Hazard Communication And GHS—

What Supervisors Need to Know

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Session Objectives

- Understand the GHS revisions to HazCom and how they affect our workplace
- Recognize the revised chemical labels or SDSs
- Train employees to read GHS-compliant labels and SDSs

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How Much Do You Already Know?

FALSE — Under GHS, the United Nations now regulates workplace hazardous chemicals.

FALSE — GHS-compliant SDSs are less informative than material safety data sheets.

TRUE — GHS will create a safer work environment for us.

FALSE — Chemical labels are no longer required in the workplace.

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What Is GHS?

- Globally Harmonized System of Classification and Labeling of Chemicals
- Developed by the United Nations
- Being implemented around the world

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The Goal of GHS Amendments To HazCom

- Improved workplace safety
- Fewer exposures
- Consistent communications
- Greater hazard awareness
- Easier compliance
- Enhanced protection

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How Does GHS Change HazCom?

- Hazard classification
- Chemical labels
- SDSs
- Employee training
- Written plan

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Complying with GHS HazCom Amendments

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Hazard Classification

- Basis of effective communication of hazards
- Identifies specific physical and health hazards
  - Type of hazard
  - Degree
  - Severity
- Categories within a hazard class
- Display info on labels and SDSs

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Exercise

- OSHA has incorporated the UN's GHS into its Hazard Communication Standard
- GHS will make HazCom compliance more difficult to achieve
- The United States is the only country implementing GHS
- Chemical classification requirements are different under the revised HazCom Standard
- Hazard classification is no longer based on physical and health hazards

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Review Questions

Do you understand:

- Why this course is important?
- Why GHS was created?
- OSHA's adoption of GHS into the HazCom Standard?
- How GHS changes HazCom?
- The phased compliance dates of the GHS amendments?
- Hazard classification?

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Hazards and Protective Measures

- Identify physical and health hazards before use
- Read container labels for brief information
- Use safety data sheets for detailed information

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Other Chemical Hazards

- Asphyxiation, or asphyxia
- Pyrophoric gas
- Combustible dust
- Hazards Not Otherwise Classified

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Hazard Detection and Monitoring

- Visual appearance
- Continuous monitoring device
- Odor

Image courtesy of Scott Safety

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What's on a GHS-Compliant Label?

SAMPLE LABEL

PRODUCT IDENTIFIER

CODE _____
Product Name _____

SUPPLIER IDENTIFICATION

Company Name _____
Street Address _____
City _____ State _____
Postal Code _____ Country _____
Emergency Phone Number _____

PRECAUTIONARY STATEMENTS

Keep container tightly closed. Store in cool, well ventilated place that is locked.
Keep away from heat/sparks/open flame. No smoking.
Only use non-sparking tools.
Use explosion-proof electrical equipment.
Take precautionary measure 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.
Dispose of in accordance with local, regional, national, international regulations as specified.

In Case of Fire: use dry chemical (BC) or Carbon dioxide (CO_2) fire extinguisher to extinguish.

First Aid
If exposed call Poison Center.
If on skin (on hair): Take off immediately any contaminated clothing. Rinse skin with water.

HAZARD PICTOGRAMS

SIGNAL WORD

Danger

HAZARD STATEMENT

Highly flammable liquid and vapor.
May cause liver and kidney damage.

