Work Safely With Solvent-Based Aerosol Cleaners Meeting Kit

WHAT’S AT STAKE

Solvent-based aerosol cleaners are common in many workplaces—so common that workers forget how dangerous they can be. Health problems resulting from these aerosols can result before workers realize what is happening.

WHAT’S THE DANGER

DANGERS OF WORKING WITH SOLVENTS

Solvent exposure is one of the most common chemical health risks at the workplace. Solvents are incredibly flammable and combustible and should always be stored and handled with care. Because of their volatile nature, anything that could be considered an ignition source, such as smoke or sparks from welding, should be kept away from solvents and the vapors that are produced from them.

Adverse effects of solvent include:

- Contact with the skin will cause dryness and cracking. This may lead to skin disorders, most commonly dermatitis. Take extra care with contact with the skin, as some solvents can possibly penetrate the skin and enter blood circulation.
- Inhaling solvents will cause burning in the nose, throat, and lungs.
- Swallowing or ingesting solvents will burn the throat and affect the digestive system.
- Prolonged exposure to solvents will have overall negative health effects, mainly on the respiratory system, but also on the nervous system, reproductive system, and the kidneys.

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.

EXPOSURE AND OVER-EXPOSURE TO A SOLVENT HAS 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.

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.

HOW TO PROTECT YOURSELF

SOLVENT CLEANER SAFETY TIPS

Safe Handling

- Keep solvents to be used during the workday in fire-resistant safety containers that have self-closing lids.
- Make sure that containers are properly labeled.
- Take only the amount of solvent you need for the job.
- Dispose of solvent-soaked wipes according to EPA guidelines.

Safe Storage

- Keep your storage areas clean and clear of combustible items.
- Avoid stacking containers on top of one another. OSHA standards allow two containers stacked upon one another with a pallet in between.
- Don’t store solvents with incompatible materials such as oxidizers. Incompatible chemicals can create an explosive situation.
- Store drums in areas that are cool and out of direct sunlight to prevent high temperatures from increasing the amount of vapor in the air.
- Don’t store or dispense solvents near ignition sources.

Employee Training

- Avoid eating, drinking, or keeping food and beverages in solvent areas. This increases the chances of accidentally ingesting solvents.
- Avoid washing hands with solvents. Exposing skin to solvents could result in a rash, dryness, or other skin problems.
- Always wear required personal protective equipment to prevent hazardous exposures to solvents.
- Remove personal protective equipment carefully when finished working to avoid getting solvents on the skin.
- Wash thoroughly after working with solvents—and before eating, drinking, or using the rest room. Also wash before leaving the work area for other parts of the facility. Failing to do so could spread chemical contamination to other parts of the facility and put other employees at risk.

FINAL WORD

There are a lot of different health hazards associated with solvent exposure including but not limited to toxicity to the nervous system, organ damage, respira0tory issues, cancer and skin impairment. In addition to the health challenges that employees face, solvents are generally composed of hazardous materials and as such it is important that companies employ proper solvent storage and handling protocols.