



Working Safely With Solvents

Solvents are used to dissolve other substances. They can be used for jobs such as cleaning, degreasing and thinning paint. Most solvents are safe to use if you handle them correctly. But exposure to solvents can have long-term health consequences when they're used incorrectly. Some solvents you may use are:

-  gasoline
-  benzene
-  turpentine
-  carbon tetrachloride
-  acetone

Physical Hazards

To know the dangers of solvents, you need to know their physical characteristics. Most solvents evaporate quickly, creating a breathing and explosion hazard. The vapors of solvents can ignite under certain conditions: flammable solvents ignite at a temperature under 100° F (37.8° C) when they're exposed to a spark, flame or static electricity. Because solvent vapors are heavier than air, they tend to concentrate near the floor. Read a solvent's material safety data sheet (MSDS) to determine:

-  Is it flammable?
-  What are its upper and lower explosive limits?
-  What is the solvent's permissible exposure limit (PEL)—the amount of solvent in the air you can safely be exposed to?

FIRST AID

-  If a solvent splashes on unprotected skin, wash it off immediately under running water.
-  Splashes in the eyes should be flushed at an eyewash station for 15 to 20 minutes.
-  If dizziness occurs from breathing solvent fumes, get to fresh air immediately and get medical attention.

Health Hazards

Solvents tend to be easily absorbed through the lungs, skin and eyes.

-  They penetrate the protective oils of your skin, causing extreme irritation, dryness, infection or contact dermatitis.
-  Splashes in the eyes result in burning, watery eyes, redness and irritation.
-  Chronic exposure to solvent vapors may cause blurred vision, a gritty feeling in the eyes and permanent eye damage.
-  If you breathe in too much solvent vapor, you may feel nose and throat irritation, dizziness, headache or nausea or even stop breathing.
-  Prolonged breathing of solvent vapors can cause serious lung, liver, kidney and nervous-system damage.

How to Protect Yourself From Solvents

-  Always wear the recommended personal protective equipment when using solvents. This includes chemical splash goggles, a face shield or safety glasses with side shields.
-  Be sure to use the right type of neoprene or rubber gloves for the solvent you're using; otherwise, the solvent may dissolve your gloves.
-  Use a respirator specially designed for use with the solvent.
-  Use fans, hoods and other available ventilation systems.
-  Avoid putting your hands into solvent, even with gloves on. Use a tool instead.
-  Store solvents in grounded containers in a well-ventilated area away from direct sunlight, other heat sources and oxidizers.
-  Dispose of solvents and solvent-soaked rags and clothing according to your company's policy.



Responding to Emergencies Involving Solvents

Do you know what to do in an emergency involving solvents?

- ☹️ Get help. Only clean up a solvent spill yourself if it's small and you know proper cleanup procedures.
- ☹️ If a solvent spill is large, evacuate the area immediately and notify your supervisor.
- ☹️ Only enter an emergency area if you're wearing proper protective clothing.
- ☹️ Remove contaminated clothing immediately.
- ☹️ If there are injuries, send someone for medical help immediately.
- ☹️ If you've been exposed to a solvent, get medical help even if you don't have symptoms, such as dizziness, vomiting, nausea, skin irritation and difficulty breathing. Symptoms don't always appear immediately.
- ☹️ If solvent splashes on your skin, rinse it off immediately under running water for 15 to 20 minutes and seek medical attention.



- ☹️ If solvent splashes in your eyes, remove contact lenses and flush your eyes for 15 to 20 minutes.
- ☹️ If you swallow solvent, don't drink or swallow anything or try to vomit unless directed by a medical professional, and seek medical attention immediately.
- ☹️ If you inhale solvent vapors, ask a coworker to summon medical aid and get to fresh air immediately.



IN AN EMERGENCY...

Do you know where to get help? Where is:

- ☹️ the eyewash station?
- ☹️ a water source?
- ☹️ the medical emergency number?
- ☹️ the nearest shower?
- ☹️ the evacuation route?
- ☹️ the poison control center phone number?