SUPPLEMENTAL INFORMATION

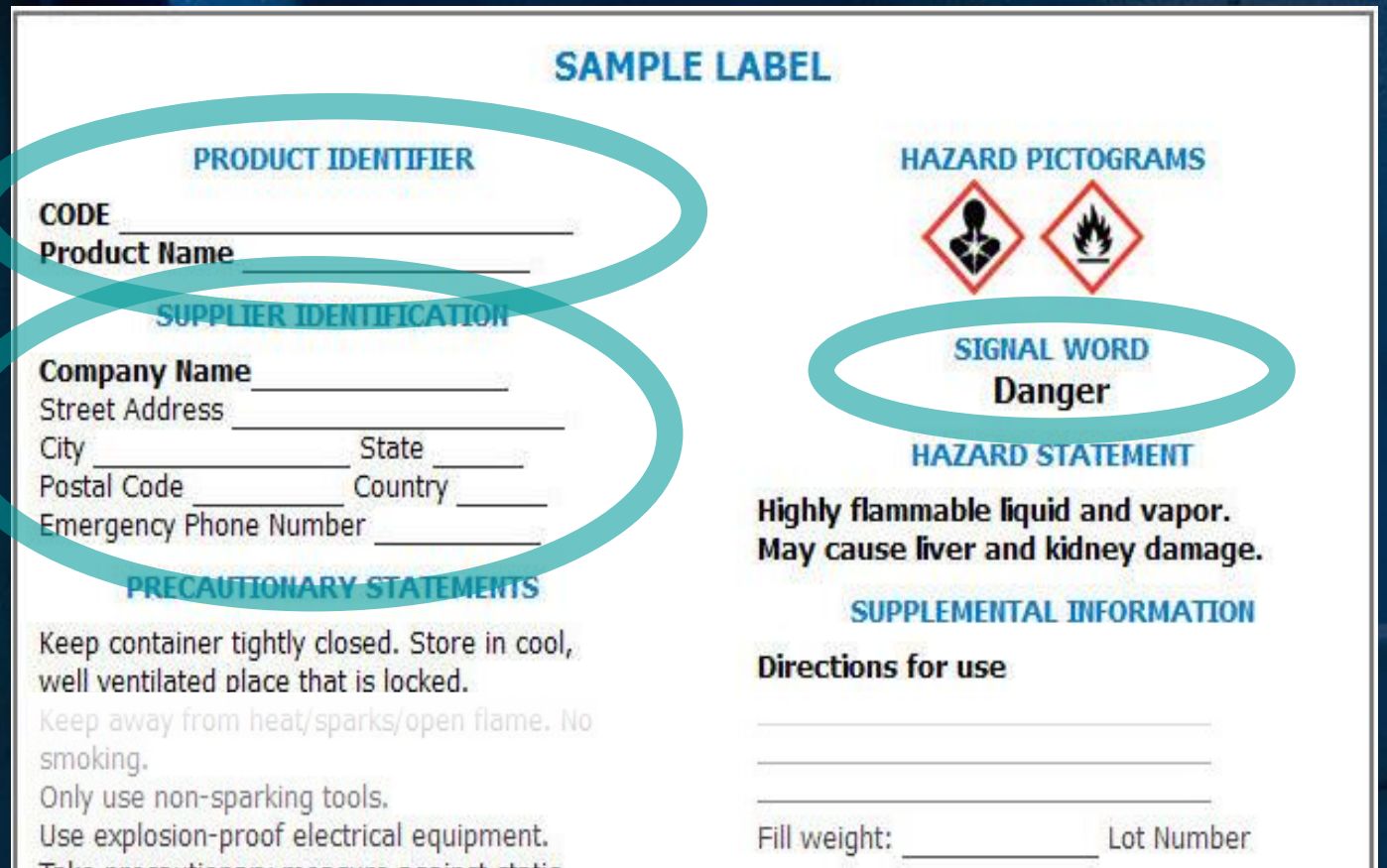
Directions for use

_____
_____
_____

Fill weight: _____ Lot Number _____
Gross weight: _____ Fill Date: _____
Expiration Date: _____

What's on a GHS-Compliant Label? (cont.)

- Signal Word
- Product Identifier
- Supplier Identification
- Hazard Pictograms
- Hazard Statement
- Precautionary Statements



SAMPLE LABEL

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HAZARD STATEMENT

Highly flammable liquid and vapor.
May cause liver and kidney damage.

