INTRODUCTION

The Federal and State Governments, through OSHA, requires that every employer have a written program for worker safety. This program called the Hazard Communication Act mandates that each employer shall have a Hazard Communication Program that is designed to communicate with employees and other people, as needed, the various chemicals in the workplace. The main components of a Hazard Communication Program are:

1. A written program to let all people that work in the facility know the hazards and potential hazards of the chemicals that are used in the workplace.

2. Employee training such as this and other training that you have had and will receive.

3. Written records that provide a method for maintaining a history of any exposures to hazardous substances, and a legally specified time period for storing these records.

Many chemicals pose a hazard in the work environment. Some hazards are health hazards, others are fire, explosive, or anything that might injure or kill an employee. All of us that work for this company are employees. The chemicals that we use in the assisted living industry are generally not as hazardous as you will find in manufacturing, construction, or other traditional industries. Nonetheless, it is important that we are all aware of the potential hazards that might exist.

The procedures that we will talk about apply to all operations that MAY expose employees to hazardous substances as a result of normal work conditions or as the result of a reasonably foreseeable emergency.

Hazardous substances are materials or mixtures that contain ingredients that create a physical, safety, or a health hazard. Some of these are
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defined by law as hazardous substances. Usually these are chemicals that have been proven to be dangerous by scientific studies. Many chemicals that we encounter are chemicals that are considered less dangerous but could, in sufficient quantities or under the wrong conditions, be injurious to us. Therefore any chemical in the workplace should be treated as if there was a danger. The only way to know if a chemical is dangerous is to read the Material Safety Data Sheet.

Thus, any situation arising from work conditions where an employee MAY ingest, inhale, absorb, or otherwise come in contact with a hazardous substance shall be deemed a potential exposure.

HAZARDOUS SUBSTANCES USED IN THE WORKPLACE

Each facility manager and assistant manager shall maintain a list of all the hazardous substances to which employees may be exposed. The list shall use the same name as appears on the MSDS for those substances. A copy of the list will be kept in each MSDS book.

LABELS

When hazardous substances are received, the containers shall be examined to determine that they are labeled to provide employees with the following information:

1. The identity of any hazardous substances that they contain.

2. Appropriate warnings of the physical and health hazards associated with those substances and the basic effects of exposure.

3. The name of the manufacturer

4. Recommended Personal Protective Equipment (PPE) to use

When hazardous substances are transferred into secondary containers, the
secondary containers shall be labeled. A secondary container is any container that the hazardous substance was not shipped in. For instance, pouring a “window cleaner” from a five gallon jug into a spray bottle is considered putting it into a secondary container. Secondary containers must be labeled with the:

1. Identity of any hazardous substances that they contain.
2. Appropriate warnings of the physical and health hazards associated with those substances and the basic effects of exposure.
3. The name of the manufacturer.
4. Recommended Personal Protective Equipment (PPE) to use.

If we create our own secondary label we must include both the identity of the substance and the appropriate warnings on the label.

If an employee cannot identify what is in a bottle they should notify the manager or assistant manager and attempt to match the substance with an MSDS. Never attempt to identify the product by sniffing, touching, or tasting it. The contents of the container may have been brought from someone’s home and may indeed be dangerous. If an OSHA inspector were to see you sniffing, touching, or tasting a chemical to identify it, he could give you an automatic fine in addition to the fine for having a container that is improperly labeled. Instead, locate the section of the MSDS that lists the physical and chemical data. This section will frequently list the descriptive characteristics of the product. If they can identify the product they should relabel it with the appropriate information. If the product cannot be identified with certainty, place a warning tag on it and store it in a safe place where it will not be used. Then call our chemical distributor’s local representative to advise or assist with the proper disposal techniques.

As part of our OSHA compliance program, each management team will
periodically inspect the labels on containers of hazardous substances. If the label is worn off, damaged, or in need of repair they will obtain a new bottle. Labels that are not readable, or not legible, or that have missing information will be destroyed and new bottles or containers will be ordered.

