

NOTE: Reading this PDF course book is not a substitute for completing the Self-Paced Online training portion of this course. This PDF course book is a resource that accompanies the online training.



P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 1 - Welcome



Welcome to Course P, *Hazard Communication – Essentials of Workplace Chemical Safety*.

This 60-minute course is part of the Safety Pass training program for the motion picture and television industry.

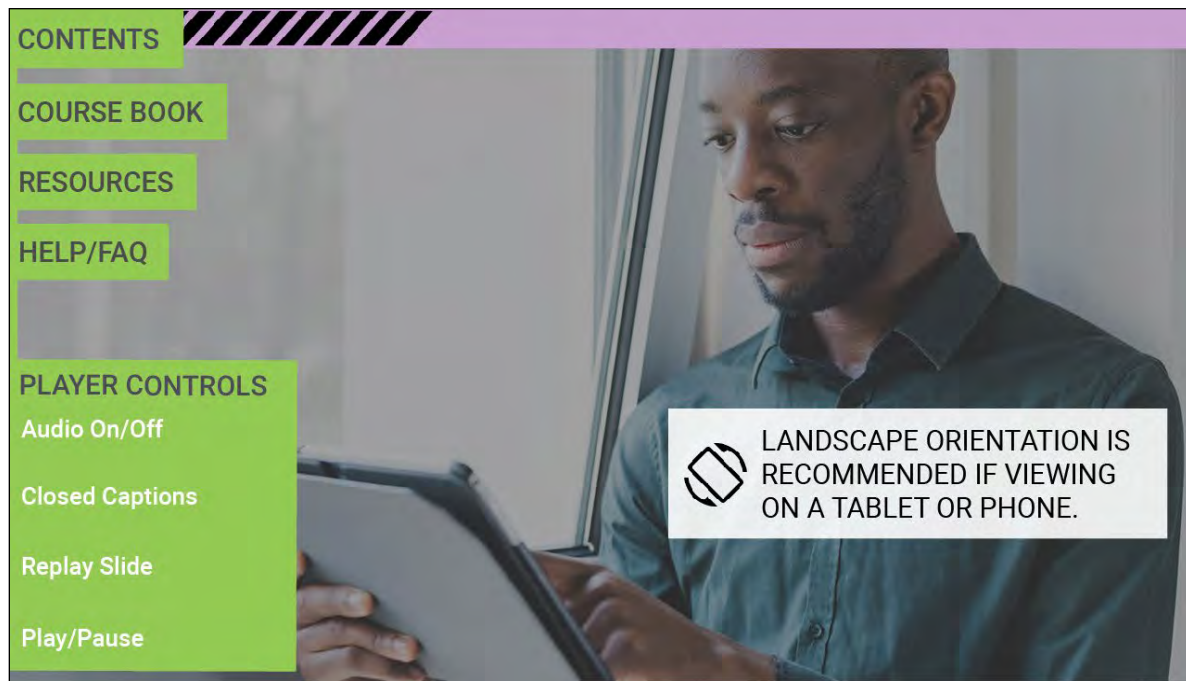
It is presented to you by Contract Services.

At the end of the presentation, there will be a test. You must score at least 70 percent on the test to pass the course.

Click START to begin.

P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 2 - Navigation and Resources



At any time during the presentation, you can use the buttons on the side of the player window to view the Table of Contents, open the course book PDF, link to course references and resources, get technical support or help from an instructor about course content, and control the player.

When you're ready to continue, select the NEXT arrow.

Slide 3 - IIPP

The slide features a purple header with a diagonal line pattern. Below the header, the title "Injury and Illness Prevention Program" is displayed in bold black text. The main content area has a background image of a worker in a hard hat and safety vest. The text on the slide reads: "This course is part of your employer's safety program. In the state of California, this is known as an Injury and Illness Prevention Program (IIPP). The IIPP and Safety Pass training courses are part of your employer's safety program." At the bottom, there are three colored boxes with white text and numbered circles above them: a blue box with "1 It's your personal responsibility.", a green box with "2 It's the law.", and a dark grey box with "3 It's an industry requirement."

Injury and Illness Prevention Program

This course is part of your employer's safety program.

In the state of California, this is known as an Injury and Illness Prevention Program (IIPP).

The IIPP and Safety Pass training courses are part of your employer's safety program.

1
It's your personal responsibility.

2
It's the law.

3
It's an industry requirement.

This course is part of your employer's safety program.

In the state of California, this is known as an Injury and Illness Prevention Program (or IIPP). The IIPP and Safety Pass training courses are part of your employer's safety program.

There are three reasons to get safety training.

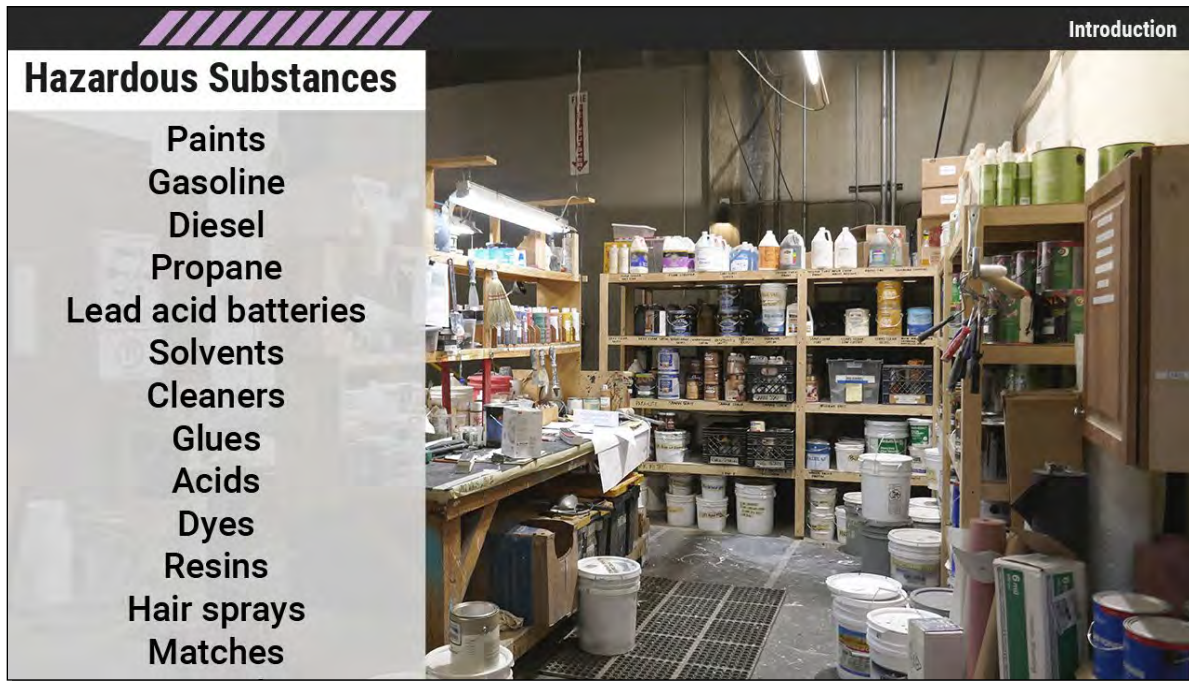
First, you are personally responsible for your safety. You owe it to yourself and your coworkers to avoid accidents and injuries. The way you make a living and your quality of life depend on it.

Second, it is the law. Occupational safety and health standards guarantee the right to a safe workplace and require employers to train their employees in safety.

And third, the industry requires it. This course is part of a cooperative commitment between major motion picture and television studios and industry labor unions to deliver safety training.

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Slide 4 - Hazardous Substances



Many common workplace chemicals and substances, from gasoline to nail polish remover, are classified as hazardous.

A hazardous chemical is one that poses a physical hazard or could harm your health. Physical hazards include chemicals that are flammable or corrosive for example. Health hazards include chemicals that are toxic or could cause long-term health problems like cancer or short-term harm, like skin irritation or dizziness.

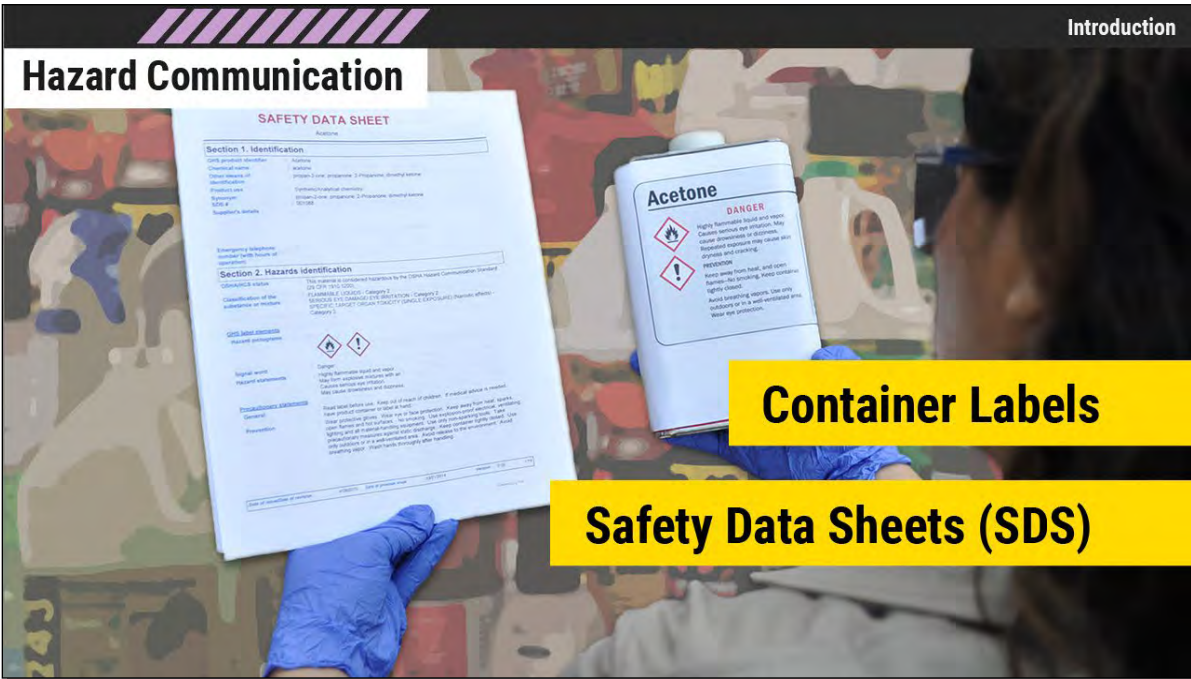
Thinking about the products you use at work, how many items do you use that could pose chemical hazards?

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Slide 5 - Hazard Communication

Introduction

Hazard Communication



Container Labels

Safety Data Sheets (SDS)

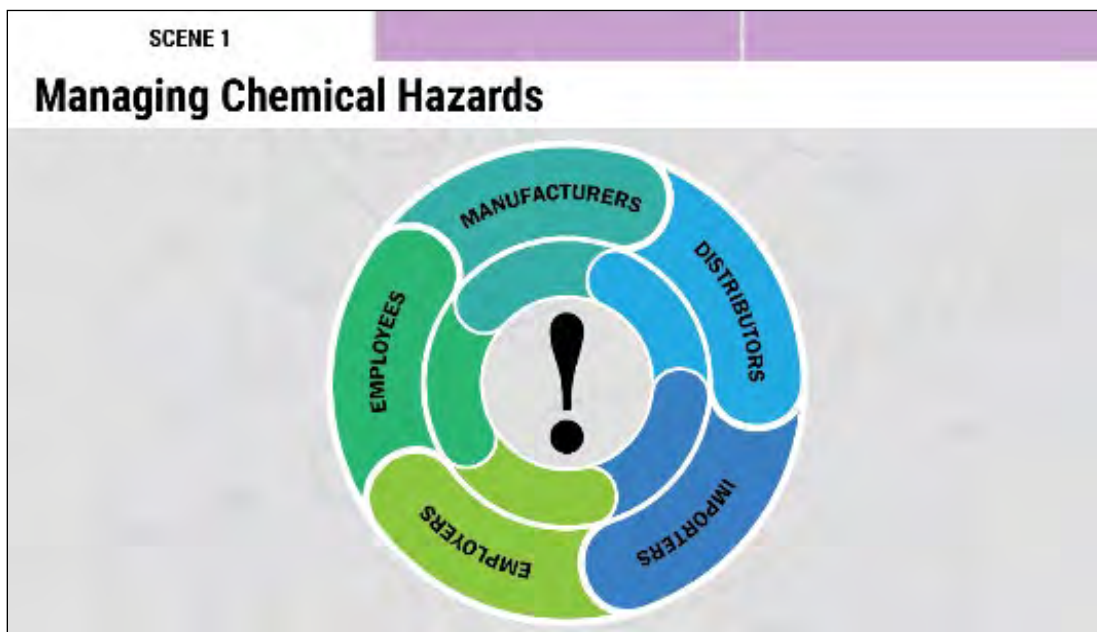
The purpose of this training is to ensure you know where to find safety information about chemicals that you or others may use your work area. Knowing this information will help you avoid harmful exposure, and, in the case of an accident, will help protect employees and emergency responders.

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Slide 6 - Today We'll Cover



The course is divided into three scenes.



Scene One covers the roles of OSHA, employers, and workers in implementing a hazard communication program.

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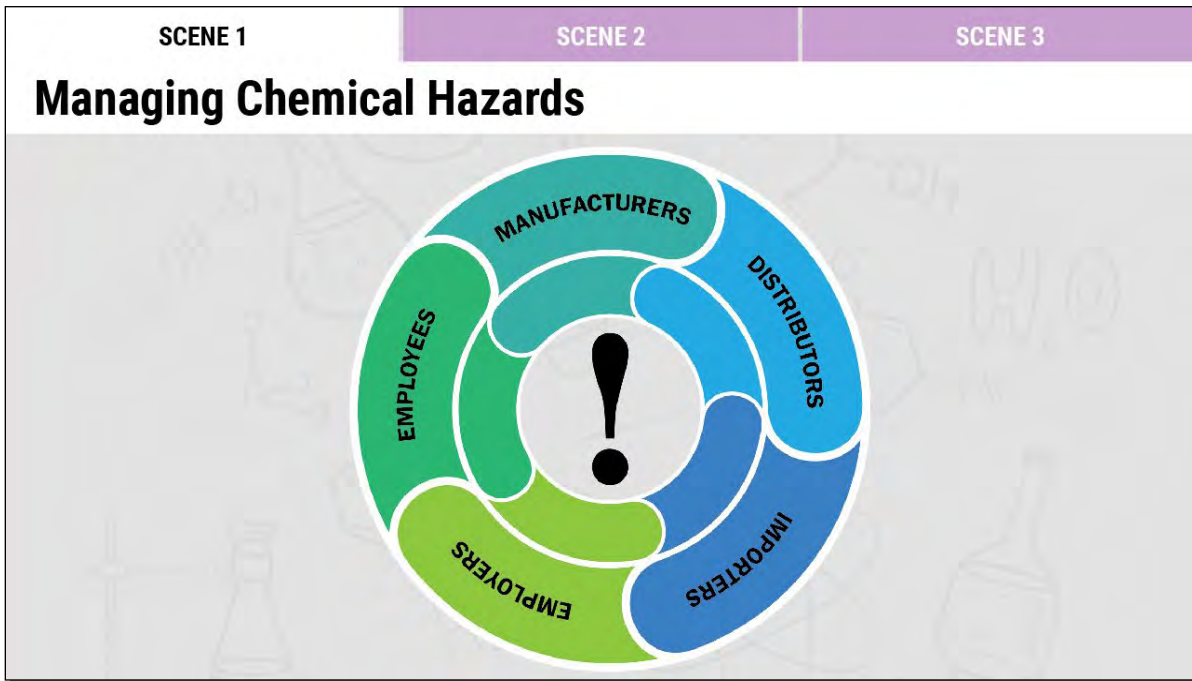
Scene Two describes your first source of information about potential hazards: container labels.