SUPPLEMENTAL INFORMATION

Directions for use

_____

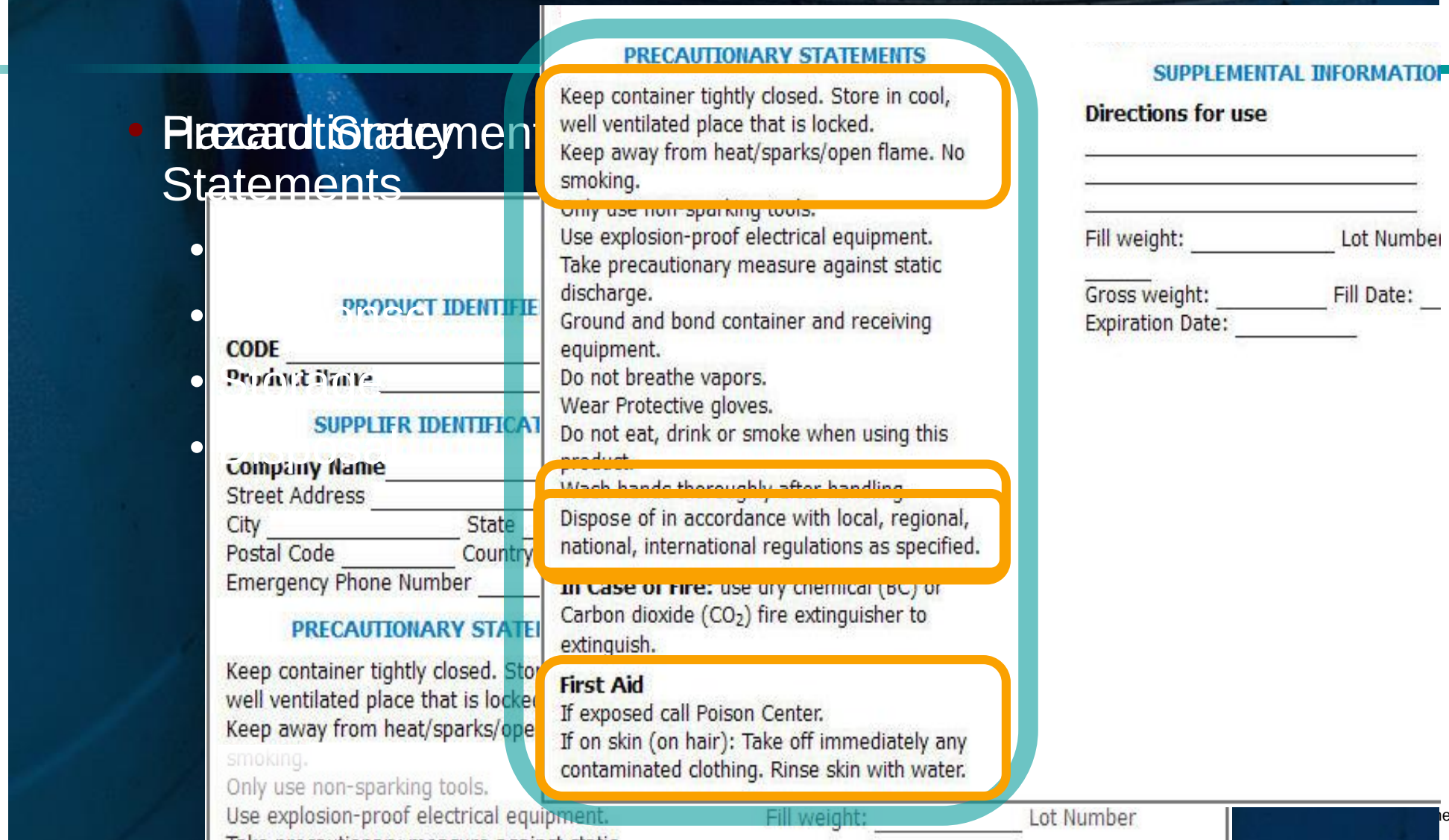
_____

_____

Fill weight: _____ Lot Number

What's on a GHS-Compliant Label? (cont.)

- Precautionary Statements
  - Prevention
  - Response
  - Storage
  - Disposal



PRODUCT IDENTIFIE

CODE _____

Product Name _____

SUPPLIFR IDENTIFICAT

Company Name _____

Street Address _____

City _____ State _____

Postal Code _____ Country _____

Emergency Phone Number _____

PRECAUTIONARY STATEI

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well ventilated place that is locke
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smoking.
Only use non-sparking tools.
Use explosion-proof electrical equipment.

PRECAUTIONARY STATEMENTS

Keep container tightly closed. Store in cool, well ventilated place that is locked.
Keep away from heat/sparks/open flame. No smoking.
Only use non-sparking tools.
Use explosion-proof electrical equipment.
Take precautionary measure 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.

Dispose of in accordance with local, regional, national, international regulations as specified.

In Case of Fire: use dry chemical (BC) or Carbon dioxide (CO_2) fire extinguisher to extinguish.

First Aid
If exposed call Poison Center.
If on skin (on hair): Take off immediately any contaminated clothing. Rinse skin with water.