MATERIAL SAFETY DATA SHEETS

Material Safety Data Sheets (MSDS) are documents that supply specific and detailed information about a particular hazardous substance or mixture. Each facility management team will maintain an MSDS for each hazardous substance that employees **MAY** be exposed to. The MSDS’s must be provided by the manufacturer or seller of the hazardous substance. If a shipment of a chemical or chemicals is received you should:

1. Read the shipping container label to identify the contents and the hazards involved and any precautions to take.

2. Open the container and verify that the contents are indeed what the label described.

3. Look for an MSDS sheet(s). If there is not one present, contact the chemical distributor or the chemical manufacturer to obtain one for each chemical in the shipment that does not have one.

4. Compare the date the MSDS was prepared with the one that you have on file in your MSDS book. If the date is not the same, make sure the one with the most current date is in the file, remove the old copy from your MSDS files and insert the new copy in **all** of the MSDS files within the facility. Notify the management team of any changes in the MSDS so that they can provide training to the staff from the updated MSDS.

5. Store the chemicals in the proper place and under the proper conditions as specified in the MSDS.
6. Remember proper lifting techniques, and always ask for help if you need it. You are an important and valuable part of the facility team; we do not want to see you hurt.

When you handle any chemicals you should be aware of some simple terminology that you will find on some labels and on MSDS sheets:

1. **Flammable**:
   - **Liquids**: Flammable liquids have a flashpoint below 100 degrees F. Flashpoint means the minimum temperature at which a liquid gives off a vapor in sufficient concentration to ignite.
   - **Gases**: Flammable gases ignite at less than 13% air or whose upper flammability limit is more than 12% of its lower limit.
   - **Aerosols**: Flammable aerosols yield a flame projection exceeding 18 inches at full valve opening, or a flashback at any degree of valve closing.
   - **Solids**: Flammable solids (other than a blasting agent or explosive) are liable to cause fire through friction, absorption of moisture, spontaneous chemical change, or retained heat, or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious hazard. It ignites and burns with a self-sustained flame at a rate greater than one-tenth of an inch per second along its major access.

2. **Corrosive**: Liquid or solid that causes visible destruction or irreversible alterations in human skin tissue at the site of contact.
   - **Acid**: Any compound that can react with a base to form a salt. PH < 7 (corrosive = 1, 2, 3)
   - **Base**: Any substance that removes hydrogen ions from an acid and combines with it in a chemical reaction. PH; > 7 (corrosive 11 - 14)

3. **Reactive**: This refers to a chemical that reacts with materials or
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- Conditions: Some chemicals will become unstable if mixed with air, water, heat, or other materials.

4. **Incompatibility**: This is a list of materials or conditions that cause the chemical to burn, explode, or release dangerous gases.

5. **Instability**: This lists the environmental conditions, such as heat or direct sunlight, that cause a dangerous reaction with the chemical.

6. **Poison**: A poison is a chemical that will cause illness or death.

7. **Combustible**: Combustible material will ignite at 100 degrees or above.

One of the most important components of a hazardous communication program is the MSDS file. There should be several of these spread throughout the facility. There should be an MSDS file in several central locations throughout the facility where chemicals are stored. Your facility should have an MSDS file in the:

1. Housekeeping Department
2. Maintenance Department
3. Dietary Department
4. The Wellness Center
5. The front desk area

and any other place that chemicals are routinely stored or used. In the above list of MSDS locations the housekeeping, maintenance, and dietary departments are frequently locked during certain hours. When an MSDS file is kept at the front desk it will always be accessible to **anyone** who needs it twenty-four hours a day. By maintaining an MSDS file in the

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wellness center our medically certified staff will be able to answer any questions in an emergency. The facility manager should also maintain a master file in the manager’s office. This master file would provide a back-up if one of the other files would be lost or destroyed by accident.

**Chemical Spills**

Many of the chemicals that we use in our facilities are not dangerous, *if used as directed by the manufacturer*. However, there are times when special chemicals are purchased for tasks that are not done on a daily basis, such as cleaning concrete, doing lawn work, or spraying for insects on the outside perimeter of the building. Chemical spills can be dangerous. Do not assume that you know what a chemical is, or that you “know” how to clean up a spill. Instead, if there is a chemical spill you should:

1. Remove anything that could cause the materials to ignite and then warn others.

2. Inform your supervisor.

3. Leave the area immediately if you feel nauseous, if parts of your body feel irritated, if you feel sick, or if there is any reason that you do not feel safe and normal.