Scene Three describes the wealth of additional information provided by manufacturers in safety data sheets, commonly called SDSs.

Let's get started.

Slide 7 - Scene1 Managing Chemical Hazards



Scene One, Managing Chemical Hazards.

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Slide 8 - Scene1 In This Scene



This scene gives an overview of the system used to communicate hazards of chemicals to you.

Your objectives for this scene are to **understand the responsibilities** of employers and employees for communicating hazards and maintaining safety.

You will learn how the classification system for chemicals helps communicate safety information.

Finally, you should understand how to approach hazards using the hierarchy of controls and be able to put the five control methods in order by effectiveness.

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Slide 9 - OSHA Hazard Communication Standard



The section of OSHA regulations covering this topic is titled "Hazard Communication," commonly called HazCom.

When do HazCom requirements apply? First, they only apply to chemicals and substances identified as hazardous. They apply to all such substances employees may be exposed to under normal conditions of use or in a reasonably foreseeable emergency based on workplace operations.

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Slide 10 - Globally Harmonized System (GHS)



State and Federal OSHA HazCom regulations incorporate the Globally Harmonized System of Classification and Labeling of Chemicals, or GHS for short.



The GHS is a United Nations standard used by participating countries around the world, including the United States.

This course explains the GHS system for labeling and the GHS format for Safety Data Sheets.

Slide 11 - Employer's Hazard Communication Program

Scene 1 Managing Chemical Hazards

Employer's Hazard Communication Program

EMPLOYEE RIGHTS:

- Receive information about hazardous chemicals
- Have physician or collective bargaining agent receive information about hazardous chemicals
- Protection against being fired or discriminated against

As an employee, you have the right to receive information regarding any hazardous chemicals to which you could be exposed. You have the right for a physician or a collective bargaining agent to receive this information as well, and you cannot be fired or discriminated against for exercising these rights. The employer's hazard communication program helps preserve these rights.

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Slide 12 - Employer Responsibilities 1



OSHA requires employers to prepare and implement a written hazard communication program and inform workers of the location and availability of the written program,

Scene 1 Managing Chemical Hazards			
Employer Responsibilities Implement a Written Hazard Communication Program			
Maintain list of chemicals in workplace	Product/Chemical	Location(s)	SDS Revision Date
	Goof-Off Heavy Duty 3%VOC	Electrical Room	2013
	Henry 663 Indoor/Outdoor Carpet Adhesive	Electrical Room	2012
	Hydraulic Oil-Mobilfluid 424 Exxon	Garage	2012
	Hyso Aerosol Surface Disinfectant	Electrical Room/Rest Rooms	2012
	Isopropyl Alcohol	IT Area	2012
	Jasco Premium Paint/Epoxy Remover	Storage Locker #4	2013
	Kem-Tek Algaecide	Storage Locker #4	2012
	Kem-Tek Spa Brominator Tablets	Storage Locker #4	2012
	Klean-Strip Acetone	Storage Locker #4	2012
	Miracle-Grow Plant Food, Scotts	Storage Locker #4	2014
	Motor Oil-2-Cycle Pro Mix	Bay 8	2012
	Motor Oil-Castrol	Training Area	2012
	PCX Carpet Cleaner Klean-Rite	Electrical Room	2012
	Propane (Amerigas)	Training Area	2012

including the list of the hazardous chemicals in the workplace,

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Slide 13 - Employer Responsibilities 2

Scene 1 Managing Chemical Hazards

Employer Responsibilities | Implement a Written Hazard Communication Program

Maintain list of chemicals in workplace

Use approved labeling system

COMPANY NAME

Emergency Phone Number
Address, City, State Postal Code

PRODUCT NAME

DIRECTIONS FOR USE:

CONTENTS:



LOT NUMBER:

FILL WEIGHT:

FILL DATE:

GROSS WEIGHT:

EXPIRATION DATE:



DANGER.
HIGHLY FLAMMABLE LIQUID AND VAPOR.
MAY CAUSE LIVER AND KIDNEY DAMAGE.
Keep away from heat/sparks/open flame. No smoking. Only use non-sparking tools. Use explosion-proof electrical equipment. Take precautionary measures against static discharge. Ground and bond container and receiving equipment. Do not breathe vapors. Wear protective gloves. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
In Case of Fire: Use dry chemical (BC) or Carbon Dioxide (CO2) fire extinguisher to extinguish.
If exposed call Poison Center. If on skin (or hair): Take off immediately any contaminated clothing. Rinse skin with water.
Keep container tightly closed. Store in a cool, well-ventilated place that is locked.
Dispose of in accordance with local, regional, national, international regulations as specified.

the chemical labeling system to be used for containers...


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Slide 14 - Employer Responsibilities 3

Scene 1 Managing Chemical Hazards

Employer Responsibilities | Implement a Written Hazard Communication Program

- Maintain list of chemicals in workplace
- Use approved labeling system
- Make SDSs available to employees



and access Safety Data Sheets. Employers are responsible for keeping the SDSs up to date.

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Slide 15 - Employer Responsibilities 4

Scene 1 Managing Chemical Hazards

Employer Responsibilities | Implement a Written Hazard Communication Program

Maintain list of chemicals in workplace

Use approved labeling system

Make SDSs available to employees

Train employees



Employers are responsible for training employees on the hazards of chemicals in the work area and the measures to protect themselves, including specific work practices, emergency procedures, and personal protective equipment workers should use.

This course is not meant to replace your employer's training. With assistance from Studio Safety departments productions assess hazards, including unusual chemical hazards, to ensure that department heads have any necessary additional training.

If your department uses a chemical that is classified as hazardous, your department head must inform production management to ensure proper steps are taken for everyone's safety.

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Slide 16 - Employer Responsibilities 5

Scene 1 Managing Chemical Hazards

Employer Responsibilities | Implement a Written Hazard Communication Program




Maintain list of chemicals in workplace

Use approved labeling system

Make SDSs available to employees

Train employees

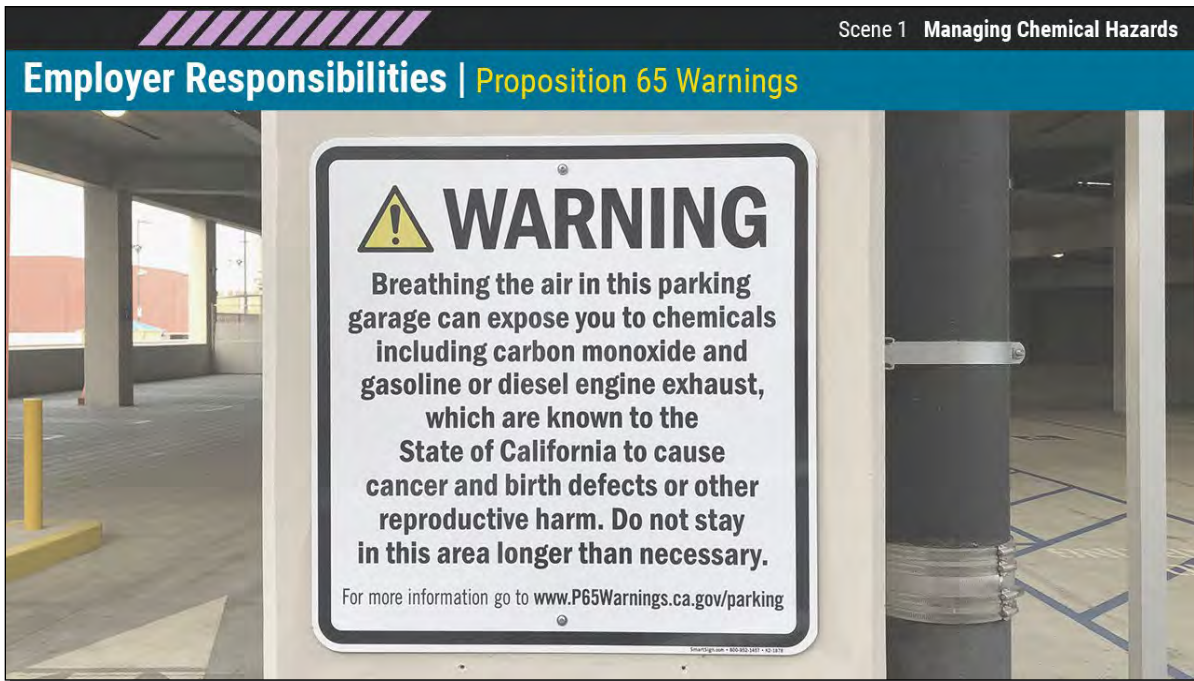
Provide appropriate protective measures



Employers are responsible for providing personal protective equipment (PPE) such as respirators, gloves, and safety goggles to employees when appropriate.

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Slide 17 - Employer Responsibilities 6



In California, another way chemical hazards are communicated is by Proposition 65 placards. Prop 65 regulations require businesses to notify people before they are exposed to certain levels of listed chemicals from products that they purchase or that are present in homes, workplaces, or the environment.

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Slide 18 - Employer Responsibilities 7



Scene 1 Managing Chemical Hazards

Employee Responsibilities

Questions? Ask a supervisor or studio safety representative.

- IMPLEMENT SAFETY PRECAUTIONS**
- ATTEND TRAINING**
- KNOW LOCATION OF SDS**
- USE SAFE WORK METHODS AND PPE**

As an employee, you have the responsibility to implement the provided safety precautions when handling, using, storing, or transporting hazardous chemicals. You have the responsibility to attend training, know the location of Safety Data Sheets (SDS), and use prescribed work methods and PPE to protect yourself from potential hazards.

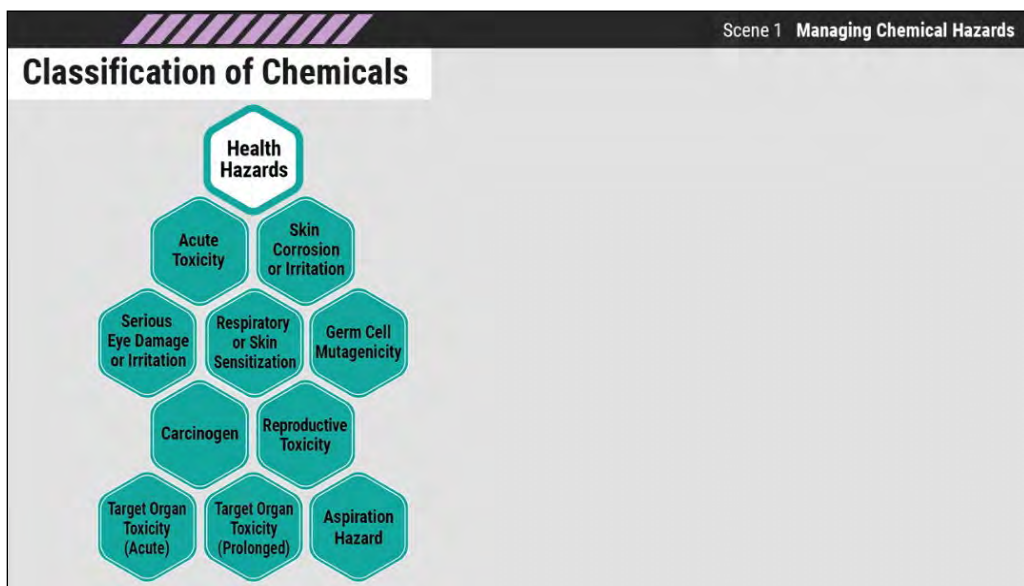
When there are questions, employees should ask a supervisor, such as their department head, or contact a studio safety representative.

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Slide 19 - Classification of Chemicals 1

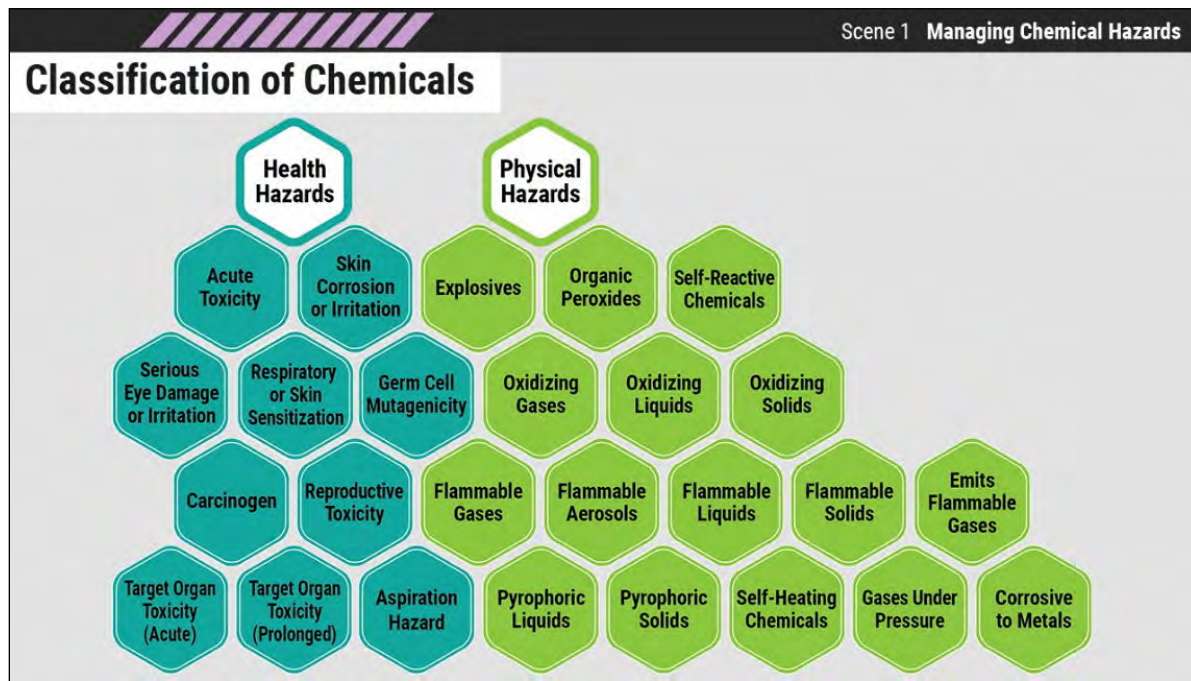


Let's briefly describe the way the GHS classification system works. Chemical manufacturers evaluate and classify products by the hazards they present. These classifications ultimately determine the plain language statements and precautions on the labels and SDSs.



