CHEMICALS PPG INTEROFFICE / LAKE CHARLES

TO SPU Leaders

FROM Ron Williams

DATE October 4, 1985

SUBJECT Hazard Communication Training

As you are probably aware, OSHA produced a "Worker Right-to-Know" or Hazard Communication standard (29 CFR 1910.1200) in late 1983. PPG Chemicals Group management has stated their intention to be in full compliance with this new standard by its May 25, 1986 effective date.

Many of the provisions of this standard will impact upon your work activities. Lake Charles' Hazard Communication implementation plan will provide you and y ur employees with the necessary information and materials to achieve compliance. You will receive this during the first quarter of 1986.

A major compliance activity will entail the training of most PPG employees. Th only exception of this will be office/clerical personnel who rarely visit production or maintenance areas. This training must be completed for all effected individuals prior to the May 25, 1986 deadline.

The training will consist of two parts. Part I - "General Hazards Information" - will be conducted by the Safety Department. These sessions will last about two hours, with your labor expense being covered by a special charge number. This training will be in addition to your regularly scheduled safety meetings.

Part II - "Unit Hazards" (specific for your area) will be conducted by yourselves, utilizing guidelines which I will supply, after the General Hazards training has been completed for your group. While the schedule is not finalized for Part I training, you should be safe in establishing April or May (your option) as the month to conduct Part II.

This is to inform you in advance of these requirements so that you may plan your 1986 training activities accordingly. As soon as schedules for Part I training become available, they will be sent to you.

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cc: Bob Jacobi
Charles Winstead
Clyde Dennis
Greg McDermitt
Gerry Jordan
Ron Kaspar
Dave Mullett
Andy Plauche
Jon Shepherd

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| | Tuesday 2/4 | Thursday 2/6 | Tuesday 2/11 | Thursday 2/13 |
|---|---|---|---|---|
| 7:30-9:30 | | | | E/F |
| 1:00-3:00 | | | B/C | E/F |

| | 2/18 | 2/20 | 2/25 | 2/27 |
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| | 3/4 | 3/6 | 3/11 | 3/13 |
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| 1:00-3:00 | B/C | B/C | B/C | E/F |

| | 3/18 | 3/20 | 3/25 | 3/27 |
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# PPG HAZARD COMMUNICATION INSTRUCTION

(notes)

This program segment is provided to give you with supplemental information needed to comply with OSHA's Hazard Communication standard (1910.1200) while working at PPG. Your employer may want to provide you with additional training to help you cope with specific hazards associated with your skill, trade or occupation.

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PPG Industries,located in Lake Charles, Louisiana, is involved with the primary purpose of manufacturing chemicals. There is also a wide variety of chemicals used as feedstock to these manufacturing processes and in the maintenance activities undertaken in the plant.

There are many hazards inherent to using and producing these chemicals. However, taking the proper precautions when dealing with such chemicals, the associated hazards involved can be minimized. Nonetheless, employees have the right to receive information concerning the hazards associated with chemicals found in the workplace. This is a requirement set forth by PPG and by state and federal laws.

This task is accomplished by means of the Hazard Communication Program enacted as a primary plant policy in providing a safe working environment.

The Hazard Communication Program has the ultimate purpose of insuring that chemicals are evaluated to determine their hazards and to provide a means by which this information can be made available. These hazards of which we speak can be classified into two basic categories: physical and health hazards. This classification gives us a means by which we can answer the questions as to what constitutes a hazard, or what are the properties of the chemical that make it capable of being harmful.



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(notes) Physical hazards are those that exhibit evidence of one ore more of the following characteristics:

Flammability: A chemical, when in a liquid state, capable of giving off enough vapors to support combustion at 100 degrees Fahrenheit or higher.

Pyroploric: A chemical that will ignite spontaneously in air at a temperature of 13 degree Fahrenheit or below.

Oxidizer: A chemical, other than a blasting agent or explosive, that ignites or promotes combustion in other materials, causing fire either by itself or through the release of oxygen or other gases.