4. Locate the MSDS for that product.

5. Read the section on Precautions and Spills.

6. Follow the instructions listed there. Remember to use the proper Personal Protective Equipment (PPE). If you or your supervisor still have questions or concerns read the MSDS section that lists the contact parties and call them if necessary to gain further information.

It is important to remember some of the more common symptoms of exposure to a hazardous material are:
1. Eye irritation,

2. Dizziness,

3. Headache,

4. Aggravation of an existing condition.

These are not all of the symptoms that might be encountered. You may experience different symptoms than these. If you have any concerns regarding an exposure to a chemical or hazardous substance report it to your supervisor immediately.

The best way to prevent an accidental exposure to any hazardous material is to:

1. Know the material that you are handling.

2. Use proper Personal Protective Equipment (PPE) at all times.

3. Always follow proper clean up procedures. This is true during a chemical spill. It is also true during normal day-to-day operations. Whenever you use a chemical always follow the correct procedures for handling, storage, and usage.

**Personal Protective Equipment**

Personal Protective Equipment (PPE) is designed to protect you from the harmful effects of workplace chemicals. The main reason that PPE fails to protect employees is that employees fail to use PPE. It is the corporate policy that any employee who should be using PPE and does not use it is in violation of the corporate safety rules.

One of the reasons that employees do not use PPE is that many of them do not know what it is. PPE are common items that we all use on a daily basis. Things like rubber gloves, latex gloves, goggles, and rubber boots.
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PPE can also be more uncommon items such as respirators, face shields, protective aprons, disposable slip over boots, and special gloves that help protect our hands when we are working with automatic cutting tools. PPE is anything that is recognized as providing significant protection to a worker from a safety, chemical, biological, or radiological hazard. In the assisted living industry, PPE usually consists of items that are fairly common and not too exotic.

Another reason that some employees don’t use PPE is because they are in a hurry. Some people believe that when they are having a busy day they should cut a few corners and save some time. They will, for instance, assume that a resident doesn’t have hepatitis, and the employee will not put on latex gloves. They think that they are being a better employee by saving time. They are not being a good employee. In fact, they could receive disciplinary action for failing to use the proper PPE. PPE can also be a barrier to infectious diseases. Most of our residents are not carrying a communicable disease. However, it is probable that one or of our residents has been, or will be, a carrier of a disease, without even realizing it.

PPE should be inspected every time before it is used. This only takes a few moments and it could save your life. PPE should be inspected for proper fit. If the PPE is too small to adequately protect you or so large that it creates a safety hazard it should not be used. If the PPE has rips, tears, or holes in it, it should not be used. In fact, most PPE should either be discarded or fixed by a professional if it is ripped, torn, or has holes. Some PPE are actually devices and not clothing. Items like respirators, fall protection devices, and other types of safety equipment are designed to protect you if they are in proper working order. When they aren’t they can be very dangerous. All PPE should be inspected for damaged parts before every use, or, in some cases, if it drops, falls, or if there is some cause for concern on your part. Any PPE that you find damaged, broken, ripped, torn, or that you suspect is not functioning properly should be inspected, tagged, and reported to management.

Mixing Chemicals
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Our company has a contract with a chemical supply company to provide our facilities with chemicals that are premixed. The chemicals that we receive from our chemical supplier are in a concentrated form. They are extremely strong and should not be used undiluted. The wall mounted dispensers that are located throughout this facility are connected to the facility’s water supply. Once the bottle of concentrate is placed in the dispenser the chemical will come out diluted to the proper strength for everyday use.

It is our company’s policy that employees should not bring in unauthorized chemicals. It is also our policy that employees should not mix chemicals. The only exception to this policy is for non-standard chemicals that the facility’s management team has specifically authorized in writing to be in the facility. For instance, chemicals that are needed for lawn maintenance can only be used if they are authorized in writing. The purchase order that a manager or assistant manager signs authorizing the purchase of a particular chemical is sufficient. Once the chemical is brought into the facility it must be labeled properly and have an MSDS. In situations such as this employees are authorized to mix chemicals according to the manufacturer’s directions only. However, before they mix them they must:

1. Read the MSDS.
2. Read the instructions and any accompanying literature.
3. Use the proper PPE when mixing or using the chemical.
4. Understand the controls and protection necessary for the chemical.
5. Know what to do in case of an emergency or a spill.
6. Follow all directions for mixing and using the chemical.
7. Transfer only the amount that you need to a secondary container and do it in small amounts to avoid spills, splashes,
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and overflows.