SUPPLEMENTAL INFORMATIO

Directions for use

_____

_____

_____

Fill weight: _____ Lot Numbe

_____

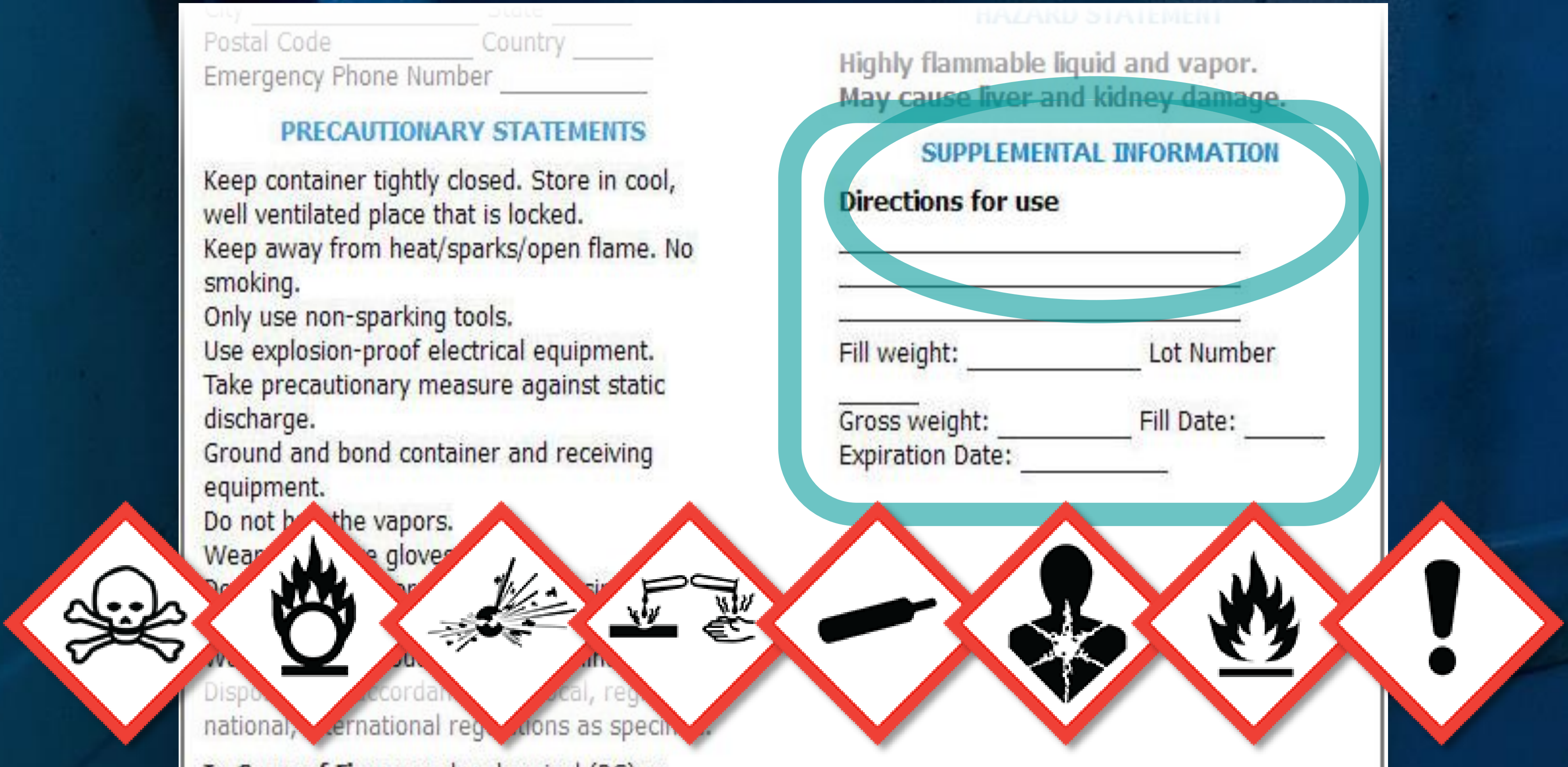
Gross weight: _____ Fill Date: _

Expiration Date: _____

Fill weight: _____ Lot Number

What's on a GHS-Compliant Label? (cont.)

- Supplemental hazard information
- Eight mandatory hazard symbols used


Postal Code ________ Country ______
Emergency Phone Number __________

PRECAUTIONARY STATEMENTS

Keep container tightly closed. Store in cool, well ventilated place that is locked.
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Highly flammable liquid and vapor.
May cause liver and kidney damage.

SUPPLEMENTAL INFORMATION

Directions for use
____
____
____

Fill weight: __________ Lot Number ______
Gross weight: ________ Fill Date: _____
Expiration Date: ________

Container Labels

- All containers must be labeled!
- Labels are not required on:
  - Pipes and piping systems
  - Portable containers for immediate use

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Safety Data Sheets

- Replace MSDSs
- 16-section format
- Similar to ANSI MSDS

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Sections 1–4

SAFETY DATA SHEET

Hazard Statements	Precautionary Statements
H320: Causes eye irritation	P210: Keep away from heat/sparks/open flames/hot surfaces - No smoking

Section 1: Chemical and Supplier Information

H351: Suspected of causing cancer

Section 3: Composition and Information on Ingredients

	CAS#	EINECS#	REACH Pre-registration Number	CONCENTRATION % by Weight
Methylene Chloride* (dichloromethane)	75-09-2	200-838-9	Under development	75-90
Trichloroethylene*	79-01-6	201-167-4	Under development	5-15

Section 2: Hazards Identification

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.

*Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372)

Section 4: First Aid Measures

Contact with eyes: Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
Skin contact: Wash skin with soap and water If irritation develops, get medical attention.
Inhalation: Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
Ingestion: Do not induce vomiting. Seek medical advice immediately.

Sections 5–8

Section 5: Fire-Fighting Measures

Suitable Extinguishing Media:	Water fog or fine spray, carbon dioxide, dry chemical or foam.
Unsuitable Extinguishing Media:	Dry chemical powder.
Exposure Hazards:	Inhalation and dermal contact.
Combustion Products:	Hydrogen chloride, trace amounts of chlorine, phosgene.
Protection for Firefighters:	Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing.