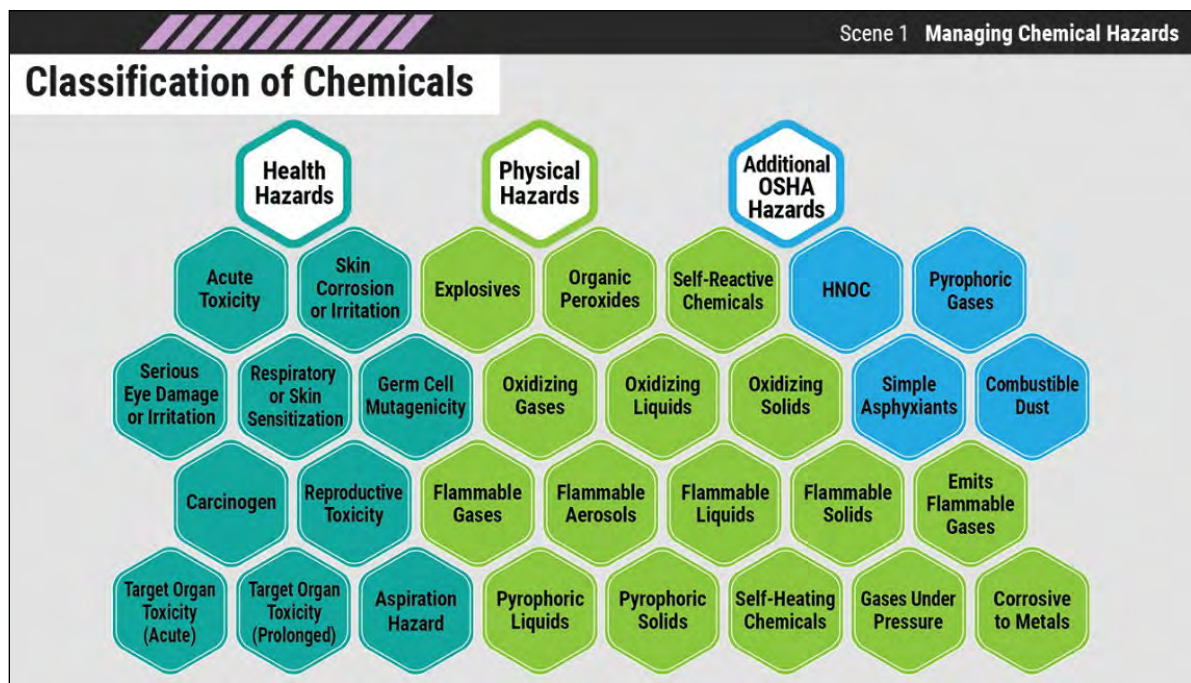
The GHS classes include ten health hazards,

Slide 20 - Classification of Chemicals 2



sixteen physical hazards,

Slide 21 - Classification of Chemicals 3

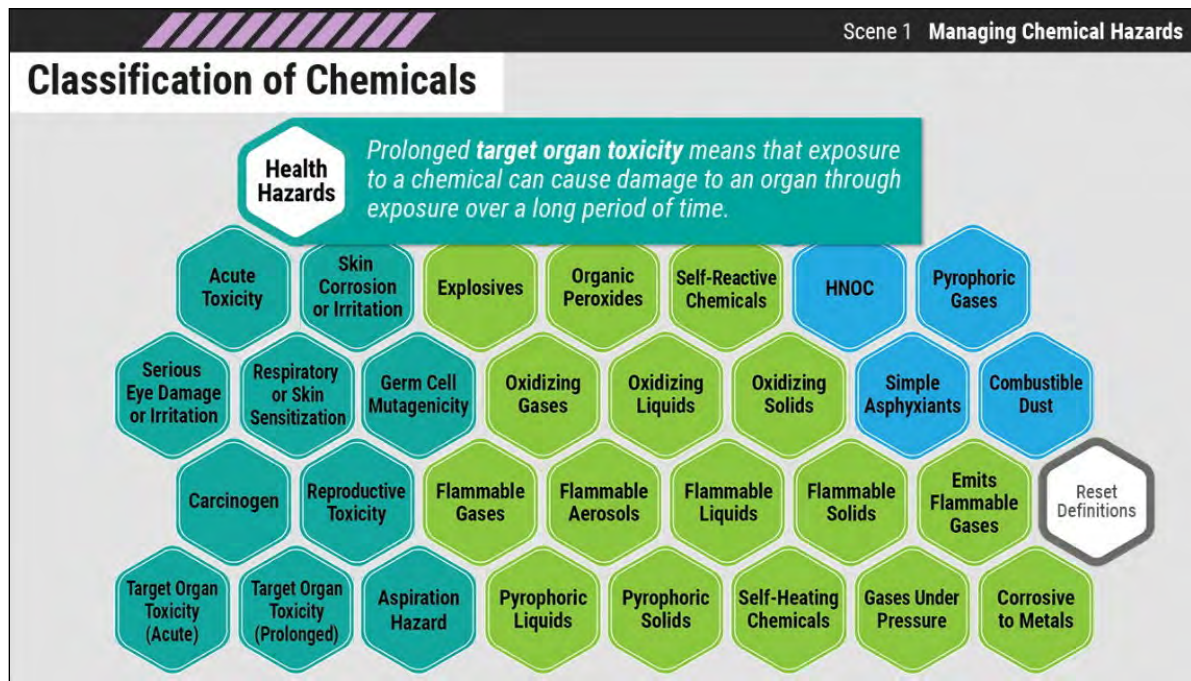


and four OSHA-defined hazard classes that are not among the standard GHS hazard classes.

They are listed on labels and SDSs as OSHA-defined hazards.

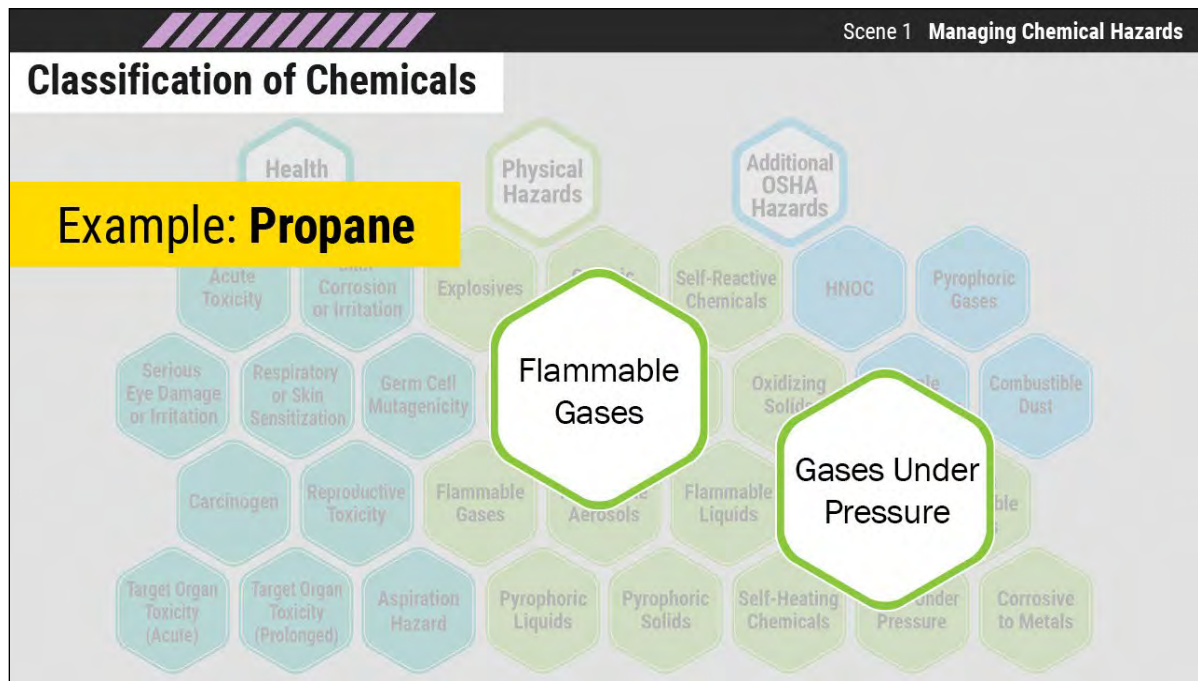
P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 22 - Classification of Chemicals 3



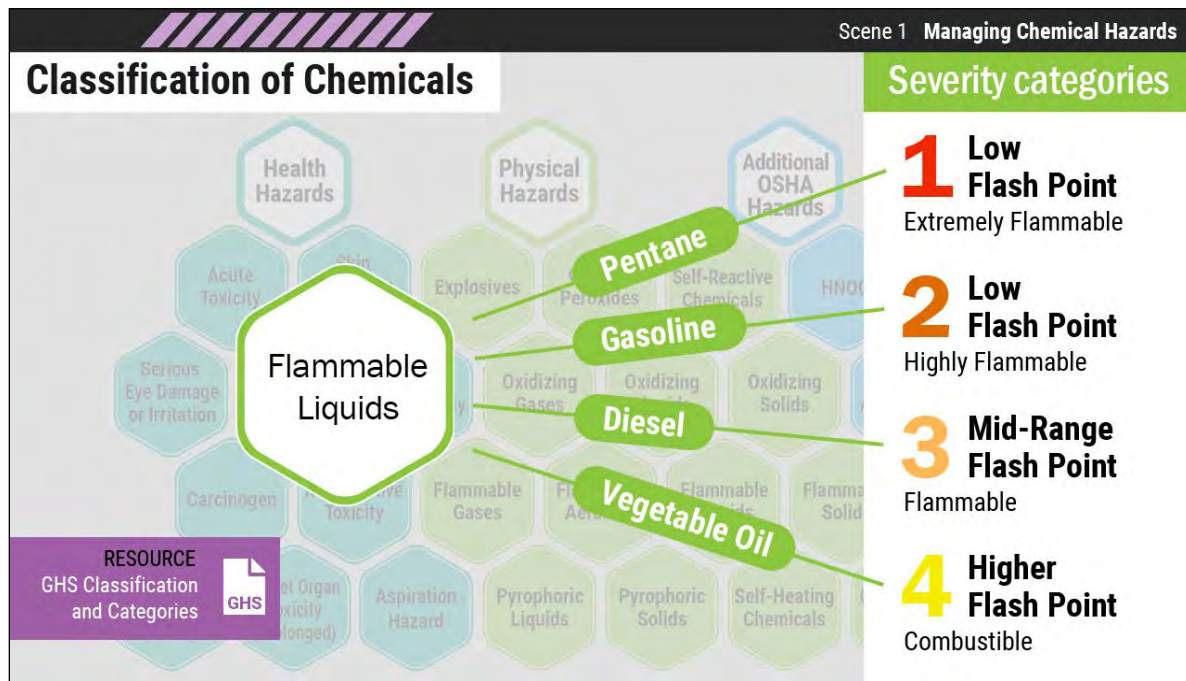
Click the tiles to view a definition of any of the classifications. Definitions can also be found in the glossary.

Slide 23 - Classification of Chemicals 4



To give an example of hazard classification, propane gas falls into two physical hazard classes; it is a flammable gas, and it is a gas under pressure.

Slide 24 - Classification of Chemicals 5



Many hazard classes are further categorized by degree of severity.

For example, flammable liquids are categorized by how easily they ignite: category 1 (extremely flammable), category 2 (highly flammable), and so on.

About half of the hazard classes are subdivided into two or more categories in this way, using various scientific parameters appropriate to each hazard.

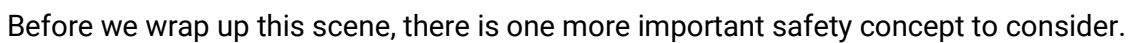
Category 1 always represents the most severe hazards or means that research shows a high degree of certainty about harmful health effects.

Click the [link](#) to view a breakdown of the classes.

The key takeaway here is simply that chemical manufacturers use the GHS classification system to communicate consistent, **plain language**, hazard warnings and precautions for the chemical.

As you will see later in the course, Safety Data Sheets list each chemical's hazard categories and classes along with their plain-language meaning.

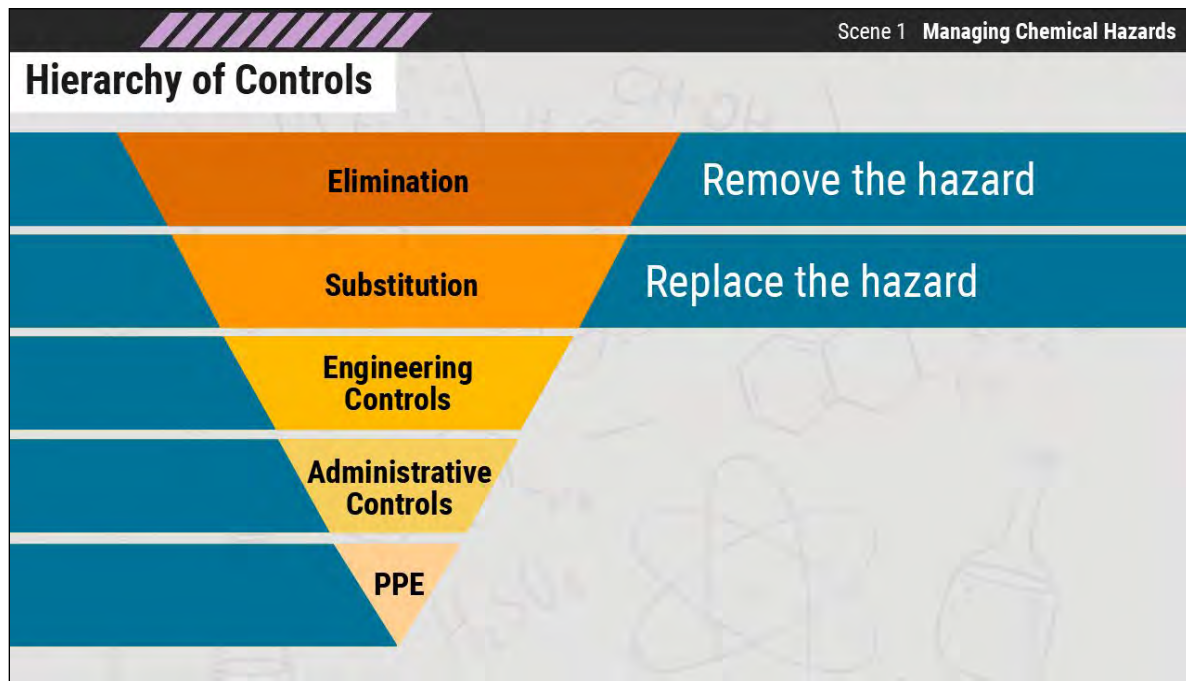
Slide 25 - Classification of Chemicals 6



Container labels and safety data sheets can aid in selecting safer products.