Explosive: A chemical that causes a sudden, almost instantaneous release or pressure, gas, and heat when subjected to sudden shock, pressure or high temperature.

Unstable: A chemical tending toward decomposition or other unwanted chemical change during normal handling or storage.

Combustible: Chemicals generally having a flash point of 100 degrees Fahrenheit or higher but below 200 degrees Fahrenheit.

Compressed Gas: A gas or mixture of gases having, in a container, an absolute pressure exceeding 40 psi at 70 degrees Fahrenheit or 104 psi at 130 degrees Fahrenheit. This can also be a liquid having a vapor pressure exceeding 104 psi at 100 degrees Fahrenheit.

Water Reactive: A chemical that reacts with water to release a gas that is classified as one of the above hazards.

Chemicals can also be classified in terms of the effects that chemicals can impose upon an employee's health. A list of health hazards may include one or more of the following:

Carcinogen: Chemicals that have the ability to produce cancer causing symptoms to those that are exposed.



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(notes)

Reproductive Toxin: Chemicals that affect either male or female reproductive systems and may impair their ability to reproduce.

Corrosive: A chemical that causes visible destruction or irreversible inflammatory effect on living tissue by chemical action at the site of contact.

Irritant: A chemical which is not corrosive, but causes irreversible inflammatory effect on living tissue by chemical action at the site of contact.

Sensitizer: A chemical that causes a substantial proportion of exposed people or animals to develop an allergic reaction in normal tissue after repeated exposure.

Hepatoxin: A chemical that causes injury to the liver.

Nephrotoxin: A chemical that causes injury to the kidneys.

Neurotoxin: A chemical that affects nerve cells and may produce emotional or behavioral abnormalities.

Toxic: Any chemical that can cause injury to the human body, or which is suspected as being able to cause diseases or injury under some conditions. This category also includes chemicals or agents that damage the lungs, skin, eyes, or mucus membranes. Even chemicals that are suspected as having one or more of these qualities, are assumed to be a potential health hazard.

Taking the health hazard category and looking at it further, one should become familiar with two terms in a chemical evaluation. These are acute and chronic exposures to hazardous chemicals. Acute exposure involves receiving an adverse affect from a chemical which has severe symptoms that develop rapidly.

The second, chronic exposure, is repeated exposure over extended periods of time with the effects of this exposure not immediately noticeable. The classification of health hazards into chronic and acute affects is important in order to properly assess the hazards associated with various chemicals.



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(notes) Now that we have a general idea of the potential hazards associat d with various chemicals, we need to find out what are the various ways in which we could be affected. Chemicals can get into the body by three routes of entry. The terms used to describe these are inhalation - by breathing, absorption through the skin; or ingestion by swallowing.

Inhalation is the most common route of entry to the body. This is simply when a chemical is breathed into the body. However, this route of entry can cause serious problems. For one, chemical vapors, dusts or fumes could cause lung damage. Secondly, once in the lungs, chemicals can enter the bloodstream, and thus be transported to internal organs. Common sense should tell you that if you smell a chemical, you're probably inhaling it. However, not all chemicals have a distinctive odor or taste.

Absorption is the entry of chemical into your body through the skin. Normally your skin is excellent in keeping chemicals from entering you body. But due to the high toxicity of certain chemicals, exposure by this means can occur.

Ingestion or swallowing of hazardous chemicals is, of course, the least common. This is a situation when it is a good practice not to eat or smoke in areas where chemicals are pres nt. If you snack throughout the day or make use of tobacco, construction workers should be aware of the potential of chemical ingestion.

Keeping in mind that certain chemicals can be potentially hazardous and with each chemical there are distinctive hazards involved, questions may arise about how we go about controlling our exposures to these hazards. This can be done by various means:

Personal Protective Equipment (PPE)
Personal Hygiene
Engineering Controls
Administrative Controls
Labeling
Material Safety Data Sheets (MSDSs)

Personal protective equipment will not remove a chemical exposure. However, if properly worn and maintained, PPE can minimize the risk of exposure to hazardous chemicals. Examples are respirators, Face shields, coveralls, gloves and glasses.



