Aerosol Cleaner Use in Auto Repair

Overexposure to solvent-based aerosol (spray can) cleaners affects the nervous system (the brain), causing nausea, dizziness, clumsiness, drowsiness, and other effects like those of being drunk. Overexposure for months or years can cause long-lasting and possibly permanent damage to the nervous system. The symptoms of long-term effects include fatigue, sleeplessness, poor coordination, difficulty in concentrating, loss of short-term memory, and personality changes such as depression, anxiety, and irritability.

Solvents in aerosol automotive cleaners can irritate the eyes, nose, throat and skin. Skin contact can cause skin rash (dermatitis). Some solvents can also cause chronic health effects such as damage to the nerves in the feet, legs, hands and arms, damage to the reproductive system, birth defects, and cancer.

Solvents are used to dissolve grease.

Check the Material Safety Data Sheet (MSDS) - for information on solvents and other chemicals in your cleaning products. Under Cal/OSHA’s Hazard Communication Standard, an employer must disclose the presence of hazardous chemicals in a cleaner and must train employees to use the cleaner safely.

Solvents frequently found in automotive aerosol cleaners:

- Solvent
- Acetone
- Toluene
- Xylene
- Methanol
- Heptane
- Ethylbenzene

Aerosol automotive cleaners are used as brake cleaners, carburetor or fuel-injection air intake cleaners engine degreasers, and general purpose degreasers.

Solvents in aerosol cleaners enter your body when you breathe solvent vapors or droplets. Some solvents can enter your body through your skin.

Reduce exposure to solvent-based aerosol cleaners by:

Substituting safer cleaning products whenever possible:

- Clean brakes with water-based aerosol cleaners and non-aerosol water based cleaning system.
- Clean carburetor or fuel-injection intakes with aerosol cleaners formulated with soy and acetone.
- Degrease engines with water-based aerosol cleaners.

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Aerosol Cleaners (continued)

Use water based aerosol cleaners or aerosol cleaner formulated with soy and acetone for general purpose cleaning. Use aerosol products with less toxic solvents such as acetone, heptane, and isopropyl alcohol.

Avoid using products for which you do not have MSDSs and information on health hazards.

Use less, if you must use solvent-based cleaners.

Store rags soaked with solvent-based cleaners safely. Use self-closing, hinged metal containers to prevent hazards caused by evaporating solvents.

Make sure there is good ventilation when you use solvent-based cleaners.

Use respirators only if ventilation and other control methods are not effective and/or feasible. A “dust mask” does not remove solvent vapors from the air and will NOT protect you.

A half-face respirator with organic vapor cartridge can reduce exposure to solvents in aerosol cleaners. Employers must comply with the CAI/OSHA Respiratory Protection Standard Title 8, California Code of Regulations (CCR) Section 5144. Requirements include annual training, making sure respirators fit properly, and that you are medically fit to wear a respirator.

See [www.dir.ca.gov/title85144.html](http://www.dir.ca.gov/title85144.html)

Protect your skin from contact with aerosol cleaning products. Wear protective gloves, such as nitrile, when using all aerosol automotive cleaners. Thin low-cost nitrile gloves are available. Check manufacturers’ specification to make sure that gloves resist penetration by the mixture of solvents in the aerosol cleaners you use. Inspect and replace gloves often to prevent leaks.

Be aware of products containing solvents such as n-methyl pyrrolidone and 1-BP that can penetrate skin.

Latex gloves do not protect you from solvent-based cleaners.

For more information:

Hazard Evaluation System and Information Service (HESIS) answers questions about chemicals and other workplace hazards and has many free publications. (510) 622-4317

Institute for Research and Technical Assistance (IRT) has information on safe alternatives for solvent-based cleaners. (818) 244-0300.

Cal/OSHA Consultation Service helps employers to evaluate the workplace and improve the health and safety conditions. (800) 963-9424.

Occupational health services can be found at:
University of California (UC) San Francisco (415) 754-7635
UC Davis: (530) 754-7635
Air Board Enacts First Statewide Ban on Perchloroethylene (Perc) by 2023

On January 25, 2007, the California Air Resources Board (ARB) approved the amendments to the Airborne Toxic Control Measure (ATCM) for Emissions of Perchloroethylene (Perc) from Dry Cleaning Operations (Dry Cleaning ATCM). These amendments will be effective upon final approval by the Office of Administrative Law which is anticipated to be by December 31, 2007.

Who does the Dry Cleaning ATCM apply to?

The requirements of the amended Dry Cleaning ATCM applies to any person who sells or distributes Perc and who installs, owns, operates, or distributes cleaning equipment in California that uses a solvent the contains Perc.

What are the major new requirements for Perc dry cleaners?

The amendments to the Dry Cleaning ATCM will:

- Prohibit the installation of new Perc dry cleaning machines beginning on January 1, 2008;
- Eliminate the use of existing Perc machines at co-residential facilities (facilities that share a wall with, or are located in the same building, as a residence) by July 1, 2010;
- Require that converted machines, and machines that are 15 years or older, be removed from service by July 1, 2010;
- Require that all Perc machines be removed from service once they become 15 years old (as a result, all remaining Perc machines must be removed from service by January 1, 2023); and
- Expand good operating practices and recordkeeping and reporting requirements.

The requirements for Perc dry cleaners may not apply to those located in the South Coast Air Quality Management District (SCAQMD) if the SCAQMD’s Rule 1421 is determined to be equivalent to the amended Dry Cleaning ATCM. Please contact ARB or SCAQMD staff regarding equivalency questions.

What are the available alternative dry cleaning technologies?

There are a variety of alternative dry cleaning machines available for use, with some suitable for each of the available alternative dry cleaning solvents. The available alternative dry cleaning solvents include the following:

- Water-based cleaning,
- Carbon dioxide (CO₂),
- Hydrocarbon solvent (DF-2000™ Fluid, EcoSolv®, and Shell Sol 140 HT),
- GreenEarth® solvent (composed of volatile methyl siloxane).

Please see Dry Cleaning continued on page 4
The cost of converting could be significant for dry cleaners, 85 percent of which are small businesses with a slim profit margin. Replacing a machine that uses perchloroethylene, which is known as “perc,” can cost between $41,500 and $175,000.

Although the air board did not endorse a substitute, the regulation would give cleaners a $10,000 incentive to buy a machine that uses carbon dioxide or what is known as a “wet cleaning” system.

Environmentalists urged the board to ban the most common alternative, which uses hydrocarbons. Critics said it could lead to increased ozone pollution.