	HMIS	NFPA	0-Minimal
Health	2	2	1-Slight
Flamability	1	1	2-Moderate
Reactivity	0	0	3-Serious
			4-Severe

Section 6: Accidental Releases Measures

Personal Precautions:	Clear all personnel from area. Do not breathe vapors. Ventilate area of leak or spill. Wear protective equipment. positive pressure self contained or air supplied breathing apparatus. Follow confined space entry procedures.
Environmental Precautions:	Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
Methods for Cleaning up:	Mop or soak up immediately. Place in properly labeled metal containers.
Materials not to be used for clean up:	Zinc, Aluminum, or plastic containers.

Section 7: Handling and Storage

Handling:	Avoid breathing of vapor, avoid contact with eyes, skin and clothing Do not swallow. Use with adequate ventilation. Do not cut, drill grind, weld or perform similar operations on or near empty ontainers. Vapors of this product are heavier than air and will collect in low areas. Do not eat, drink or smoke while handling.
Storage:	Store in a dry place. Keep container tightly closed when not in use. Significant vapor pressures (>5psi) can be

Section 8: Exposure Controls and PPE

Exposure limits:

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL:
Methylene chloride (dichloromethane)	50 ppm	N/E	25 ppm	125
Trichloroethylene	50 ppm	100 ppm	100 ppm	N/E
Methyl Methacrylate Monomer, Stabilized (MMA)	50 ppm	100 ppm	100 ppm	N/E

SDS Sections 9–11

Section 9: Physical and Chemical Properties

Appearance:	Clear thin liquid		
Odor:	Irritating	**Odor Threshold:**	250 ppm (Methylene Chloride)
pH:	Not Applicable		
Melting/Freezing Point:	-96.7°C (-142.1°F) Methylene Chloride)		
Boiling Point:	39.8°C (104°F) Based on first boiling component: Methylene Chloride	**Evaporation Rate:**	>1.0 (BUAC=1)
Flash Point:	None (Methylene Chloride)	**Flammability:**	None
Specific Gravity:	1.32 @23°C (73.4°F)	**Flammability Limits:**	LEL: 14% (Methylene Chloride)
Solubility:	1.3 @ 25°C (Methylene Chloride)		UEL: 22% (Methylene Chloride)
Partition coefficient n-octanol/water;	Not Available	**Vapor Pressure:**	355 mmHG @ 20C (Mithylene chloride)
Auto-ignition Temperature:	556°C (1033°F) (Methylene Chloride)	**Vapor Density:**	>2.0 (Air = 1)
Decomposition Temperature:	Not Applicable	**Other Data: Viscosity:**	Water-thin
VOC Content:	When appied as directed, per SCAFQMD Rule 1168, Test Method 316A, VOC content is <250 g/l.		

Section 10: Stability and Reactivity

Stability:	Stable under recommended storage conditions. (See Section 7)
Hazardous decomposition products:	Depending on temperature and air supply, may include hydrogen chloride, trace amounts of chlorine, phosgene.
Conditions to avoid:	Avoid open flames, welding arcs, or other high temperature sources. Avoid direct sunlight.
Incompatible Materials:	Oxidizers strong bases, amines, metals such as zinc pwowders aluminum or magnesium powders, potassium sodium.

Section 11: Toxicological Information

Likely Routes of Exposure:	Inhalation, Eye and Skin contact
Acute symptoms and effects:	
Inhalation:	Excessive overexposure may cause irritation to nose and throat. In confined areas, vapor can accumulate and can cause unconsciousness.
Eye Contact:	May cause moderate eye irritation which may be slow to heal. May cause slight corneal injury. Vapor may cause

SDS Sections 12–14

Section 12: Ecological Information

Ecotoxicity: None Known
Mobility: In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of <250 g/l. Mobility in soil is high.
Degradability: Not readily biodegradable
Bioaccumulation: Low

Section 13: Disposal Considerations

Chemical residues are generally classified as hazardous waste, and as such are covered by regulations which vary according to location. Contact your local waste disposal authority for advice, or pass to a licensed chemical disposal company. Rinse out empty containers thoroughly before returning for recycling. Washing liquid should not be allowed to enter drains but be disposed of as hazardous waste.

When recovery and recycling is not possible, incineration in a high-temperature incinerator is the recommended method of disposal.

Do not allow to enter drinking water suppleis, waste water, or soil.