P – Hazard Communication Essentials of Workplace Chemical Safety

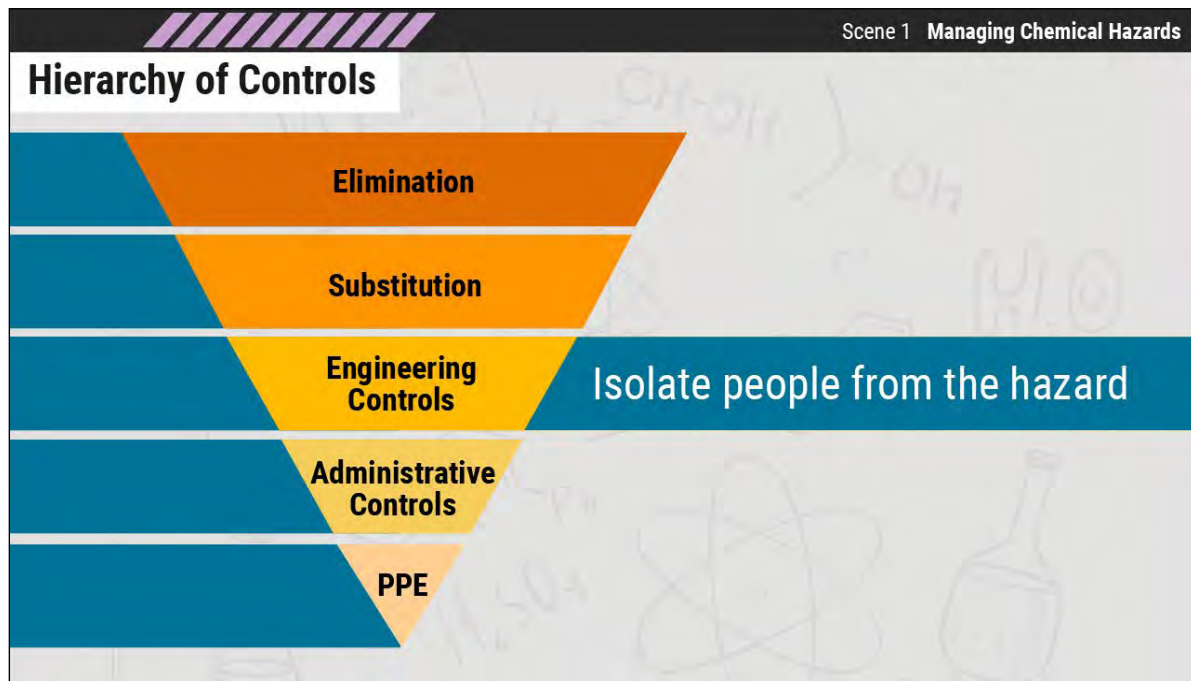
Slide 26 - Elimination and Substitution



You may be familiar with the hierarchy of controls. The inverted pyramid graphic indicates that hazard elimination and substitution are the most effective methods for controlling a hazard and should be the first solutions to consider.

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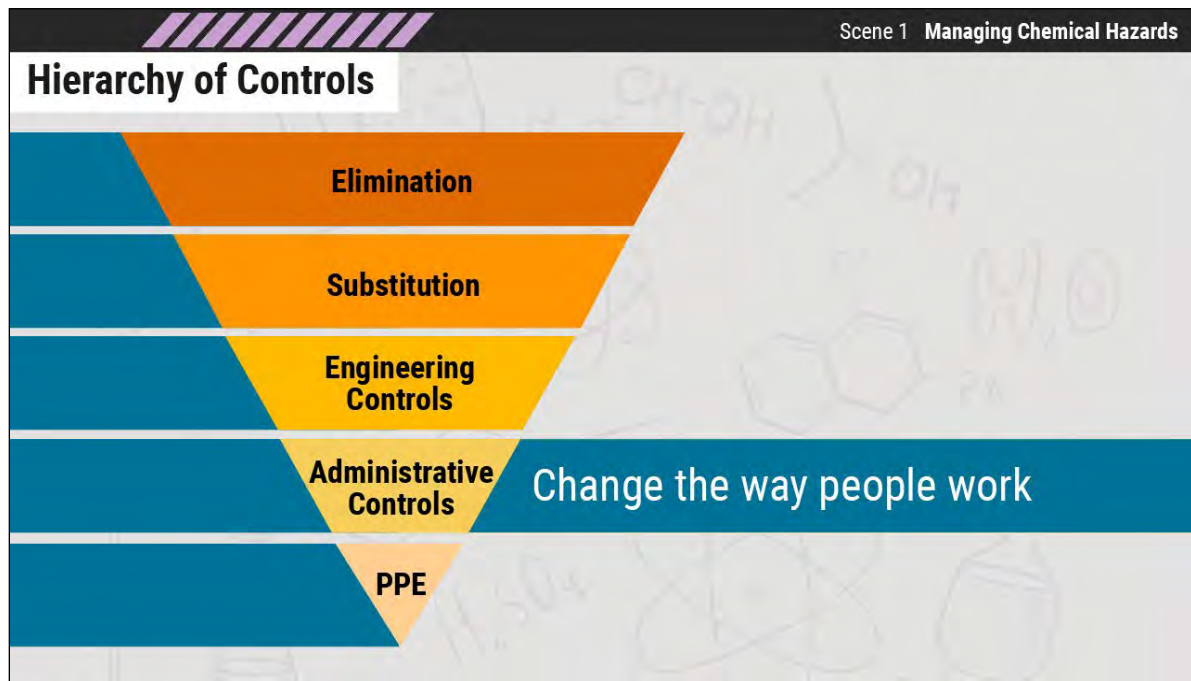
Slide 27 - Engineering Controls



Engineering controls are measures that your employer may implement to isolate people from the hazard. For example, using a ventilation system when handling chemicals that have dangerous fumes.

P – Hazard Communication Essentials of Workplace Chemical Safety

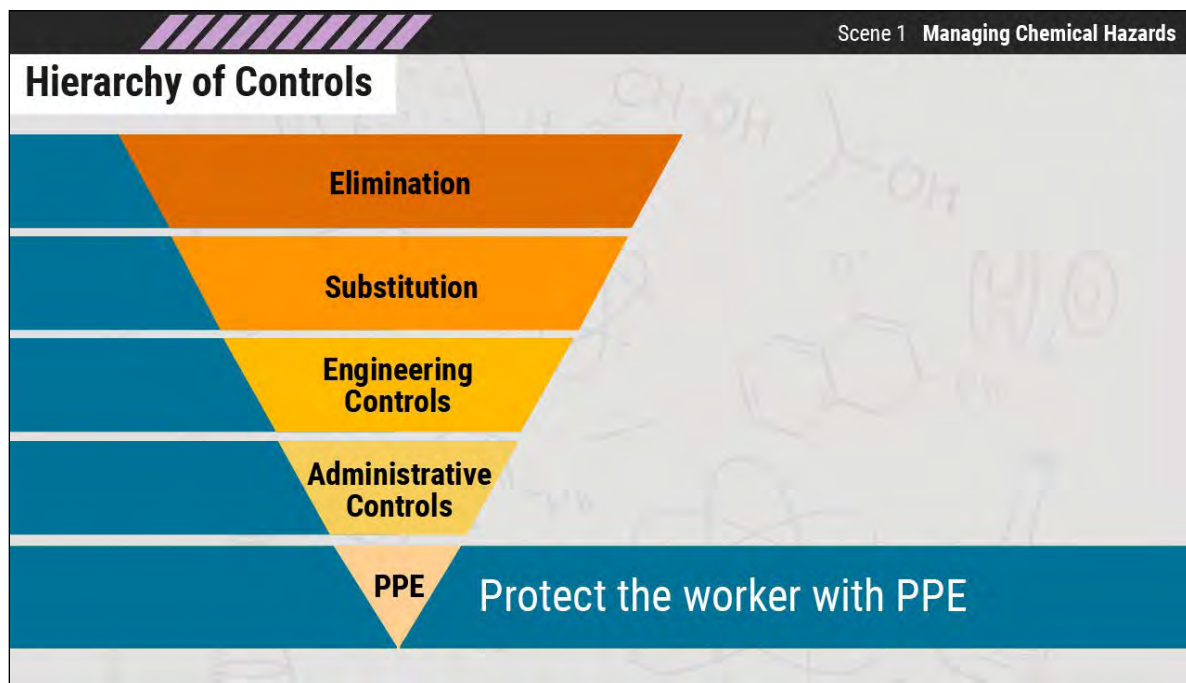
Slide 28 - Administrative Controls



Administrative controls limit the hazard by changing the way people work, such as adjusting work schedules to minimize exposure to hazards.

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Slide 29 - PPE



In situations where a hazard is difficult or impossible to control other ways, the worker must rely on personal protective equipment (PPE).

Accident statistics show the effectiveness of controls tapers down at the lower end of the hierarchy because these methods depend on people being aware of the need for protection, having the correct protection on hand, and using the protection properly. There's just greater opportunity for human error.

The higher up the hierarchy you can address the hazard, the lower the risk. So, consider all your options.

Whether you are attempting to eliminate the hazard or protect yourself from the hazard, you start by reading the container label, which is what we will cover in the next scene.

Let's check your knowledge so far with a couple challenge questions.

P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 30 - Knowledge Check 1

Scene 1 Knowledge Check 1

Which statements are TRUE regarding rights and responsibilities?
Select all that apply.

- ☐ Crew members have the right to receive information regarding any hazardous chemicals to which they may be exposed.
- ☐ Crew members are responsible for making SDSs available and keeping them up to date.
- ☐ Crew members are NOT responsible for knowing the location of Safety Data Sheets.
- ☐ Crew members are responsible for using prescribed work methods and PPE to protect themselves from potential hazards.

Select all that apply, then click Submit

Submit

P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 31 - Knowledge Check 2

Scene 1 Knowledge Check 2

Which statements are TRUE regarding Hazard Communication?
Select all that apply.

- ☐ The container label and Safety Data Sheet inform you of potential hazards and what steps to take to protect yourself from harmful effects.
- ☐ The Globally Harmonized System (GHS) is an international system that has NO connection to OSHA requirements.
- ☐ The Globally Harmonized System (GHS) requires that manufacturers evaluate and place substances into hazard classes and severity categories.

Select all that apply, then click Submit

Submit

P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 32 - Knowledge Check 3

Scene 1 Knowledge Check 3

Use the drop-down lists on the right to choose the best example of each category in the hierarchy of controls.

Elimination

Substitution

Engineering Controls

Administrative Controls

PPE

Select the best answer for each, then click Submit

Submit

P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 33 - Scene2 Container Labels



Scene Two, Container Labels.

Slide 34 - Scene2 In This Scene



In this scene we will examine the five elements of a GHS-conforming container label: product identification, pictograms, a signal word, hazard statements, and precautionary statements.

You should know the purpose and meaning of each element.

You should also understand your responsibilities for maintaining labels and labeling containers if you transfer substances into workplace containers.

P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 35 - GHS Container Labels 1

Scene 2 Container Labels

Label Elements

Product identifier

Pictograms

Signal word



Hazard statements

Precautionary statements

Supplemental information

Isopropyl Alcohol
(2-PROPANOL)
Product code: XXXXXX

Emergency phone #
Company
City, State, Zip



DANGER

Highly flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness or dizziness.

PREVENTION
Keep away from heat, sparks, and open flames. No smoking. Keep container tightly closed. Take precautions against static discharge.

RESPONSE
If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a doctor if you feel unwell.
If in eyes: rinse cautiously with water for several minutes. Remove contact lenses, if present. Continue rinsing. If eye irritation persists, get medical attention.
In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide for extinction.

STORAGE
Store locked up, in a cool, well-ventilated place.

The label on the container is a worker's first source of information regarding a hazardous substance. Regulations require that containers used for hazardous chemicals have labels.

A GHS-conforming label contains the following five elements: product and supplier identification, one or more pictograms, a signal word, one or more hazard statements, and precautionary statements.

A container label usually contains other supplemental information, such as directions for use.

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Slide 36 - GHS Container Labels 2

Scene 2 Container Labels

Label Elements

Product identifier

Pictograms

Signal word



Hazard statements

Precautionary statements

Supplemental information

Isopropyl Alcohol
(2-PROPANOL)
Product code: XXXXXX

Emergency phone #
Company
City, State, Zip



DANGER
Highly flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness or dizziness.

PREVENTION
Keep away from heat, sparks, and open flames. No smoking. Keep container tightly closed. Take precautions against static discharge.

RESPONSE
If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a doctor if you feel unwell.
If in eyes: rinse cautiously with water for several minutes. Remove contact lenses, if present. Continue rinsing. If eye irritation persists, get medical attention.
In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide for extinction.

STORAGE
Store locked up, in a cool, well-ventilated place.

However, these five items are the required GHS elements that must be included on other work-site containers if you transfer the chemical.

Let's investigate what each of the label elements tell us.

P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 37 - Product and Supplier Identification


Scene 2 Container Labels

Product and Supplier Identification

Isopropyl Alcohol
(2-PROPANOL)

Product code: 123456

Emergency phone #
Company
City, State, Zip



DANGER

Highly flammable liquid and vapor. Causes serious eye irritation
cause drowsiness or dizziness.

PREVENTION

The **product identifier** is the product name. It could also be a unique identifying number such as a product code. This is the identifier you can use to look up the chemical and match it to the SDS. The supplier identification is the manufacturer's name, address, and phone number.

The same product identifier must be used everywhere the chemical is identified: on every container label, on the SDS, and on the employer's inventory of chemicals in the workplace.

