

Hazard Communication & Chemical Safety



Session Objectives

- ❖ Recognize chemical hazards
- ❖ Know how to find safety information
- ❖ Understand safe chemical handling
- ❖ Know what to do in an emergency



Hazard Communication

Purpose:

To help you understand important safety, health, and environmental information about chemicals used in the workplace.

This is referred to as “**Right to Know**”



What Is the GHS?

- ❖ Globally Harmonized System of Classification and Labeling of Chemicals
- ❖ Provides a new Universal Approach (everyone will have the same information)
- ❖ Includes new Chemical Labels and Safety Data Sheets (**SDS**)'s.....in the past these were called Material Safety Data Sheets or (MSDS)'s



Why Is This Important?

You must be aware of the potential hazards associated with chemicals in the workplace, so that you can protect yourself.

That makes sense doesn't it?



Why Is This Important?

- ❖ Chemicals can cause injuries or affect your health or the environment if handled incorrectly.
- ❖ Many chemicals, like solvents, can cause fires or even explosions if not handled properly.





Chemical Safety Information

- Check the Label
- Check the Safety Data Sheet (SDS)
- Use Personal Protective Equipment (PPE)
- Ask your Supervisor

Chemical Labeling

Rules of the Road

- All chemicals must be labeled.
- The label must clearly list:
 - Name of the chemical
 - Hazards associated with the chemical
 - Manufacturer's contact information
 - If a chemical is transferred to a secondary container, the new container must be labeled with the name of the chemical and the hazard warnings.



Routes of Exposure

Chemicals can enter the body by:

- Ingestion: (through the mouth)
- Injection: (i.e., broken glass from a chemical container punctures the skin)
- Absorption: (through the skin or eyes)
- Inhalation: (you breathe it in)





Safety Data Sheets (SDS)

- ❖ **SDS is required for each hazardous chemical in the workplace.**
- ❖ **SDS provides detailed information about a chemical's properties, safety and health hazards, handling precautions, and required PPE.**

Safety Data Sheets (SDS)

The SDS for each Chemical:

- ❖ Provides a detailed written description of the chemical
- ❖ Describes the hazards, as well as any precautions
- ❖ Describes response to an exposure and to emergencies (spills, etc.)
- ❖ Should be readily accessible and reviewed prior to use



Safety Data Sheets



Image Credit BLR 1304



Sections 1–4 SAFETY DATA SHEET

Hazard Statements

H320: Causes eye irritation

Precautionary Statements

P210: Keep away from heat/sparks/open flames/hot surfaces - No smoking

Section 1: Chemical and Supplier Information

contains the product identifier and other means of identification, recommended uses and restrictions, supplier information, and an emergency number.

H351: Suspected of causing cancer

Section 2: Hazards Identification

contains the hazard classification, the signal word, hazard and precautionary statements, hazard

symbol, other hazards not otherwise classified, and any statements regarding mixtures consisting of ingredients of unknown composition

	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
Methyl Methacrylate Monomer*, Stabilized (MMA)	80-62-6	201-297-1	05-2116297731-37-0000	0-1

Section 3: Composition and Information on Ingredients

contains information about chemical

from that listing. composition and ingredients, including chemical name, common name and synonyms and the Chemical classification of the substance.

*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

contains a description of necessary first aid, symptoms and health effects (acute and delayed), and the need

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

contains information about suitable and unsuitable extinguishing substances, and about specific hazards from the chemical, and special PPE and precautions for firefighters.

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.

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

Section 6: Accidental Releases Measures

contains information about personal precautions and PPE, emergency precautions, environmental procedures, and containment and cleanup methods and materials.

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.

Section 7: Handling and Storage

describes precautions for safe handling and conditions for safe 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.

Section 8: Exposure Controls and PPE

contains information about control parameters (such as exposure limit values), engineering controls, and individual protection measures 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

Sections 9–12

Section 9: Physical and Chemical Properties

contains information about the substance's physical and chemical properties, for example, appearance, odor, melting and freezing points, flash point, and flammability.

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

Section 10: Stability and Reactivity

contains information about the substance's stability or reactivity, possible hazardous reactions, conditions to avoid, incompatible materials, and hazardous decomposition products.

Ingestion:	Low toxicity if small amount swallowed, however larger amounts may cause injury. Aspiration into the lungs may occur during ingestion or vomiting.
Chronic (long term) effects:	IARC Classification 2B (Methylene Chloride)

Section 11: Toxicological Information

contains information describing likely routes of exposure, symptoms, immediate and delayed health effects, etc.