Section 14: Transportation Information

Proper Shipping Name:	Dichloromethane (Mixture)
Hazard Class:	6.1
Secondary Risk:	None
Identification Number:	UN 1593
Packing Group	PG III
Label Required:	Toxic (Domestic USA and International)
Marine Pollutant:	NO

EXCEPTION for Ground Shipping

DOT Limited Quantity: Up to 4L per inner packaging, 30 kg gross weight per package.
Consumer Commodity: Depending on packaging, these quantities may qualify under DOT as "ORM-D"

TDG INFORMATION

TDG CLASS:	Toxic 6.0
SHIPPING NAME:	Dichloromethane (Mixture)
UN NUMBER/PACKING GROUP	UN 1593 PGIII

SDS Sections 15–16

Section 15: Regulatory Information

Precautionary Label Information: Harmful, Suspected Carcinogen

Ingredient Listings: USA TSCA Europe EINECS, Canada DSL, Australia AICS, Korea, ECL/TCCL, Japan MITI (ENS), **CA Prop 65**

Symbols: Xn

Risk Phrases:
R23/34/35: Toxic by inhalation, in contact with skin and if swallowed
R36/37: Irritating to eyes and respiratory system.
R40: Possible risks of irreversible effects.
R66: Repeated exposure may cause jskin dryness or cracking
R67: Vapors may cause drowsniness and dizziness

Safety Phrases:
S2: Keep out of the reach of children.
S7: Keep container tightly closed when not in use
S9: Keep container in a well-ventilated place.
S16: Keep away from sources of ignition No smoking.
S23/24/25: Avoid breathing vapors, contact with skin and eyes.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S29: Do not empty into drains.
S33: Take precautionary measures against static discharges.
S51: Use only in well ventilated areas.

Section 16: Other Information

Specification Information:

Department issuing data sheet: IPS,Safety Health & Environmental Affairs All ingredients are compliant with the requirements of the European Directive on ROHS (Restriction of Hazardous Substances).

Email address: EHSinfo@ipscorp.com

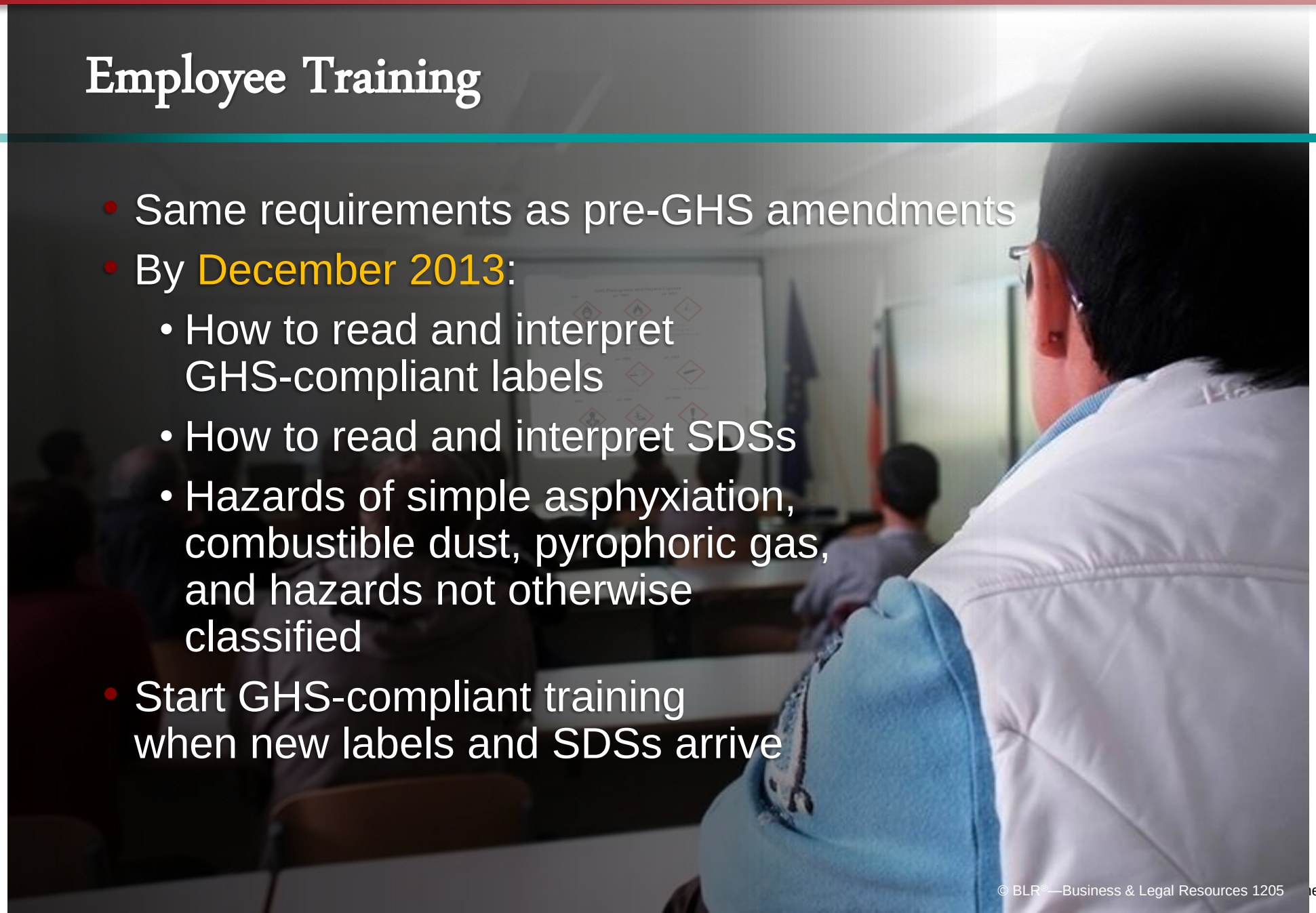
Training necessary: Yes training in practices and procedures contained in product literature.