Slide 38 - Pictograms

Scene 2 Container Labels

Pictograms

Flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness or dizziness.

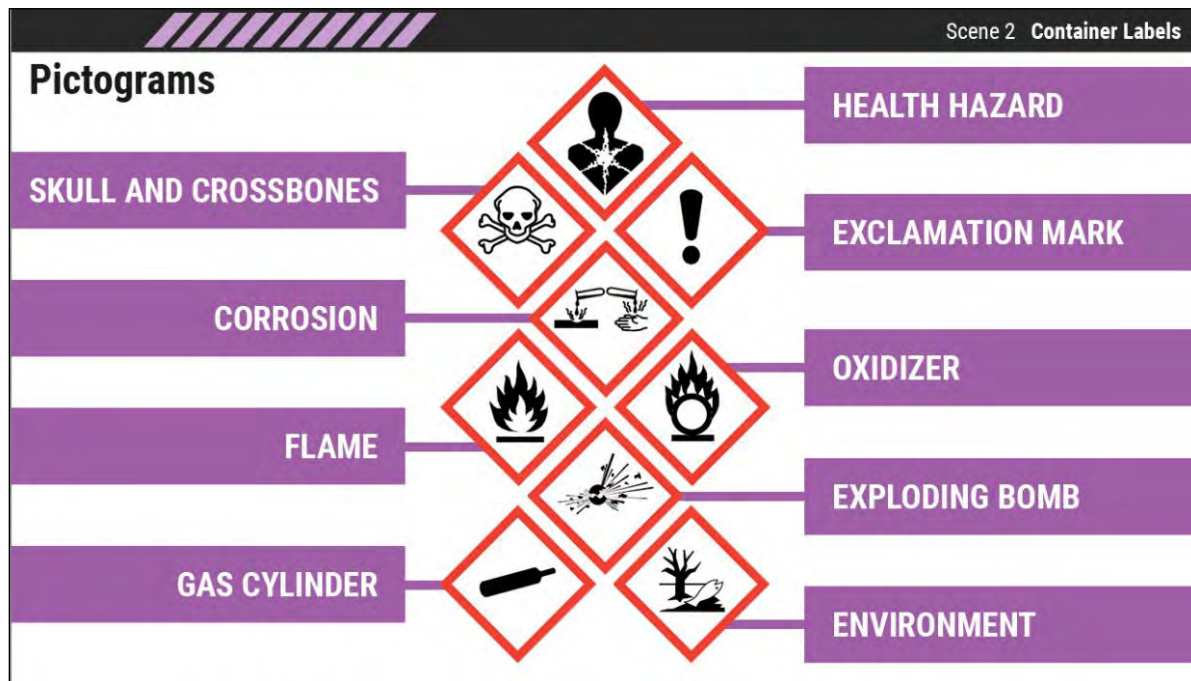
ON

Emergency phone #
Company
City, State, Zip

Emergency phone #
Company
City, State, Zip

Pictograms are graphic symbols intended to visually convey the general types of hazards quickly. The label could require several pictograms to convey all hazard types.

Slide 39 - The Nine Pictograms



There are nine GHS pictograms in all. Let's identify each of them.

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Slide 40 - Health Hazard Pictogram

Scene 2 Container Labels

Health Hazard Pictogram

Carcinogenicity
Mutagenicity
Reproductive toxicity
Target organ toxicity
Respiratory sensitizer
Aspiration toxicity

EXAMPLES



Adhesives and resins may contain respiratory sensitizers. Oil-based paints may damage specific organs with prolonged exposure.

The first four pictograms we'll look at are health related.

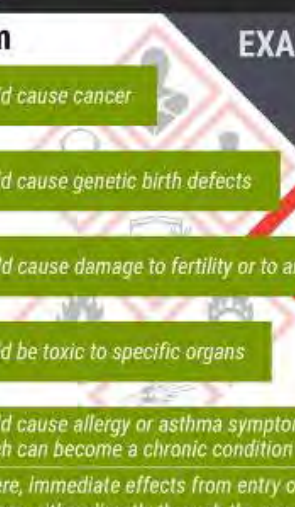
The health hazard pictogram represents chemicals that can cause long-term health problems such as cancer, birth defects, damage to specific organs, and allergic or asthmatic respiratory reactions.

Scene 2 Container Labels

Health Hazard Pictogram

Carcinogenicity	<i>Could cause cancer</i>
Mutagenicity	<i>Could cause genetic birth defects</i>
Reproductive toxicity	<i>Could cause damage to fertility or to an unborn child</i>
Target organ toxicity	<i>Could be toxic to specific organs</i>
Respiratory sensitizer	<i>Could cause allergy or asthma symptoms, or breathing difficulties, which can become a chronic condition in the respiratory tract</i>
Aspiration toxicity	<i>Severe, immediate effects from entry of chemical into the trachea or respiratory system, either directly through the nose or mouth, or indirectly by vomiting. The warning "do not induce vomiting" means that there is an aspiration hazard.</i>

EXAMPLES



Adhesives and resins may contain respiratory sensitizers. Oil-based paints may damage specific organs with prolonged exposure.


If you need clarification, you can click on the terms to learn more about the associated hazards.

Slide 41 - Skull and Crossbones Pictogram

Scene 2 Container Labels

Skull and Crossbones Pictogram

EXAMPLES Chlorine gas is acutely toxic a if inhaled.
Lye is acutely toxic if swallowed or inhaled.

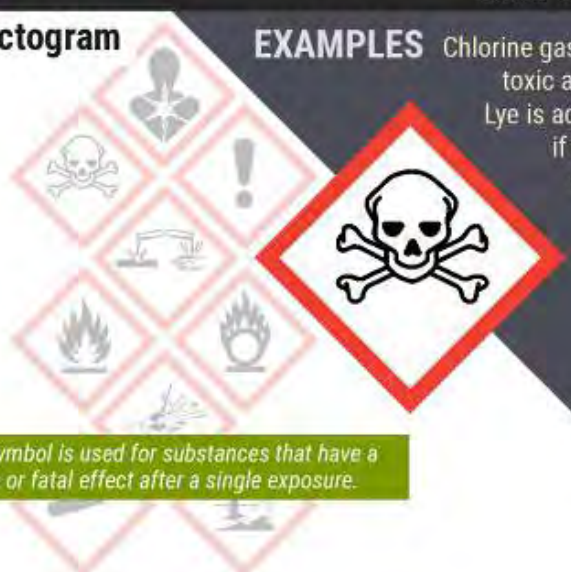


Severe acute toxicity

Scene 2 Container Labels

Skull and Crossbones Pictogram

EXAMPLES Chlorine gas is acutely toxic a if inhaled.
Lye is acutely toxic if swallowed or inhaled.



Severe acute toxicity

This symbol is used for substances that have a severe or fatal effect after a single exposure.

You already know what the skull and crossbones means—the substance is poisonous, or more technically, it is severely acutely toxic. Depending on the dose, ingesting the chemical could be fatal.


Slide 42 - Exclamation Mark Pictogram

Scene 2 Container Labels

Exclamation Mark Pictogram

Irritant (skin and eyes)
Acute toxicity (harmful)
Skin sensitizer
Respiratory tract irritant
Narcotic effects
Hazardous to ozone layer

EXAMPLES Hair sprays could cause eye irritation. Isopropyl alcohol (lens cleaning fluid) fumes could make you drowsy or dizzy.

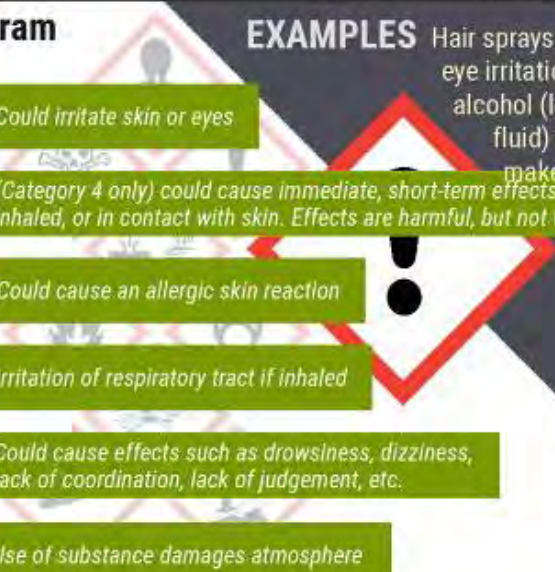


Scene 2 Container Labels

Exclamation Mark Pictogram

Irritant (skin and eyes)	Could irritate skin or eyes
Acute toxicity (harmful)	(Category 4 only) could cause immediate, short-term effects if swallowed, inhaled, or in contact with skin. Effects are harmful, but not toxic or fatal.
Skin sensitizer	Could cause an allergic skin reaction
Respiratory tract irritant	Irritation of respiratory tract if inhaled
Narcotic effects	Could cause effects such as drowsiness, dizziness, lack of coordination, lack of judgement, etc.
Hazardous to ozone layer	Use of substance damages atmosphere

EXAMPLES Hair sprays could cause eye irritation. Isopropyl alcohol (lens cleaning fluid) fumes could make you drowsy or dizzy.



The exclamation mark pictogram is for health hazards that are immediate and harmful, but not deadly, like irritants to skin, eyes, or respiratory tract, or narcotic effects, meaning the chemical could make you drowsy or dizzy.


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Slide 43 - Corrosion Pictogram

Scene 2 Container Labels

Corrosion Pictogram

EXAMPLES Bleach can cause severe skin burns and eye damage.



Corrosive to skin and eyes


Eye damage

Corrosive to metal

Scene 2 Container Labels

Corrosion Pictogram

EXAMPLES Bleach can cause severe skin burns and eye damage.



Corrosive to skin and eyes *Damage to the skin or eyes after contact with a substance*

Eye damage *Damage can range from permanent injury to the eye or blindness to temporary irritation.*

Corrosive to metal *Substance that will weaken or destroy metals.*

The corrosion pictogram shows dangers of corrosive chemicals like strong acids and alkaline substances. They can burn or dissolve skin and eye tissue and they could corrode metal, which, for example, could weaken metal shelving or damage metal containers.

Slide 44 - Flame Pictogram




The next four pictograms communicate physical hazards.

P – Hazard Communication Essentials of Workplace Chemical Safety

Scene 2 Container Labels

Flame Pictogram

EXAMPLES Mineral spirits is a flammable liquid and produces a flammable vapor.




- Flammables
- Pyrophorics
- Self-reactives
- Self-heating chemicals
- Emits flammable gas
- Organic peroxides

Scene 2 Container Labels

Flame Pictogram

EXAMPLES Mineral spirits is a flammable liquid and produces a flammable vapor.



Flammables	Gases, aerosols, solids, and liquids that can burn
Pyrophorics	Catches fire spontaneously if exposed to air
Self-reactives	Burns even without the presence of oxygen
Self-heating chemicals	Produces heat and could overheat and start a fire
Emits flammable gas	While not flammable itself, it emits a flammable gas in contact with water
Organic peroxides	Thermally unstable, burns rapidly, and may explode


The flame pictogram is used on chemicals that are flammable, thermally unstable, or create other types of fire hazards.

Slide 45 - Oxidizer Pictogram

Scene 2 Container Labels

Oxidizer Pictogram

EXAMPLES Oxygen, hydrogen peroxide, chlorine.




Oxidizers

Scene 2 Container Labels

Oxidizer Pictogram

EXAMPLES Oxygen, hydrogen peroxide, chlorine.



Oxidizers

Can contribute to the combustion of other materials

The oxidizer pictogram is found on chemicals that provide oxygen, which can contribute to combustion of other materials. Oxygen feeds fire, causing it to ignite more readily and to burn hotter and faster.

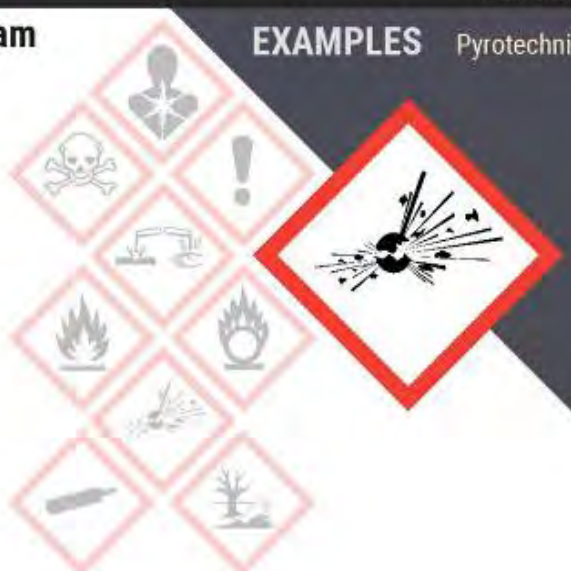
P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 46 - Exploding Bomb Pictogram

Scene 2 Container Labels

Exploding Bomb Pictogram

EXAMPLES Pyrotechnics.



Explosives

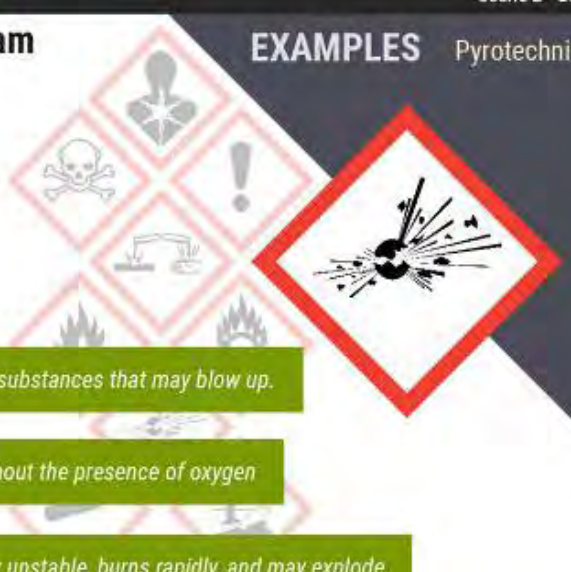
Self-reactives

Organic peroxides

Scene 2 Container Labels

Exploding Bomb Pictogram

EXAMPLES Pyrotechnics.



Explosives Explosives are substances that may blow up.

