used to make the clothes we wear and in the medicines we take. We use them to clean our homes and to make our cars run more efficiently. Chemicals protect and season our foods and keep algae out of our drinking and swimming water.

As one of the large chemical companies is fond of reminding us, life itself would be impossible without chemicals.

The Hazard Communication Standard

The Hazard Communications Standard HAZ-COM (Title 29 CFR Part 1910) is often called the Right-To-Know Law. It gives employees the right to know about health hazards connected with their jobs, such as working with dangerous chemicals. Why? So you can make knowledgeable decisions about any personal health risks associated with your work. Maricopa County will make information available to you about chemicals or other materials which pose known and suspected health hazards.

Your Right to Know

You have a right to information about hazardous chemicals at your work place. Maricopa County has a number of ways this information will be provided to you. They are:

- » Material Safety Data Sheets (MSDS). Copies will be made available in the Right-to-know manual located at each work station containing data on chemicals in your area.
- » If you are routinely exposed to hazardous chemicals, you will be trained in how to safely handle these chemicals. New or transferred employees will be trained prior to beginning their work assignments. When new hazardous chemicals are used in the work areas, you will be trained in handling procedures and hazards associated with the new materials.
- » Containers of hazardous chemicals will be labeled with chemical names, appropriate hazard warnings, and name and address of manufacturer.
- » Written Hazard Communication Program —Your Department will prepare and make available, upon request, the written Hazard Communication Program. This program explains the details of the program.

- » If you have any questions about the chemicals you work with, see your immediate supervisor, department manager, safety officer or Haz Mat Coordinator.

“Right-to-Know is only one part of the training”

This in-service is only one part of the Haz-Com training. This in-service program is presented for the benefit of the employee.

Other areas that will be covered are:

- » Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (visual appearance or odor of hazardous chemicals when being released, etc.).
- » The physical and health hazards of a chemical in the work area.
- » The measures employees can take to protect themselves from these hazards, including specific procedures that are implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures and personal protective equipment to be used.
- » The Hazard Communication Program includes an explanation of the labeling system and the Material Safety Data Sheet (MSDS). Employees will be shown the location of the Right-To-Know manual, containing the MSDS's, in their work area by their supervisor.
- » Every employee shall have an annual hazardous materials in-service. This is a condition of their employment.

Responsibilities of the Employee

- » to know, learn and practice each job task safely.
- » to use established job safety procedures and use proper safety equipment.
- » immediately report any hazardous condition or overexposure situation to their supervisor.
- » if you or another employee becomes overexposed, seek immediate medical attention from your designated employee health advisor.
- » stay informed on the hazardous materials in your work area and know where to go to get information on those materials. (MSDS's, labels, etc.).

Material Safety Data Sheets (MSDS)

The MSDS is supplied by the manufacturer of the hazardous materials/chemicals, and provides comprehensive information about:

1. manufacturer's name, address, phone number and emergency information.
2. chemical name and synonyms
3. hazardous ingredients, threshold limit value (TLV) and hazardous mixtures with other liquids, solids and gases
4. physical data such as boiling point, appearance, odor, etc.
5. fire and explosion hazard data
6. health hazard data
7. reactivity data
8. spill or leak procedures
9. special protection information
10. special precautions

Each department shall keep MSDS on every hazardous chemical in their department.

Each department shall have a procedure for ensuring that all MSDS's are up-to-date and that one is on file (in the Right-To-Know manual) for the potentially hazardous chemical.

Labels

The labeling on the containers of hazardous materials/chemicals is also important. The labels provide another source of information to the employee such as fire, reactivity and health hazards plus special handling information.

Caution should be taken to not mutilate the label and to make sure it is visible in the storage area.

Classifications of Chemical Hazards



Corrosivity: materials with $\text{Ph} < 2.5$ $\text{Ph} > 12.5$ and having the ability to cause burns to skin, corrode containers, and/or dissolve fibers.

Ignitability: materials posing fire hazard during routine handling.

Reactivity: materials able to explode during, or emit toxic gas, on exposure to atmosphere or water.





Toxicity: materials with the ability to cause illness, death, genetic or reproductive abnormalities, or restrict awareness enough to present a safety danger.

These hazards may affect an exposed employee in an acute or chronic fashion.

In Case of a Spill Or Leak

Depending on the chemical and the amount spilled or leaked, extreme caution should be taken before clean-up is attempted.

The following steps should be taken:

1. **IDENTIFY** the material/chemical by reading the MSDS in the Right-To-Know manual. If there is no danger, proceed with a SAFE clean-up following established safety procedures and safety equipment. If there is a potential hazard then go to the next step.
2. **ISOLATE** the area exposed. Close doors, windows or any other means of entry into the area.
3. **EVACUATE** the exposed area as rapidly as possible. DO NOT play a hero by going back in the area to rescue others or over exposing yourself to rescue others.
4. **DENY ENTRY** to anyone except experienced Hazardous Materials personnel such as the Phoenix Fire Department.