Reissue date / reason for reissue: 2/19/2010 / Modified GhS Standard Format

Intended Use of Product: Solvent Cement for Bonding Acrylics

This product is intended for use by skilled indiiduals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

Employee Training



- Same requirements as pre-GHS amendments
- By December 2013:
  - How to read and interpret GHS-compliant labels
  - How to read and interpret SDSs
  - Hazards of simple asphyxiation, combustible dust, pyrophoric gas, and hazards not otherwise classified
- Start GHS-compliant training when new labels and SDSs arrive

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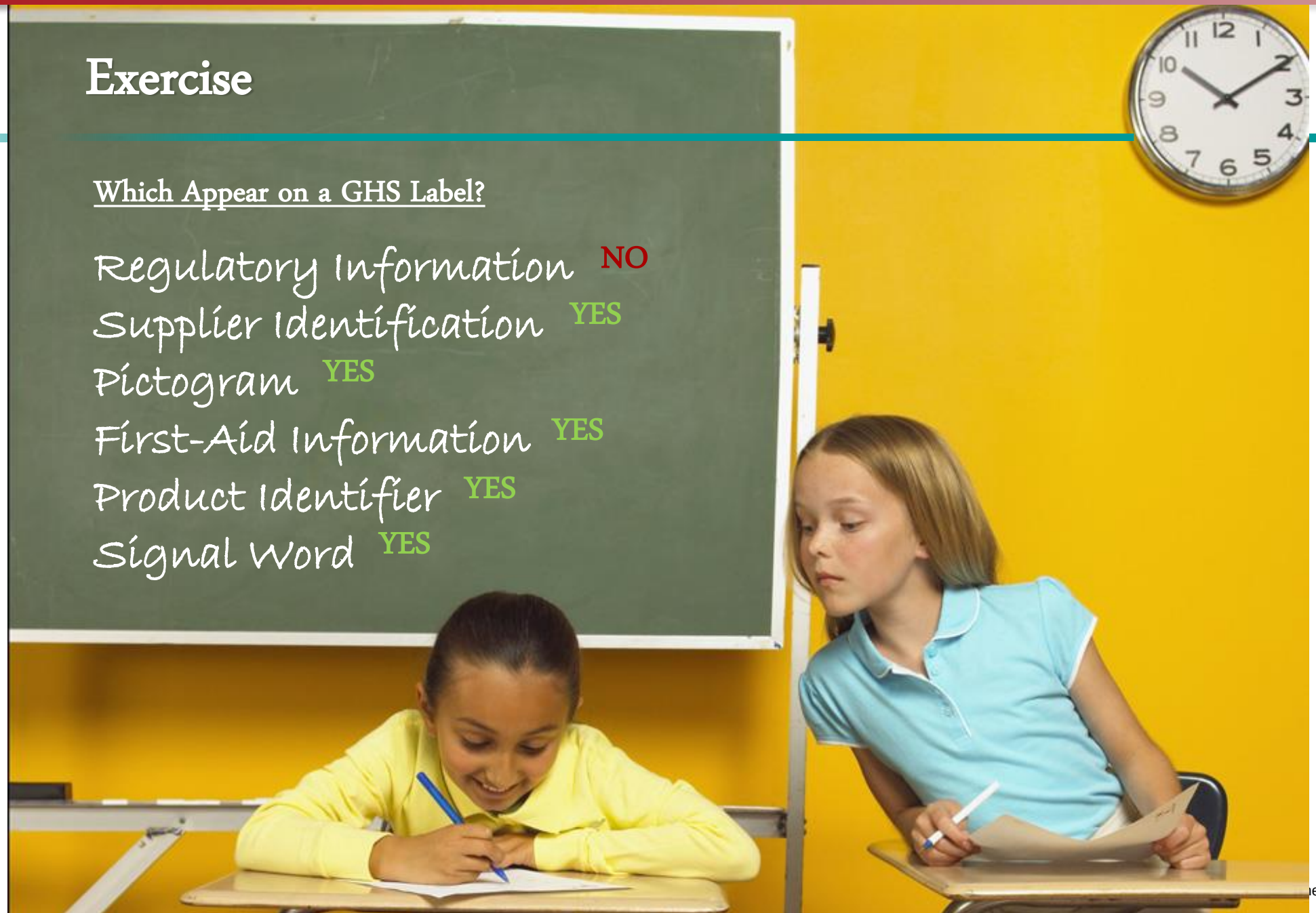
Exercise