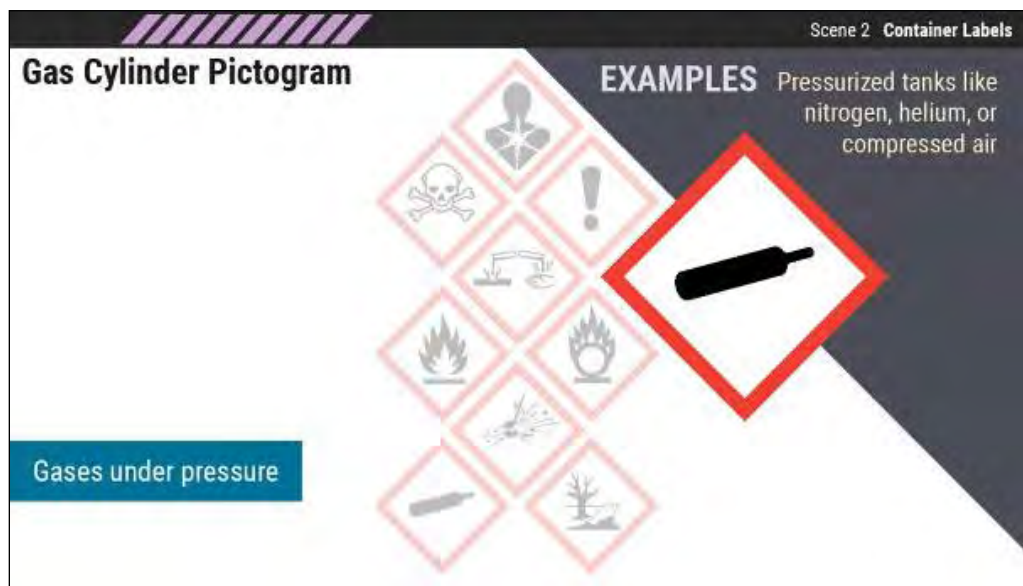
Self-reactives Burns even without the presence of oxygen

Organic peroxides Thermally unstable, burns rapidly, and may explode

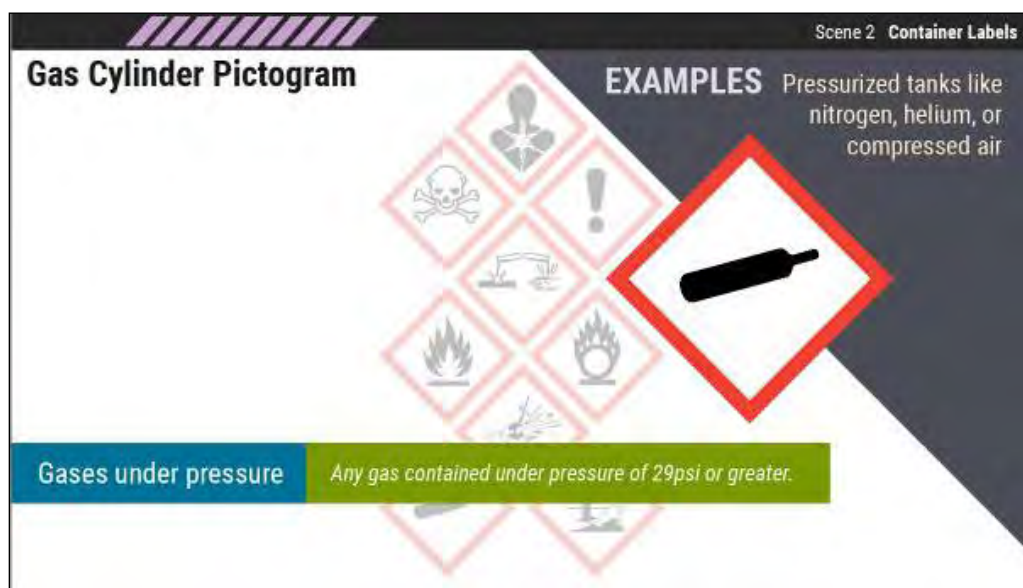
The exploding bomb pictogram warns that the chemical could explode. Primacord and black powder are examples of explosives used in this industry.

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Slide 47 - Gas Cylinder Pictogram



The gas cylinder pictogram warns about the physical hazard of gases under pressure. This symbol applies to any gas pressurized above 29 psi and any gas that is liquefied or refrigerated. Even inert gases, such as nitrogen, helium, and compressed air, fall into this category.



Gases under pressure can pose a risk of injury to eyes and skin. They may be an explosion hazard if contents expand due to excessive heat. If punctured, or if the valve is broken off, a gas cylinder can become a dangerous projectile.


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Slide 48 - Environment Pictogram

Scene 2 Container Labels

Environment Pictogram

EXAMPLES Cleaning chemicals, cosmetic ingredients, biocides, etc.




Aquatic toxicity

Scene 2 Container Labels

Environment Pictogram

EXAMPLES Cleaning chemicals, cosmetic ingredients, biocides, etc.



Aquatic toxicity

Could be toxic to marine life and cause environmental damage

The final GHS pictogram is the environment pictogram. It warns that the chemical could be toxic to marine life and cause environmental damage.

Let's review the pictograms with a knowledge check.

P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 49 - Knowledge Check 4

Scene 2 Knowledge Check 4

Match the hazards to the associated pictogram.


Causes cancer


Corrosive to skin and eyes


Toxic (poisonous)


Makes you dizzy or drowsy


Flammable

A) 

B) 

C) 

D) 

E) 

Submit

P – Hazard Communication Essentials of Workplace Chemical Safety


Slide 50 - Signal Word

Scene 2 Container Labels

Signal Word

Isopropyl Alcohol (2-PROPANOL) Product code: 123456	Emergency phone # Company City, State, Zip
--	--

DANGER



Highly flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness or dizziness.

PREVENTION

Keep away from heat, sparks, and open flames. No smoking. Keep container tightly closed. Take precautions against static discharge.

RESPONSE



Getting back to the label elements, so far, we have talked about the product identifier and the pictograms. Let's move now to the signal word.

The signal word is either DANGER or WARNING. The signal word alerts the user to the severity of the hazard, DANGER for the most severe hazards, and WARNING for the less severe ones.

Slide 51 - Hazard Statements

Scene 2 Container Labels

Hazard Statements

Isopropyl Alcohol (2-PROPANOL) Product code: 123456	Emergency phone # Company City, State, Zip		
--	--	--	---

DANGER

Highly flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness or dizziness.


PREVENTION

Keep away from heat, sparks, and open flames. No smoking. Keep container tightly closed. Take precautions against static discharge.

RESPONSE

The signal word is followed by hazard statements. These are standardized phrases that describe the nature of the hazard. In our example, the hazards statements are “Highly flammable liquid and vapor,” “Causes serious eye irritation,” and “May cause drowsiness or dizziness.” A product can have several hazard statements.

Slide 52 - Precautionary Statements

Scene 2 Container Labels

Precautionary Statements ss.

PREVENTION
Keep away from heat, sparks, and open flames. No smoking. Keep container tightly closed. Take precautions against static discharge.


RESPONSE
If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a doctor if you feel unwell.
If in eyes: rinse cautiously with water for several minutes. Remove contact lenses, if present. Continue rinsing. If eye irritation persists, get medical attention.
In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide for extinction.

STORAGE
Store locked up, in a cool, well-ventilated place.

Next, there are precautionary statements. These are must-know precautions for using the product.

The precautionary statements tell you how to prevent adverse effects (for example, by wearing gloves to prevent skin contact) and how to respond in the event of an accident—you get the chemical on your skin, or a spill occurs, or a chemical catches fire. The precautionary statements say how to store and dispose of the substance safely.

Slide 53 - Supplemental Information

Scene 2 Container Labels

Supplemental Information

fresh air and keep comfortable for breathing. Call a doctor if you feel unwell.

If in eyes: rinse cautiously with water for several minutes. Remove contact lenses, if present. Continue rinsing. If eye irritation persists, get medical attention.

In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide for extinction.

STORAGE

Store locked up, in a cool, well-ventilated place.

Fill weight: 18.65 lb. Directions for use:

Gross weight: 20 lb.

Expiration date: 6/21/2025

Lot number: B57234056

Lastly, manufacturers and importers are free to include supplemental information on the label such as the product's expiration date, directions of use, and so on.

P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 54 - Workplace Container Labels



Manufacturers of hazardous chemicals ship products with a GHS-conforming label that has all the elements we just discussed. Once the chemical is in the workplace, employers in our industry usually use the provided GHS labeling, or they can use an alternate approved chemical labeling system. Either way, the container must be appropriately labeled.

Do not remove or alter the container label. If a label is inadvertently removed or defaced, a new label must be immediately applied that contains the same information as the original. When labeling containers, use labels, ink, and markings that are not soluble in the liquid content of the container.

Slide 55 - Secondary Workplace Container Labels 1



If you transfer a chemical from its original container into a secondary container such as a portable spray bottle or can, you must replicate the original label information on the label onto the secondary container's label. Check with your employer regarding methods for replicating container labels.

P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 56 - Secondary Workplace Container Labels 2

Scene 2 Container Labels

Secondary Workplace Container Labels



GHS label

Isopropyl Alcohol
(2-PROPANOL)
Product code: XXXXXX

Emergency phone #
Company
City, State, Zip



DANGER
Highly flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness or dizziness.

PREVENTION
Keep away from heat, sparks, and open flames. No smoking. Keep container tightly closed. Take precautions against static discharge.

RESPONSE
If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a doctor if you feel unwell.
If in eyes: rinse cautiously with water for several minutes. Remove contact lenses, if present. Continue rinsing. If eye irritation persists, get medical attention.
In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide for extinction.

STORAGE
Store locked up, in a cool, well-ventilated place.



HMIS III container label

The employer may choose to replicate the same GHS-conforming label that came on the shipped container or use an alternate system. If the employer uses an alternate system, it must provide the product identifier and at least general information regarding the hazards of the chemical. The workers must be provided specific information about the physical and health hazards either by the label or in combination with signs, placards, or by other means that are immediately available to the workers.

P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 57 - Alternate Workplace Labeling System

Scene 2 Container Labels

Alternate Workplace Labeling System

Chemical labeling system (HMIS III)

Secondary container labels

A chemical labeling system, like HMIS III shown here, presents information in words, pictures, symbols, and colors. The employer must train workers on the labeling system they use.

Text must first be in English, but may also be offered in other languages.

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Slide 58 - When Are Labels Not Required?



OSHA does NOT require labels for portable containers that are for immediate use and remain under the sole control of the employee who makes the transfer.



Regulations also allow a labeling exception for “stationary process containers,” though rarely relevant in our industry.

Your employer may follow additional rules for labeling. Abide by their guidelines.

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Slide 59 - Other Labeling Regulations



It is important to note that HazCom does not regulate labeling of chemicals and substances that fall under other government agencies.

P – Hazard Communication Essentials of Workplace Chemical Safety



For example, the labeling of cosmetics falls under Food and Drug Administration regulations; pesticides are under the Environmental Protection Agency; black powder and explosives fall under the Bureau of Alcohol, Tobacco, Firearms, and Explosives; and consumer products fall under Consumer Product Safety Commission regulations.

Although “consumer products” are products commonly used in the home, they may contain chemicals that would fall under HazCom if they were in a greater quantity or concentration. Therefore, some products you use may not necessarily have the GHS-type described in this scene. However, the product will still have an SDS.

Whatever the elements contained on the label, for your safety, read and follow the label instructions and warnings.



P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 60 - Review

Review

- Product identifier
- Pictograms
- Signal word
- Hazard statements
- Precautionary statements
- Secondary container labels

Scene 2 Container Labels

Isopropyl Alcohol (2-PROPANOL) Product code: XXXXXX	Emergency phone # Company City, State, Zip	 
DANGER		
Highly flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness or dizziness.		
PREVENTION Keep away from heat, sparks, and open flames. No smoking. Keep container tightly closed. Take precautions against static discharge.		
RESPONSE If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a doctor if you feel unwell. If in eyes: rinse cautiously with water for several minutes. Remove contact lenses, if present. Continue rinsing. If eye irritation persists, get medical attention. In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide for extinction.		
STORAGE Store locked up, in a cool, well-ventilated place.		

To review what we've covered in this scene, a GHS container label has five required elements: the product and manufacturer identification; pictograms (which give you a quick visual warning of the hazards); a signal word (danger or warning, depending on the severity of hazard); hazard statements (which identify the specific hazards for you); and precautionary statements (which tell you what you need to **do** about it).

If someone transfers the chemical into another container in the workplace, that container must also be labeled. The only exceptions are for portable containers for immediate use by one person and stationary process containers.

That's it for container labeling. Let's check your knowledge with a couple challenge questions.

P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 61 - Knowledge Check 5

Scene 2 Knowledge Check 5

Which statements are true about the label shown here.

☐ The flame pictogram 1 is used because this chemical is a highly flammable liquid and highly flammable vapor.

☐ The signal word "DANGER" 2 indicates this chemical poses only a mild hazard.

☐ "No smoking" 4 is a **hazard statement** included to protect you against the hazard of lung cancer.

☐ The statements in 3 are **hazard statements**.





2 DANGER

3 HIGHLY FLAMMABLE LIQUID AND VAPOR.
MAY CAUSE LIVER AND KIDNEY DAMAGE.


4 Keep away from heat/sparks/open flame. No smoking. Only use non-sparking tools. Use explosion-proof electrical equipment. Take precautionary measures against static discharge. Ground and bond container and receiving equipment. Do not breathe vapors. Wear protective gloves. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Select all that apply, then click Submit

Submit

P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 62 - Knowledge Check 6

Scene 2 Knowledge Check 6

Which statements are TRUE in the following scenario?

You have transferred a hazardous chemical from a larger drum into a smaller container that will be stored in a cabinet for use by various workers when needed. *Select all that apply.*

- ☐ The label on the drum can be removed once it is in the workplace.
- ☐ No label is required once the chemical is transferred into a workplace container.
- ☐ The label elements on the smaller container must match the GHS label on the drum (assuming the employer does not use an alternate chemical labeling system).
- ☐ The container must be labeled with the product name only.