Methyl Methacrylate Monomer, Stabilized (MMA) Oral: 7900 mg/kg (rat), dermal: >35000 mg/kg (rabbit) Inhalation: 3hrs. 7093 PPM (rat)

Reproductive Effects	Teratogenicity	Mutagenicity	Embryotoxicity	Sensitization to Product	Synergistic Products
Not Established	Not Established	Not Established	Not Established	Not Established	Not Established

Section 12: Ecological Information

contains environmental 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

Sections 13–16

Section 13: Disposal Considerations provides information on waste residues and safe handling and disposal of substances and contaminated packaging.

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

Section 14: Transportation Information gives information on the safe transportation of the chemical.

Safety Phrases: R66: Repeated exposure may cause skin dryness or cracking
R67: Vapors may cause drowsiness and dizziness
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.

Section 15: Regulatory Information contains safety, health, and environmental regulatory information.

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 provides other relevant 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

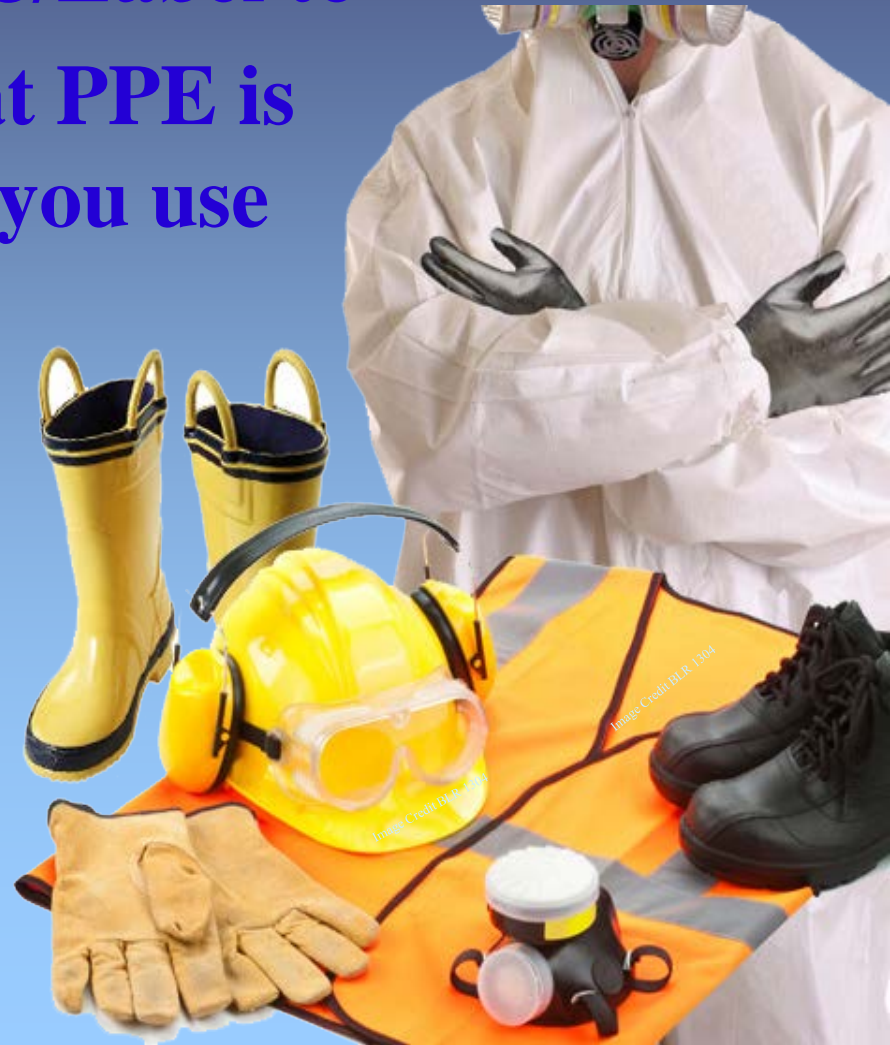
Intended Use of Product: Solvent Cement for Bonding Acrylics

This product is intended for use by skilled individuals 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.

Personal Protective Equipment

☐ Review the SDS/Label to determine what PPE is needed before you use the chemical

☐ Use the PPE!



Key Points to Understand

- The hazards posed by the chemicals you use at work
- Where to find information about chemicals (Labels/SDS)
- Routes of Exposure
- PPE required
- What to do in case of an
EMERGENCY





- ☐ **SDS for every chemical**
- ☐ **Label every chemical**
- ☐ **Review the SDS/label prior to use**
- ☐ **Use the appropriate PPE**
- ☐ **Store and dispose of chemicals appropriately**