5. **CALL FOR HELP: Dial 9-1-1 and announce a "HAZ MAT SPILL"**. Information in regard to the chemical (from the MSDS) and the location of the spill/leak shall be given to the captain of the first Fire Unit to arrive at the site of the spill.

6. Report the spill of any chemical(s) to your supervisor immediately regardless of the size of the spill and the nature of the chemicals involved.

Don't Under-react or Over-react

Incompatible chemicals are substances which can react violently when they are mixed together. If two incompatible chemicals are mixed, they could explode, burst into flames, or produce lethal or flammable gases.

Precautions

- » Never mix Chemicals you are unfamiliar with.

- » Don't store incompatible materials together. Don't place incompatible chemicals near one another, even for short periods of time.

- » Don't mix oxidizers and flammables. Oxidizers can set organic substances on fire and can supply oxygen to the fire even if there is none present in the surrounding air.

- » Don't mix acids and bases, the resulting reaction may splash or spray corrosive liquids.





- » Don't mix acids with cyanides. The resulting reaction can produce lethal vapors.
- » Never pour water directly into an acid as a violent reaction may occur. Always pour the acid into the water.

Chemical Safety — In Your Hands

Maricopa County is committed to providing all employees with a safe and healthful working environment. Where chemicals are concerned, Maricopa County will provide you with the information you need to use chemicals safely. For the storage, handling, use, and disposal of hazardous chemicals, Maricopa County will supply safety equipment and procedures needed to protect you and company resources.

But in the final analysis, chemical safety is in YOUR hands. Know and abide by the chemical safety rules that apply to your job. Wear the safety equipment Maricopa County provides. Be familiar with the physical and hazards of all chemicals used in your area. By knowing about chemicals, you can help reduce the possibility of accidents ... your health and well-being depend on it.

Possible Multiple Hazards of Compressed Gas:

1. BLEVE—boiling liquid expanding vapor explosion
2. Combustion explosion
3. Asphyxiation
4. Toxicity or corrosiveness
5. Frostbite
6. Reactivity



Possible Multiple Hazards of Flammable and Combustible Liquids:

1. Fire
2. BLEVE—boiling liquid expanding vapor explosion
3. Combustion explosion
4. Toxicity or corrosiveness
5. Reactivity (may react with other substances)
6. Contaminate water supply



Possible Multiple Hazards of Flammable Solids:



1. Ignite easily and burn explosively
2. Air reactive
3. Water reactive
4. Spontaneously combustible
5. Toxicity and corrosiveness

Possible Multiple Hazards of Explosives:

1. Blast overpressure and shock waves
2. Scattering fragments
3. Additional fires
4. Sensitive to heat, shock, friction



Possible Multiple Hazards of Oxidizers:



1. Supply oxygen
2. Sensitive to heat, shock, friction
3. React with organic matter spontaneously
4. Form ignitable mixture

Possible Multiple Hazards of Organic Peroxides:

1. Highly flammable
2. Sensitive to heat, shock, friction
3. Release heat
4. Toxic
5. S.A.D.T. — self accelerating decomposition temperature



Possible Multiple Hazards of Radioactive Materials



1. Health Effects
2. Contamination — smoke, steam, water runoff

Possible Multiple Hazards of Poisonous and Irritating Materials:

1. Inhalation, absorption, ingestion
2. Container rupture
3. Contamination of water
4. Flammability



Possible Multiple Hazards of Corrosive Materials:



1. Contact or inhalation destroys tissue
2. Violent ruptures
3. Oxidizers
4. Splatter in contact with water
5. Toxic or thermally unstable

Possible Multiple Hazards of Dangerous Placards:

1. Mixed loads
2. Large amounts shipped together
3. Possibility of several hazards together



Possible Multiple Hazards of an Etiologic Agent:



1. Inhalation, absorption, ingestion
2. Contaminate environment

Notice to All Employees

Access to Material Safety Data Sheets

In accordance with Arizona Law, the Hazard Communication Standard (ARS 23-410 Title 41, Chapter 6; CFR 1910:1200 Subpart Z): you and your physician have the right to see and receive copies of:

Material Safety Data Sheets for substances used in the work place that are contained in the OSHA 29 CFR 1910, Subpart Z, Toxic and Hazardous Substances list and ACGIH, NTP and IARC lists.

Material Safety Data Sheets are available at:

From: _____

Copies of the Arizona Occupation Safety & Health Act — Hazardous Communications Standard 1910.1200 and the list of Hazardous Substances are available from Hazardous Materials Coordinator or Safety and Training Officer:

Name: _____

Phone: _____

Note: No employee may be discharged or discriminated against in any way for exercising the rights afforded them under the Hazardous Communication Standard of the State of Arizona.