Select all that apply, then click Submit

Submit

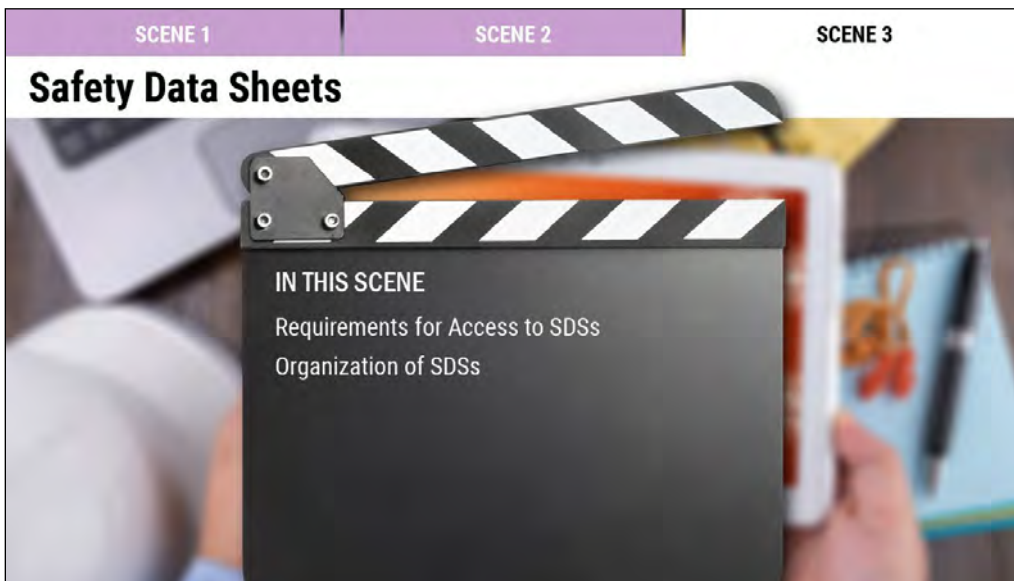
P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 63 - Scene3 Safety Data Sheets



Scene Three, Safety Data Sheets

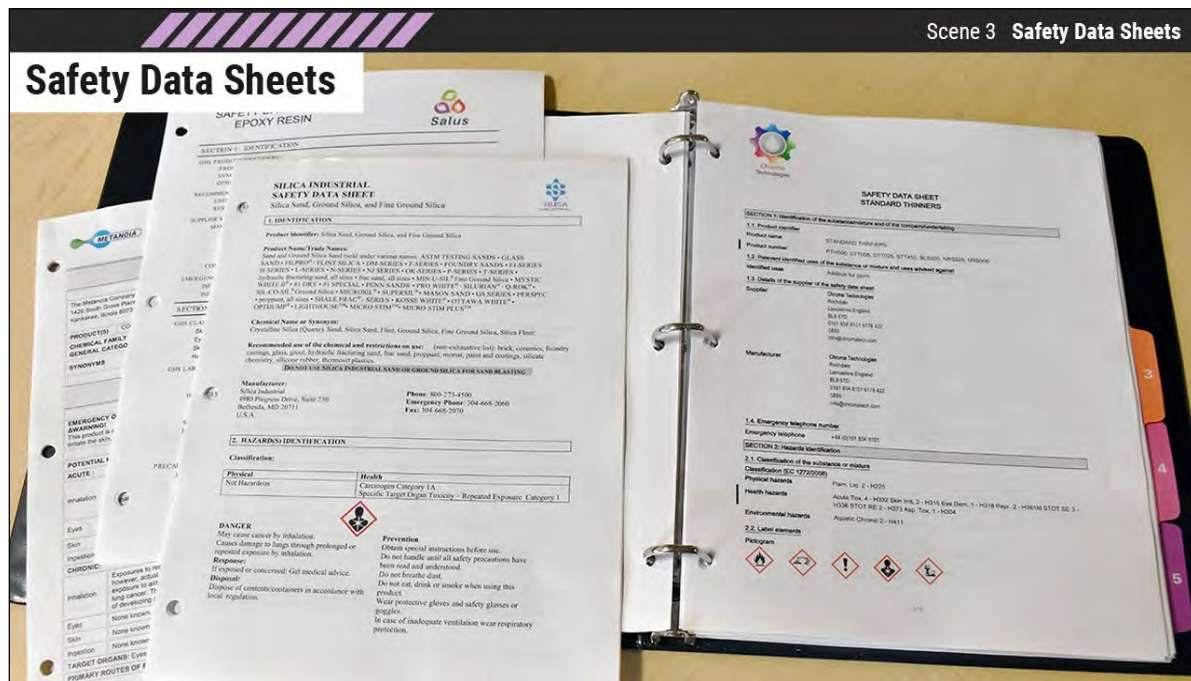
Slide 64 - Scene3 In This Scene



The essential take-aways from this scene are the requirements for providing workers access to Safety Data Sheets and how the information on Safety Data Sheets is organized.

P – Hazard Communication Essentials of Workplace Chemical Safety

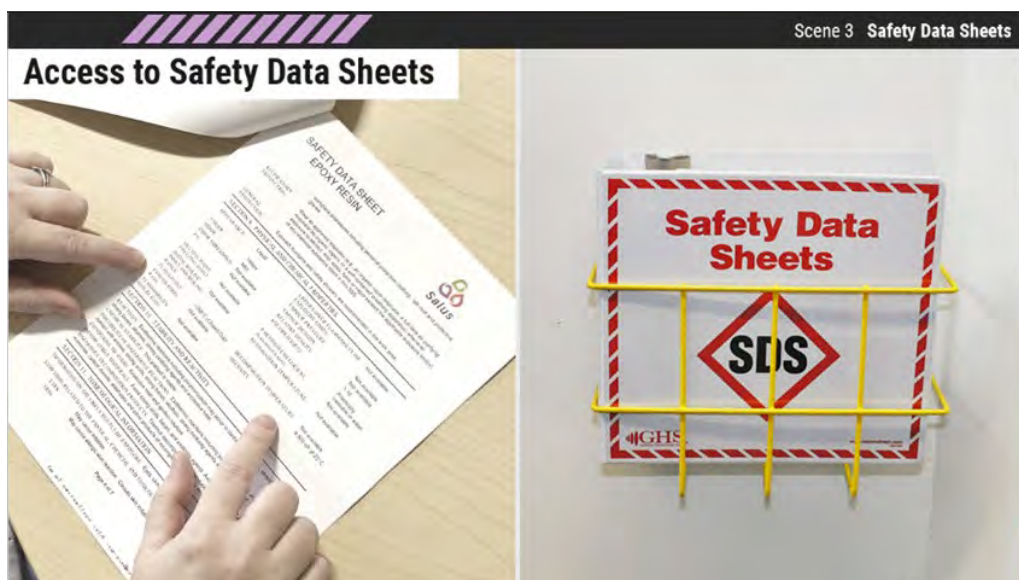
Slide 65 - Safety Data Sheets



Safety data sheets provide far greater detail than container labels and are an important reference for workers using hazardous chemicals, as well as for first responders in case of a spill, fire, or medical emergency.

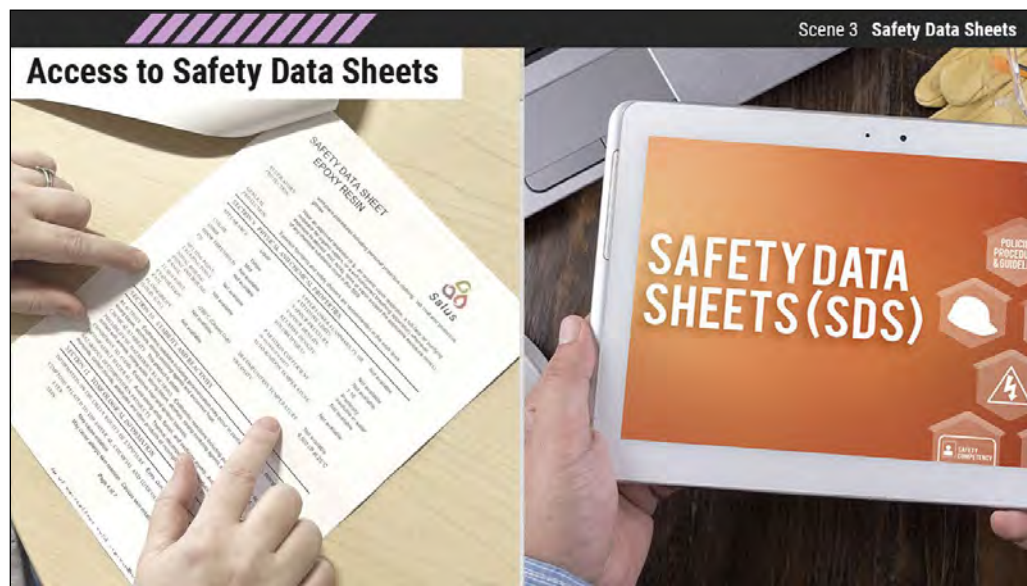
P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 66 - Access to Safety Data Sheets



Employers must have an SDS for each hazardous chemical in the workplace and ensure that it is readily available to workers.

Employers may keep SDSs in a binder, but there are other approved methods for providing them,



such as on-demand online SDS service, provided that internet service is readily available.

Whatever the employer's system, individuals who work with hazardous chemicals must know where SDSs are kept. This is part of the employer's job-site training.

P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 67 - Organization of Safety Data Sheets 1



The information on an SDS is presented in a specific order.

Organization of Safety Data Sheets	
DO NOT USE OLD MSDSs.	
Section 1. Identification	Section 9. Physical and Chemical Properties
Section 2. Hazard(s) Identification	Section 10. Stability and Reactivity
Section 3. Composition/Information on Ingredients	Section 11. Toxicological Information
Section 4. First-Aid Measures	Section 12. Ecological Information
Section 5. Fire-Fighting Measures	Section 13. Disposal Considerations
Section 6. Accidental Release Measures	Section 14. Transport Information
Section 7. Handling and Storage	Section 15. Regulatory Information
Section 8. Exposure Controls/Personal Protection	Section 16. Other Information

There are sixteen numbered sections with standardized headings and subheadings. Every SDS is organized this way, so you can quickly find the information you need.

Prior to 2012, data sheets were called Material Safety Data Sheets (MSDS) and the information had no established order. All MSDSs should have been replaced some time ago. If a current SDS is not available, follow up with Studio Safety. Do not use old MSDSs.

Slide 68 - Organization of Safety Data Sheets 2

Scene 3 Safety Data Sheets	
Organization of Safety Data Sheets	
Section 1. Identification	Section 9. Physical and Chemical Properties
Section 2. Hazard(s) Identification	Section 10. Stability and Reactivity
Section 3. Composition/Information on Ingredients	Section 11. Toxicological Information
Section 4. First-Aid Measures	Section 12. Ecological Information
Section 5. Fire-Fighting Measures	Section 13. Disposal Considerations
Section 6. Accidental Release Measures	Section 14. Transport Information
Section 7. Handling and Storage	Section 15. Regulatory Information
Section 8. Exposure Controls/Personal Protection	Section 16. Other Information

In this scene, we are going to focus on seven sections that are likely to be the most helpful to you. We will show examples from a variety of SDSs. Depending how you are viewing this training, every detail may not be legible on your screen.

If you want to see the examples more closely, download the *SDS Examples* pdf from the RESOURCES link.

Slide 69 - Section 1 | Identification

Scene 3 Safety Data Sheets

Mineral Spirits

SECTION 1. IDENTIFICATION

PRODUCT IDENTIFIER	Mineral Spirits 66/3
CHEMICAL NAME	Distillates (petroleum), hydrotreated light
SYNONYMS	Petroleum hydrocarbon solvent; Mineral Spirits 66/3; Type 1C Mineral Spirits (meets ASTM D-235 Type 1C specifications)
PRODUCT USE	Hydrocarbon solvent, paint thinner
PRODUCT CODE	19024
SDS #	19024
SUPPLIER'S DETAILS	Petroleum Corporation 1234 Main Street, Suite 100 Anywhere, USA 53412 customerservice@business.com
EMERGENCY TELEPHONE NUMBER	
Technical Contact	(123) 456-7890 (8am - 4pm CT M-F)

Let's start with Section One, Identification. This example shows the Identification section for mineral spirits. Note that there are a variety of ways to refer to a given chemical, such as chemical names and other synonyms, or a product code. They are all noted in this section, but the product identifier at the top is the assigned name that is always consistent wherever the chemical is referenced including the container label and the employer's list of workplace chemicals.

Slide 70 - Section 2 | Hazard Identification 1

Scene 3 Safety Data Sheets	
Spray Adhesive	
SECTION 2. HAZARD(S) IDENTIFICATION	
PHYSICAL HAZARDS	
Flammable aerosols	Category 1
Gases under pressure	Liquefied Gas
HEALTH HAZARDS	
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity, single exposure	Category 3 Narcotic Effects
Aspiration hazard	Category 1
ENVIRONMENTAL HAZARDS	
Hazardous to the aquatic environment, acute hazard	Category 2
Hazardous to the aquatic environment, long-term hazard	Category 2
OSHA DEFINED HAZARDS	Not Classified
LABEL ELEMENTS	

Section Two, titled Hazard Identification, lists the hazard classes and severity categories. Remember category one is always the most severe. Our example, spray adhesive, is a category one flammable aerosol and a category one aspiration hazard, meaning it may be fatal if swallowed or inhaled.

Note that the SDS lists physical hazards, health hazards, and environmental hazards for this substance.


There is also a subsection for OSHA-defined hazards described earlier.

P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 71 - Section 2 | Hazard Identification 2

Scene 3 Safety Data Sheets

LABEL ELEMENTS



Signal Word Danger

Hazard Statement Extremely flammable aerosol. Contains gas under pressure; may explode if heated. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Precautionary Statement Prevention: Keep away from heat/sparks/open flames/hot surfaces. No smoking. Do not spray on an open flame or other ignition source. Do not apply while equipment is energized. Pressurized container: do not pierce or burn, even after use. Extinguish all flames, pilot lights, and heaters. Vapors will accumulate readily and may ignite. Use only with adequate ventilation; maintain ventilation during use and until all vapors are gone. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Avoid breathing mist or vapor. Avoid breathing gas. Wash thoroughly after handling. Wear protective gloves and eye/face protection. Avoid release to the environment.

This section also includes the required label elements: pictogram, signal word, hazard statements, and precautionary statements. Having the label information repeated in the SDS may make it easier to read when the size of the typeface on the container is small. If you need to make a new container label, you can copy the information from Section Two of the SDS.

Slide 72 - Section 4 | First-Aid Measures 1

Scene 3 Safety Data Sheets

Hair Spray

SECTION 4. FIRST-AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor.
Never induce swallowing in an unconscious person.

DESCRIPTION OF FIRST-AID MEASURES

Inhalation

Remove the person exposed to fresh air. Keep warm and at rest in a position comfortable for breathing. If symptoms develop, obtain medical attention. Apply artificial respiration if necessary.

Eye Contact

Remove any contact lenses. Remove particles by irrigating with eye wash solution or clean water for 15 minutes holding the eyelids open. If symptoms occur obtain medical attention.

Ingestion

Do not induce vomiting. Seek medical attention immediately, showing the label.

Skin

Not Available

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

No Data Available

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

No Data Available

Section Four is First-Aid Measures. Our example is hair spray. This section is subdivided according to the routes of exposure: inhalation, contact with eyes, ingestion, and contact with skin. It describes the harmful effects, the immediate medical measures, and special treatment necessary.

In the event of a medical emergency, be sure medical personnel are provided with the SDS. First aiders can use the information in Section Four. Medical personnel may also need the specific toxicology information (given in Section Eleven) so they can quickly diagnose and properly treat the victim.