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(notes) Personal Hygiene is one of th easiest ways of controlling exposure to chemical hazards. This involves washing your hands before breaks, or storing cigarettes and other tobacco products where they will not come into contact with chemicals.

Engineering Controls take the form of proper ventilation systems or other mechanical means to cut down the possible exposure of hazardous chemicals. Another example would be the use of an alarm system to indicate high amounts of chemicals to a certain work area.

An administrative control refers to a situation where a construction company decides to use a substitute for a highly hazardous chemical to eliminate the chance of exposure.

The final two methods of hazard control are very important for the successful implementation of the hazard communication program. As stat d, these are labeling of hazardous chemicals and Material Safety Data Sheets.

Labeling, first of all, is one of the most readily available sources of information concerning chemical hazard information, but it is quite often overlooked. With a quick glance, a good container label should give you all the initial information you need to properly handle a specific chemical. Container labels, at a minimum, give the name of the chemical in the container, along with hazard information and handling data.

Thus, if properly read and followed, lab ls are an efficient control measure. That is why at PPG, all containers must have proper labeling affixed. This includes not just PPG chemicals, but chemicals brought into and used by contracted employees within the plant.

As assurance that labeling procedures are accomplished, PPG industries has a back up labeling system in place when necessary for purchased materials and in-plant by-products. PPG's Health and Safety Index label provides hazard information by using a numbering system on categories consisting of health, flammability and reactivity hazard severity using a numbering system of 0 to 4 in terms of severity (0 being low hazard severity and a 4 indicating high hazard severity).



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(notes) The lab ling system will also describe any acute or chronic effects if applicable and recommendations for personal protective equipment use wh re direct contact with th material is expected. These labels can be obtained by contacting the PPG supervisor overseeing your specific construction activities.

Material Safety Data Sheets are a comprehensive means by which hazard information can be obtained for controlling chemical exposures. Material Safety data Sheets or MSDS's are forms put together by the manufacturer for the purpose of communicating information on how to safely handle and use chemicals they produce. As a result, any user such as PPG, must have an MSDS of all potentially hazardous chemicals on file for viewing at any time by plant personnel; this also includes you. Likewise, prior to bringing any hazardous chemical into the Lake Charles plant, all construction companies must submit MSDS's in advance to PPG's purchasing department.

MSDS's may look different, but federal law requires that all MSDS's provide certain categories of information about the chemical substance:

identification
Hazardous Ingredients
Emergency/First Aid Procedures
Fire/Explosion Hazard Data
Spill of Leak Procedures
Physical and Health Hazards
Safe Handling Precautions
Date of Preparation
Manufacturer's Name, Date, and Phone Numb r

(Example)

MSDS information is readily available from various sources. If you feel the need to view MSDS information, contact our supervisor or report to the Field Engineering Building where this information is located in haz comm binders along with a microfiche system. A set of instructions will be available on how to use the system or talk one of the secretaries if you need any assistance. In case of an emergency, MSDS information is also available in all operating units of the plant.



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(notes) Also located in the Haz Comm binder Microfiche system is a tank inv ntory providing information as to th contents of various tanks and vessels throughout the plant, the maximum percentage of chemicals that can be found in that specific tank or vessel and its appropriate MSDS number. Tank inventory information can be found in haz comm binders of the operating unit that "owns" that particular tank or vessel.

As stated earlier, there are a wide variety of chemicals found within the facilities of PPG which one could be exposed if improperly handled or in the event of an emergency. PPG chemicals can be divided into three basic categories in terms of hazard classification. These are:

1. Acid gases
2. Caustics
3. Chlorinated Hydrocarbons

Acid gases are found in areas A,B, and C. This category is made up of chlorine, hydrochloric acid, and sulfuric acids, all of which have various physical characteristics such as high reactivity, especially at high temperatures; and is considered flammable and oxidizer.

