

Solvents in Construction

Hazard Alert



Solvents are liquids used to:

- Dissolve greases, oils, and paints
- Thin or mix pigments, paints, glues, pesticides, and epoxy resins.

Solvents are in adhesives, carpet glues, cleaning fluids, epoxy resins, hardeners, lacquers, mastics (asphalt or coal-tar), paints, paint thinners, and primers. They're used to clean tools, too.

Examples of solvents are acetone, alcohol, benzene, epichlorohydrin, esters, gasoline, glycol ethers, heptane, hexane, kerosene, ketones, methanol, methylene chloride, mineral spirits, naphtha, toluene, trichloroethane (methyl chloroform), turpentine, and xylene.

The Hazards

You can be exposed to solvents if you:

- **Breathe them** (This can happen when you mix glue or paint – or spray or brush them – because solvents evaporate fast.)
- **Get them on your skin** (Many solvents can go through your skin. For some solvents, the danger is as bad as if you breathe them).
- **Swallow them.** Solvents get into body fat in the skin, nerves, and brain.

Many solvents can catch fire, even in cold weather.

Protect Yourself

Very small exposures over many months can harm you. So can one large exposure. A very large exposure can kill you.

Working with solvents can make you feel dizzy, uncoordinated, like a drunk — or cause headaches, nausea, stomach pains, skin rashes, cracking or bleeding skin, or irritated eyes, nose, and throat.

Some solvents can blind you, destroy your kidneys or liver, or affect your nervous system. Some solvents can add to your risk of irregular heart beats, which can kill you. Some can cause cancer.

This is what you can do:

- **Read the labels and the MSDS** (material safety data sheet) for each solvent you will use.

(Please turn the page.)

- **Replace solvents when you can.** If you use water-based (latex) paints, you don't need to use thinners or cleaners that have solvents.
- **Don't get solvents on your skin.** Don't use solvents to wash paint off your hands. When you use gloves, check the manufacturer's instructions to make sure the gloves protect against the solvent you are using. When you clean oil-based paint from brushes, wear gloves.
- **Wash your hands before you smoke, eat, or drink.** If you don't, you can swallow solvents by mistake. Don't smoke, eat, or drink where solvents are used.
- **Try not to breathe solvents.** Use the smallest container you can. Keep lids on paint or glue cans or degreasing units when they are not being used. Throw out rags that have solvents on them. Keep your face away from solvents. Use a long-handled paint roller.
- **Work with solvents only where there is fresh air.** You can't always smell solvents. You may have to work indoors — to glue tile or spray-paint a wall — or in a trench or other confined space with solvents. If you do, set an exhaust fan to pull the vapors away from you. (Indoors, try to have one fan in a window pull vapors outdoors and a fan to pull in air from outside the room.)
- **Respirators and gloves are used when nothing else helps.**
 - **Paper dust masks will not protect you against solvents.** You need at least a half-mask respirator approved by the National Institute for Occupational Safety and Health (NIOSH) that has an organic-vapor cartridge. Respirator cartridges must be changed regularly — often once per shift, or more.
 - **An organic-vapor cartridge may not be enough** against some solvent vapors that can cause cancer, like methylene chloride. For those chemicals, OSHA and NIOSH recommend only supplied-air respirators with air hoses.
- **OSHA says you must have a full respiratory protection program,** if respirators are used. This means proper selection and fitting of respirators, medical screening of workers for fitness to wear a respirator, and worker training. Correct storage and cleaning of respirators, and an evaluation of the program are also needed.
- **To prevent fires,** when you throw out rags that have solvents, put them in special containers.
- **If you think there is a problem, exposure levels can be measured** with special equipment. For more information, call your local union, the Center to Protect Workers' Rights (CPWR) (301-578-8500 or www.cpwr.com), the National Institute for Occupational Safety and Health (1-800-35-NIOSH or www.cdc.gov/niosh), or OSHA (1-800-321-OSHA or www.osha.gov). Or go to www.elcosh.org.

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