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Slide 73 - Section 4 | First-Aid Measures 2

Scene 3 Safety Data Sheets

Hair Spray

SECTION 4. FIRST-AID MEASURES

	occur obtain medical attention.
Ingestion	Do not induce vomiting. Seek medical
Skin	Not Available
MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND CHRONIC	
No Data Available	
INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED	
No Data Available	

You may find sections where the SDS provides no information. This is a consequence of the standard format of headings and subheadings and is intentional. It eliminates any question about whether information is missing from the sheet.

Slide 74 - Section 7 | Handling and Storage 1

Scene 3 Safety Data Sheets	
Acetylene	
SECTION 7. HANDLING AND STORAGE	
PRECAUTIONS FOR SAFE HANDLING	
Precautions for Safe Handling	Put on appropriate personal protective equipment. Contains gas under pressure. Avoid contact with eyes, skin, and clothing. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Store and use away from heat, sparks, open flame, or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.
Advice on General Occupational Hygiene	Eating, drinking, and smoking should be prohibited in areas where this material is handled, stored, and processed. Workers should wash hands and face before eating, drinking, and smoking. Remove contaminated clothing and protective equipment before entering eating areas.
Conditions for	Store in accordance with local regulations. Store in a segregated and approved

Section Seven provides precautions for safe handling. Our example is acetylene, which is the fuel used for cutting and welding metals, so there are rather a lot of precautions. The section also includes general hygiene advice and

P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 75 - Section 7 | Handling and Storage 2

Scene 3 Safety Data Sheets	
PRECAUTIONS FOR SAFE HANDLING	
Precautions for Safe Handling	Put on appropriate personal protective equipment. Contains gas under pressure. Avoid contact with eyes, skin, and clothing. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Store and use away from heat, sparks, open flame, or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.
Advice on General Occupational Hygiene	Eating, drinking, and smoking should be prohibited in areas where this material is handled, stored, and processed. Workers should wash hands and face before eating, drinking, and smoking. Remove contaminated clothing and protective equipment before entering eating areas.
Conditions for Safe Storage, Including Any Incompatibilities	Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool, and well-ventilated area, away from incompatible materials. Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52°C (125°F).

conditions for safe storage. Safe practices for handling and storing hazardous chemicals is often critical information for avoiding accidents and injury.

Slide 76 - Section 8 | Exposure Controls/Personal Protection 1


Scene 3 Safety Data Sheets			
Paint/Varnish Remover/Aerosol			
SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION			
CONTROL PARAMETERS			
Exposure Guidelines			
Chemical Name	ACGIH TLV®	OSHA PEL	NIOSH IDLH
Dichloromethane	TWA: 50 ppm	TWA: 25 ppm Action Level: 12.5 ppm See 29 CFR 1910.1052 (vacated) TWA: 500 ppm (vacated) STEL: 2000 ppm 5 min in any 3 h STEL: 125 ppm See 29 CFR 1910.1052 Ceiling: 1000 ppm	IDLH: 2300 ppm
Supplier Trade Secret	TWA: 1000 ppm	TWA: 1000 ppm	IDLH: 2100 ppm

Section Eight, Exposure Controls/Personal Protection, provides the information needed to keep the level of exposure safe. Our example is an aerosol paint and varnish remover.

The first two subsections are mostly relevant to employers. It sets exposure limits and information they may need for developing engineering controls.

P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 77 - Section 8 | Exposure Controls/Personal Protection 2

Scene 3 Safety Data Sheets			
		STEL: 125 ppm	
Supplier Trade Secret	TWA: 1000		
APPROPRIATE ENGINEERING CONTROLS			
Engineering Measures		Showers; Eyewash stations; Ventilation systems	
INDIVIDUAL PROTECTION MEASURES, SUCH AS PERSONAL PROTECTIVE EQUIPMENT			
Eye/Face Protection		If splashes are likely to occur, wear safety glasses with side shields or goggles.	
Skin and Body Protection		Wear protective gloves and protective clothing.	
Respiratory Protection		No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.	
Hygiene Measures		Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink, or smoke when using this product. Wash hands before breaks and immediately after handling the product.	

But the third subsection, Individual Protection Measures, is of direct use to people who handle the chemical. It specifies the recommended personal protective equipment like safety goggles, gloves, clothing, and respirators.

Slide 78 - Section 13 | Disposal Considerations


Scene 3 Safety Data Sheets

Clorox® Bleach

SECTION 13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS	Dispose of in accordance with all applicable federal, state, and local regulations.
CONTAMINATED PACKAGING	Do not reuse empty containers. Dispose of in accordance with all applicable federal, state, and local regulations.

Check with employer or studio safety department for their procedure for disposing of hazardous chemicals.



Section Thirteen is reserved for methods for disposal of the chemical and contaminated packaging. Our example is bleach.

This section commonly refers you to federal, state, and local regulations because disposal methods vary by jurisdiction. Check with the employer or studio safety department for their procedure for disposing of hazardous chemicals.


Workers should never dump hazardous waste down a sink, put it into a normal trash can or dumpster, or pour it out on the ground.

Slide 79 - Section 14 | Transport Information 1

Scene 3 Safety Data Sheets

Lithium-Ion Batteries

SECTION 14. TRANSPORT INFORMATION

UN NUMBER	UN3480/3481
UN PROPER SHIPPING NAME	Lithium-Ion Batteries
TRANSPORT HAZARD CLASS	Class 9
	
PACKING GROUP	II
INTERNATIONAL TRANSPORT REGULATIONS	<ol style="list-style-type: none">1. International Air Transport Association (IATA) pursuant to Packing Instruction 965-967, Section II2. International Maritime Dangerous Goods Code (IMDG) pursuant to Special Provisions A188 and A2303. U.S. hazardous materials regulations pursuant to 49 CFR 173.185 and Special Provision A68

The last section we'll look at is Section Fourteen, Transport Information. Our example is lithium-ion batteries.


Slide 80 - Section 14 | Transport Information 2

Scene 3 Safety Data Sheets

Lithium-Ion Batteries

SECTION 14. TRANSPORT INFORMATION

UN NUMBER	UN3480/3481
UN PROPER SHIPPING NAME	Lithium-Ion Batteries
TRANSPORT HAZARD CLASS	Class 9




PACKING GROUP II

INTERNATIONAL TRANSPORT REGULATIONS

1. International Air Transport Association (IATA) pursuant to Packing Instruction 965-967, Section II
2. International Maritime Dangerous Goods Code (IMDG) pursuant to Special Provisions A188 and A230
3. U.S. hazardous materials regulations pursuant to 49 CFR 173.185 and Special Provision 489

This section provides information the shipper needs to know to transport the product safely.

Slide 81 - Section 14 | Transport Information 3

SECTION 14. TRANSPORT INFORMATION	
UN NUMBER	UN3480/3481
UN PROPER SHIPPING NAME	Lithium-Ion Batteries
TRANSPORT HAZARD CLASS	Class 9
	
PACKING GROUP	II
INTERNATIONAL TRANSPORT REGULATIONS	<ol style="list-style-type: none">1. International Air Transport Association (IATA) pursuant to Packing Instruction 965-967, Section II2. International Maritime Dangerous Goods Code (IMDG) pursuant to Special Provisions A188 and A2303. U.S. hazardous materials regulations pursuant to 49 CFR 173.185 and Special Provision A188
Our Li-ion cells pass the tests defined in UN model regulation section 38.3. Cells and batteries are packed according to the requirement of the 56th Edition of the IATA Dangerous Goods Regulations (DGR).	


Shipping hazardous goods requires special training regarding shipping paperwork, packing, and labeling. Carriers, like FedEx, DHL, and UPS, have trained personnel at select offices. Section Fourteen refers the shipper to the appropriate transport regulations.

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Slide 82 - Example: Shipping Requirements

Scene 3 Safety Data Sheets

Example: Shipping Requirements

UN NUMBER	UN 3480
UN PROPER SHIPPING NAME	Lithium-Ion Batteries
TRANSPORT HAZARD CLASS	Class 9
	
PACKING GROUP	II
INTERNATIONAL TRANSPORT REGULATIONS	<ol style="list-style-type: none">1. International Air Transport Association (IATA) pursuant to Packing Instruction 965-967, Section II2. International Maritime Dangerous Goods Code (IMDG) pursuant to Special Provisions A188 and A2303. U.S. hazardous materials regulations pursuant to 49 CFR 173.185 and Special Provision A188

Our Li-ion cells pass the tests defined in UN model regulation section 38.3. Cells and batteries are packed according to the requirement of the 56th Edition of the IATA Dangerous Goods Regulations (DGR).

The packing group refers to the specific packing instructions and labeling requirements, so expect to provide the carrier with a copy of the SDS.



Items that are classified as hazardous include common items from aerosol cans to lithium-ion batteries.

If you're someone who is tasked with transporting or shipping hazardous substances, you can download the *Shipping and Transport* course supplement as a reference from the RESOURCES link. Shipping items safely is not difficult but failing to follow the requirements can lead to authorities holding or delaying delivery of equipment. It can result in fines, and in the extreme case, it could result in a threat to life or property such as a fire on a truck or aircraft. For further assistance, contact your studio safety department.

Slide 83 - Other Safety Data Sheet Sections

Other Safety Data Sheet Sections

Scene 3 Safety Data Sheets

RESOURCES Identification

Section 2. Hazard(s) Identification	Section 9. Physical and Chemical Properties
Section 3. Composition/Information on Ingredients	Section 10. Stability and Reactivity
Section 4. First-Aid Measures	Section 11. Toxicological Information
Section 5. Fire-Fighting Measures	Section 12. Ecological Information
Section 6. Accidental Release Measures	Section 13. Disposal Considerations
Section 7. Handling and Storage	Section 14. Transport Information
Section 8. Exposure Controls/Personal Protection	Section 15. Regulatory Information
	Section 16. Other Information

While we have focused on seven of the most relevant SDS sections, other sections could be important in specific situations.

Section 3, Composition, tells you the harmful ingredients, which can be useful for comparing and selecting products.

Section 5, Fire-Fighting Measures, covers what should and should not be used to extinguish a fire—important information for first responders.

Section 6, Accidental Release, covers what to do in the event of a chemical spill.

Section 11, Toxicological Information, provides information that a physician needs in order to treat a person. For example, in the event of poisoning.

It is helpful to examine Safety Data Sheets for yourself and familiarize yourself with the format and information in every section.

You can download the *Sample SDS* from the course resources (click the RESOURCES icon on the sidebar), or better yet, search online for a hazardous substance you use in your work and download its SDS from the manufacturer's website.

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Slide 84 - Review | Safety Data Sheets 1



To recap this scene, employers must have an SDS for each hazardous chemical in the workplace and ensure that it is readily available to workers.

If you don't know where the SDSs are located, be sure to find out before you start using the hazardous substance.

Slide 85 - Review | Safety Data Sheets 2

Scene 3 Safety Data Sheets

Review | Safety Data Sheets

Mineral Spirits

SECTION 1. IDENTIFICATION

PRODUCT IDENTIFIER	Mineral Spirits 66/3
CHEMICAL NAME	Distillates (petroleum), hydrotreated light
SYNONYMS	Petroleum hydrocarbon solvent; Mineral Spirits 66/3; Type 1C Mineral Spirits (meets ASTM D-235 Type 1C specifications)
PRODUCT USE	Hydrocarbon solvent, paint thinner
PRODUCT CODE	19024
SDS #	19024
SUPPLIER'S DETAILS	Petroleum Corporation 1234 Main Street, Suite 100 Anywhere, USA 53412 customerservice@business.com
EMERGENCY TELEPHONE NUMBER	
Technical Contact	(123) 456-7890 (8am - 4pm CT M-F)
Medical Emergency	(800) 555-1212
CHEMTREC Emergency	(800) 765-4321 (United States Only)

Know where to find the SDS

Get familiar with the standardized SDS format

Safety Data Sheets use a standardized format of sixteen sections (and required subsections) that make the location of information consistent across all SDSs. Once you are familiar with it, the format makes it easier to locate the information you're after.

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Slide 86 - Review | Safety Data Sheets 3

Scene 3 Safety Data Sheets

Review | Safety Data Sheets


Know where to find the SDS

Get familiar with the standardized SDS format

Refer to the SDS

Section 7. Handling and Storage

Section 8. Exposure Controls/Personal Protection




Before using a chemical, be sure to read sections of the SDS that may be relevant to the process you are undertaking, like requirements for safe handling and storage (section seven) and recommended PPE (section eight). In the event of a spill, a fire, or a medical emergency, make the SDS available to first responders and other personnel who may be exposed.

Let's try a couple challenge questions to wrap up the course.

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Slide 87 - Knowledge Check 7

Scene 3 Knowledge Check 7

How are workers who work with hazardous chemicals provided access to Safety Data Sheets?

- ☐ The employer must place the SDS in the hands of the worker.
- ☐ The worker must download the SDS from the internet.
- ☐ The employer must have the SDS readily available and train workers, so they know where to find them, either physically or electronically.
- ☐ A supervisor must call OSHA to get a copy of the SDS prior to starting work.

Select all that apply; then click *Submit*

Submit

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Slide 88 - Knowledge Check 8

Scene 3 Knowledge Check 8

Match the question on the left to the appropriate SDS section on the right.

☐ What is the substance called?

☐ What health hazards does the substance pose?

☐ What to do if a person gets the chemical in their eyes.

☐ What precautions may be required for using the substance?

☐ What personal protective equipment to wear when using the substance.

A) Section 4, First-Aid Measures

B) Section 7, Handling and Storage

C) Section 2, Hazard(s) Identification


D) Section 8, Exposure Controls/PPE

E) Section 1, Identification

Submit

P – Hazard Communication Essentials of Workplace Chemical Safety

Slide 89 - Knowledge Check 9

Scene 3 Knowledge Check 9

Which statement is TRUE regarding shipping a hazardous substance or device like a lithium-ion battery pack?

- ☐ A person with specific training must pack, label, and prepare the paperwork for shipping hazardous goods.
- ☐ You can pack the box yourself, but when you take it to the carrier, they must label the box appropriately.
- ☐ You can pack and label the box yourself, but the carrier fills out the paperwork.
- ☐ You can ship hazardous substances by U.S. Postal Service or other carrier service without special processing.

Select all that apply, then click Submit

Submit

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Slide 90 - A Safe Attitude

Your safe attitude impacts how you act and react to workplace conditions and challenges.



Speak up about safety issues.

Ask questions.

Look out for your coworkers and for yourself.

REMEMBER, SAFETY STARTS WITH YOU!

Your safe attitude impacts how you act and react to workplace conditions and challenges.

Speak up about safety issues.

Ask questions.

Look out for your coworkers and for yourself.

Remember, safety starts with you.