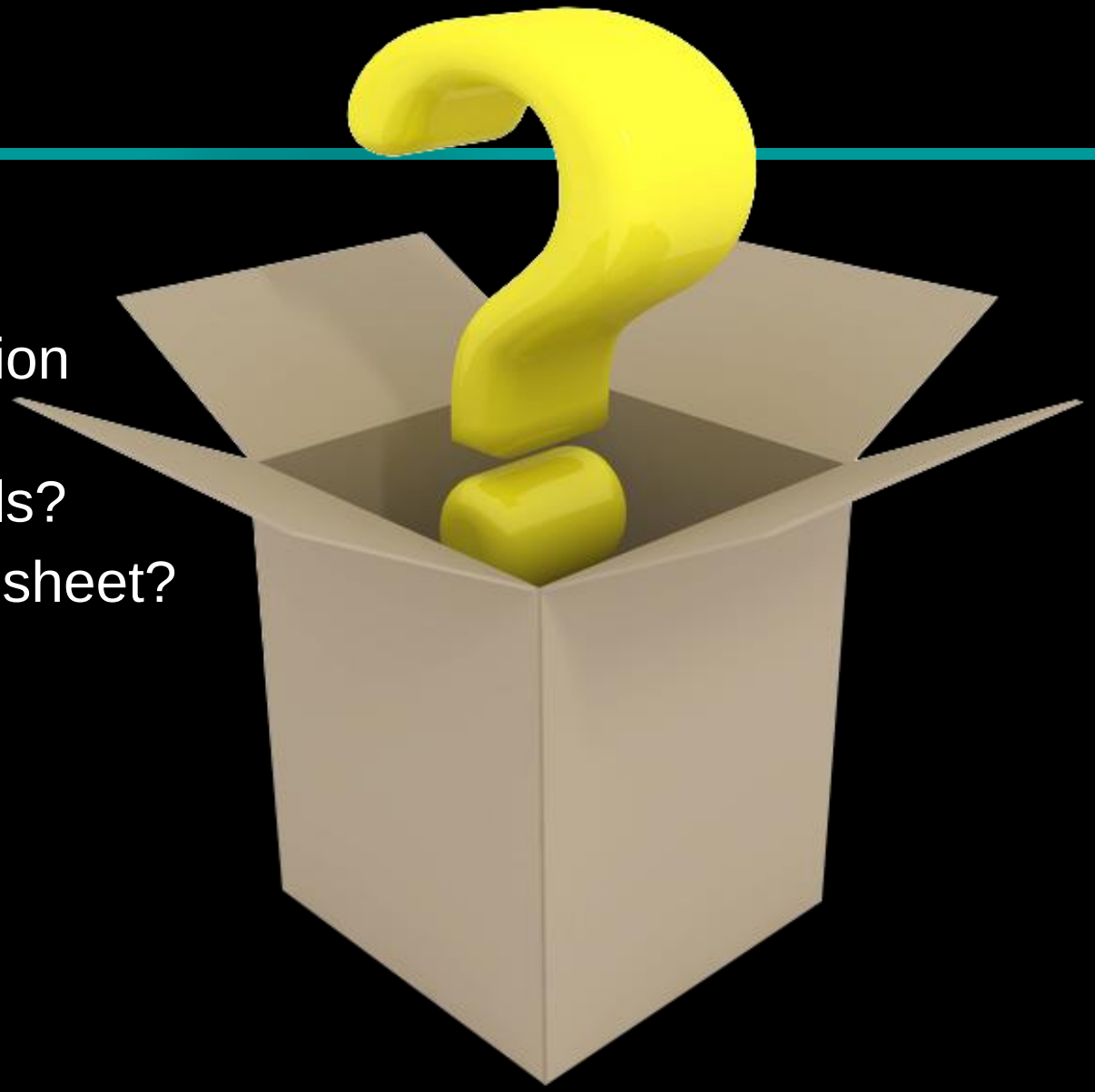
Which Appear on a GHS Label?

- Regulatory Information NO
- Supplier Identification YES
- Pictogram YES
- First-Aid Information YES
- Product Identifier YES
- Signal Word YES

Review

Do you understand:

- Hazard Communication using GHS?
- GHS Chemical Labels?
- The new safety data sheet?
- Employee training?



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Key Points to Remember

- OSHA used GHS to modify the HazCom Standard
- GHS provides standardized safety and health information
- Implementing GHS will make workplaces and workers safer
- GHS will make American businesses more competitive
- GHS means new chemical labels and safety data sheets

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