7. Mark all secondary containers.

8. Make copies of the MSDS for the files and place the MSDS in all of the appropriate locations.

Though this may sound cumbersome it is not. These are things that you should be doing to protect yourself and your co-workers from the potential dangers that can happen whenever you mix or use chemicals.

When you do mix chemicals it is important to be careful. Wear the right PPE, such as rubber gloves, protective aprons, and eye goggles or a face shield. Avoid splashes or spills. Always mix chemicals in a well ventilated area. If the product is flammable make sure that the containers are grounded. This can best be done by placing the containers on the floor or ground. Always mix chemicals in a location that will afford you the opportunity to quickly wash the chemicals off or to flush your eyes if need be. If there is a spill, follow the directions specified in the MSDS.

Health Hazard Labeling Systems

There are different approved methods for labeling health hazards from chemicals. Some of the most common follow>

The Health Material Identification System (HMIS)

Some manufacturers of chemical products have developed and started to use a simple system that readily identifies the health hazard associated with a product. On many labels and on many MSDS sheets you will find a grid that will help you quickly assess the potential for hazards in four key areas.

<table>
<thead>
<tr>
<th>HMIS</th>
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<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>1</td>
<td>Health</td>
</tr>
<tr>
<td>0</td>
<td>Flammability</td>
</tr>
<tr>
<td>0</td>
<td>Reactivity</td>
</tr>
<tr>
<td></td>
<td>Special</td>
</tr>
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</table>

The hazard rating is:
- 4 = Very High
- 3 = High
- 2 = Moderate
- 1 = Slight
- 0 = Insignificant

By looking at this rating system you will immediately be able to tell how hazardous this chemical is in these four key areas. This is not designed to give people an excuse to not read an MSDS. Rather, it should be used as quick reference guide in a potential emergency or as a brief refresher if you cannot remember the potential dangers of a particular chemical. Though this appears on both the label and the MSDS, you should read the label and the MSDS to fully know the product that you are working with, the hazards involved, and how to respond to any emergencies.

Many of us go through life not paying attention and taking chances. You have no right to do that with someone else’s life. Read the labels and the MSDS’s for the products that are in your facility. Then you will be able to work safely and help others in a crisis.
The NFPA system has four diamonds.

The health diamond rates hazards as:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>0</td>
<td>Normal Material</td>
</tr>
<tr>
<td>1</td>
<td>Slightly Hazardous</td>
</tr>
<tr>
<td>2</td>
<td>Hazardous</td>
</tr>
<tr>
<td>3</td>
<td>Extreme Danger</td>
</tr>
<tr>
<td>4</td>
<td>Deadly</td>
</tr>
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The flammability diamond rates hazards as:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>0</td>
<td>Will not burn</td>
</tr>
<tr>
<td>1</td>
<td>Above 200°F F.</td>
</tr>
<tr>
<td>2</td>
<td>Above 100°F F. not exceeding 230°F F.</td>
</tr>
<tr>
<td>3</td>
<td>Below 100°F F.</td>
</tr>
<tr>
<td>4</td>
<td>Below 75°F F.</td>
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The reactivity diamond rates hazards as:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Stable</td>
</tr>
<tr>
<td>1</td>
<td>Unstable if heated</td>
</tr>
<tr>
<td>2</td>
<td>Violent chemical reaction</td>
</tr>
<tr>
<td>3</td>
<td>Shock &amp; heat may detonate</td>
</tr>
<tr>
<td>4</td>
<td>May detonate</td>
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The reactivity diamond uses the following ratings:

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
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<tbody>
<tr>
<td>0</td>
<td>Stable</td>
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</tr>
<tr>
<td>4</td>
<td>May detonate</td>
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The special hazard diamond warns us of:

- Oxidizers
- Acids
- Corrosives
- Use No Water (On these materials)
- Radiation Hazards

**Target Organs Identification System**

OSHA also requires that chemicals hazard labels that target organs be identified. A system like the following may be used to identify the organ most likely to be affected by the chemical within the package.

All of these systems are in place to protect employees from the effects of chemicals in the workplace. The most important thing that you can do to protect yourself is to read labels and follow directions.