SAFETY UNLIMITED, INC.

Weekly Safety Meeting

Working Safely with Solvents

Solvents are so common in many work places that workers forget how dangerous they are. A solvent can be generally described as a substance, usually a liquid, that is used to dissolve another substance.

Although solvents can be used safely, health problems can result from skin contact with solvents or from inhalation of their vapors. In addition to the health hazards, many solvent vapors are flammable and explosive.

One of the most common health hazards associated with exposure to solvents is dermatitis. Contact dermatitis can develop from a single or from multiple exposures. It can leave the skin susceptible to a short-term infection or to a chronic condition. Exposure can also result in sensitization to the solvent, which is a delayed allergic reaction that often becomes more severe with subsequent exposures.

One big danger with solvents is that they can cause trouble before you realize what's happening. Depending on the type and concentration of the solvent, exposure effects can range from mild respiratory irritation to severe damage to body organs and systems. In extreme cases, overexposure to solvent vapors can cause respiratory failure and death.

For practical purposes a solvent is simply a liquid capable of dissolving specific solids or liquids. As you know, there are solvents that we use daily that are hazardous. Petroleum-based solvents are the most common type used in industry. Therefore, as part of your job, it's important for you to understand the hazards of working with or around such solvents.

Exposure and over-exposure to a solvent can come from various methods.

Routes of entry:

- Absorption by direct contact on the skin: If there are no "barriers" between the solvent and your skin, the solvent can be absorbed through your skin.
- Inhalation by breathing solvent vapors: Breathing in the solvent vapors can quickly result in the chemical getting into your body and bloodstream via your lungs.
- Ingestion: from literally eating the chemical by not practicing good hygiene after handling solvents.
  - Direct contact with your hands and mouth through eating or smoking may result in unexpected ingestion of solvents.
- Puncture of the skin by a tool or other object that has a coating of solvent: Punctures can result in the direct introduction of toxic chemicals into your body.

You can block these routes of entry by using good safety practices and the right personal protective equipment: safety glasses or goggles, gloves, protective clothing, and respirators.

Overexposure to solvents can cause a variety of ailments. Depending on the type of solvent you are exposed to, the body will react in different ways.

Skin contact may result in minor skin rashes or an allergic reaction resulting in "chloracne." This happens when the solvent dissolves the skin's natural oils. Some workers can develop a sensitization to a particular product or chemical. Sensitization results in the entire body being "overly" sensitive to a particular chemical or product. After sensitization has occurred, even a very slight exposure can result in adverse or serious reactions. Serious overexposures can lead to illnesses resulting in organ or tissue damage.

When working with solvents, it's important to know what solvents are being used and what steps should be taken to protect against harmful or dangerous exposures.

To optimize safety follow these suggestions:

- Know what solvents you're working with.
- Read the labels and the safety data sheets of the solvents.
  - They list the hazards, health effects, and safe handling procedures.
- Make sure the workspace is properly ventilated.
- Use recommended gloves, eye and face protection, boots, other protective clothing, or barrier creams as required.
- If respiratory equipment is used, make sure it gives appropriate protection for the exposure.
- Take care when pouring solvents from one container to another, as fire or explosions can occur from static electricity buildup.
- Clean up solvent spills promptly.
- Never wash your hands with solvents.
- Prohibit welding, cutting, soldering, and other sources of ignition in areas where solvents are used.
- Store flammable solvents in well-ventilated areas constructed of fire-resistant materials.
- Ground and bond all tanks and equipment for storage.
- Install readily accessible fire extinguishers in storage and work areas.

As with any chemical or product, important information is contained in the product's Safety Data Sheet (SDS). The SDS provides information on safe use, handling, disposal, and protection methods among other information.

If you are unsure of the solvent or product that you are using, ask questions or check the SDS.

If you are aware of it…take care of it!!

Safety Meeting Sign-In Sheet

Supervisor:	*Subject:*
Location:	*Date:*
Conducted By:	*Trainer Signature:*

Name (print clearly)	Signature	Comments / Safety Concerns / Training Requests