*Prepared by Environmental Risk Assessment and
the Maricopa County Hazardous Materials Management Committee.*

**MARICOPA COUNTY
Local Emergency Planning Committee**

**TO THE CITIZENS OF
MARICOPA COUNTY:**

The good things that chemicals bring to our lives have become indispensable to us. Although extremely rare, there always remains a slim chance that a chemical emergency will occur in our community despite the extraordinary precautions that have been taken. With the public safety in mind, the Maricopa County Local Emergency Planning Committee established under Federal and State Laws, is addressing the potential of a chemical release.

This brochure will inform you of some precautions that you can take to lessen the chance of serious injury should a release occur.

**WHAT ARE THE ACTIONS
YOU MIGHT NEED TO TAKE?**

In case of a hazardous material emergency, you might be asked to take one of three actions: **Protect Your Breathing, Shelter In Place or Evacuate.** They are described in the following pages of this brochure. Be sure you are clear about them. If you have neighbors who are hard of hearing, do not see well or need additional assistance, please help them. Be sure they know what they are supposed to do in an emergency

**TUNE TO YOUR LOCAL EMERGENCY
BROADCASTING STATION
KTAR 620 AM**

**WHAT IF YOU ARE TOLD TO
PROTECT YOUR BREATHING?**

- Cover your nose and mouth with a damp cloth to protect your breathing. Fold the cloth over several times.
- Close the windows and doors if you are in a building or car.
- Turn off heating, cooling or ventilation systems.

**WHAT IF YOU ARE TOLD TO
SHELTER IN PLACE?**

You should protect yourself inside your house or some other building. This is a good action to take if there is a short release or small amount of hazardous material in the air. If your children are in school, they will be protected by school officials. Take these steps to protect yourself:

- Go inside and stay there, until your radio or TV announces you can leave safely. This is most likely to be no more than a few hours, rather than a day or more.
- Close all doors and windows.
- Turn off heating, cooling or ventilation systems.
- Do not use fireplaces. Put out the fire and close the dampers.
- Listen to your local radio or TV stations for further instructions.

**WHAT IF YOU ARE TOLD TO
EVACUATE?**

You should move to the place designated by public officials. Follow these steps to get ready for the trip:

- Stay as calm as you can.
- Gather and pack only what you and your family will need the most. Try to include these items:
 1. This brochure.
 2. Extra clothing.
 3. Eyeglasses, dentures, prescription drugs, other important medicines and a first aid kit.
 4. Baby supplies.
 5. Portable radio and flashlight.
 6. Checkbook and credit cards.
 7. Driver's license or identification.
- Remember as you leave to do the following:
 1. Turn off the lights, your household appliances, and heating, cooling or ventilation systems.
 2. Leave your refrigerator/freezer on.
 3. Lock your house.
- **DO NOT go to your children's school to pick them up.** That could delay their move to a safer place. School officials will take special care of your children.
- **DO NOT try to call your children's school.** If there is an emergency, the phone lines will be needed for official business.
- **DO NOT listen to rumors.** Turn on your radio or TV for up-to-date information during an emergency.

- Use only one vehicle for your family. If you have room, please check to see if any neighbors need a ride.
- Keep your car windows and air vents closed. Listen to your local radio stations for reports about your route and other information.
- Drive safely, since traffic will be heavy. Law officers along your route will help with the traffic.
- Do not worry about the property you have left:

Law officers will protect it.

National Guard troops will be called if more help is needed.

Roadblocks will keep people out of the area you have left.

- If you need a ride, try to go with a neighbor, friend or relative.
- If the children have to leave their schools for a safer place, they will be the first to move. Their teachers and other adults will take them to a designated place. You will also be told by radio or TV where to pick up your children.

FOR FURTHER INFORMATION CONTACT

Maricopa County Local Emergency
Planning Committee/
Maricopa County Department of
Emergency Management
(602) 273-1411

WHAT SHOULD YOU DO IF YOU KNOW THERE IS A RELEASE AND IT'S COMING TOWARD YOU?

You should be prepared to get yourself and your family out of the area if directed to do so by the local authorities -- the police or fire department. You should also be prepared to protect yourself wherever you are if evacuation is not possible or necessary.

Studies have shown that even poorly sealed buildings give some protection from a serious amount of gas entering the building. Those results would indicate that if you are outside, you should go in your house or nearby public building or get in your automobile. Once inside, close off all outside ventilation, such as windows or the air conditioner. Stay inside and wait for the cloud to pass.

If you do feel the gas entering the building and you are in danger, a wet cloth or towel over your nose and mouth will act as a filter and offer some protection.

In any event, staying inside is safer than trying to outrun a release.

If you are outside and cannot possibly get inside, move crosswind (in a direction so the wind is blowing from your left to right or vice versa, but not into your face or from behind). This offers the best advantage for getting out of the path of the release.

In either case, remain calm and wait until you receive additional instructions before taking any further action.

TO REPORT A HAZARDOUS
MATERIALS INCIDENT, CALL
911

WHAT TO DO IN CASE OF A CHEMICAL EMERGENCY

MARICOPA COUNTY
LOCAL EMERGENCY PLANNING
COMMITTEE

(602) 273-1411
(24hrs)