These chemicals can also effect the body if inhaled or comes in contact with the eyes or skin. Acute effects of acid gas exposure include irritation of the eyes, nose, and throat, breathing difficulties, and inflammation, burning, and irritation to the skin. Chronic effects include erosion to the teeth, and severe skin irritation.

Caustics, found primarily in plants A and C, consist of sodium hydroxide and sodium carbonate, better known as soda ash. Found in a solid or liquid state, caustics can effect the body if they are inhaled or comes into contact with the eyes or skin. Caustics are strong alkalis and are corrosive to any tissue it comes into contact with. However, caustics are not combustible or highly reactive, physically.

Effects of exposure include irritation to skin, eyes, and to the throat if swallowed. Exposure may also lead to severe burns with scarring, along with possible blindness due to eye exposure.

(notes) Chlorinated hydrocarbons are products found primarily in Area B. This is a category of chemicals consisting of vinyl chloride, perchloroethylene, trichloroethylene, ethylene dichloride, ethyl chloride, and CPC (chloropivaloyl chloride). These chemicals, which can be found in both a liquid or gaseous state, can consist of extremely flammable, toxic, and reactive physical characteristics.

Exposure to small amounts of chlorinated hydrocarbons can result in irritation to the eyes, nose and throat; or cause dizziness, light-headedness and headaches. High exposure can result in slurred speech, mental confusion, abdominal cramps, nausea, unconsciousness, or even coma. Chronic exposure may result in rhythm disorders of the heart, spleen, lung, blood, and nervous system abnormalities; and kidney and liver disease as being considered a potential carcinogen.

First aid procedures for caustics, acid gases and chlorinated hydrocarbons are very similar and include the following:

1. For eye exposure, wash eyes immediately with large amounts of water, lifting the upper and lower lids occasionally. Get medical attention immediately.

2. For inhalation, move the exposed person to fresh air at once. If breathing stops, perform artificial respiration. Keep the exposed person warm and at rest. Get medical attention immediately.

3. For skin exposure, immediately flush the contaminated skin with water. If the chemical penetrates through the clothing, remove the clothing immediately and flush the skin with water. Get medical attention immediately.

4. For ingestion, if the person is conscious, give him large quantities of water to dilute the chemical. Do not induce vomiting. Get medical attention immediately.

Personal protective equipment appropriate for direct contact with any of the three categories of chemicals include the use of impervious clothing, gloves, face shield and/or splash proof goggles, and other protective clothing necessary to prevent exposure.

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(notes) Also under the personal protective equipment cat gory is respiratory protection which is important in the prevention of exposure to these chemicals. The type of respiratory protection will vary depending on the type of job at hand and the type of chemical hazards the worker may be potentially exposed. Specific instruction will be provided with regard to the proper use of required respiratory equipment before beginning the job.

THINGS TO KEEP IN MIND WHEN DEALING WITH HAZARDOUS CHEMICALS IN ORDER TO MAINTAIN EFFECTIVE RIGHT TO KNOW POLICY

1. Treat all unknown chemicals as if they were hazardous.
2. Treat all empty containers as if they were full and maintain appropriate protection.
3. Bags, barrels, drums, bottles and box s are all containers and must contain appropriate labeling information.
4. Replace all worn labels.
5. Read and follow all precautions on labels and MSDS's.
6. Report any chemical incidents or injury to your supervisor immediately!
7. If you have any questions on how to read or interpret an MSDS, feel free to ask.
8. Report any spills or problems to your supervisor immediately!
9. Follow all PPG safety rules and regulations.

Finally, remember that knowledge and understanding is of top importance in protecting yourself against the hazards associated with any chemicals found in the workplace, because in the end, you, yourself, are the single person most responsible for your safety and health.

IT IS YOUR RIGHT TO KNOW!

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