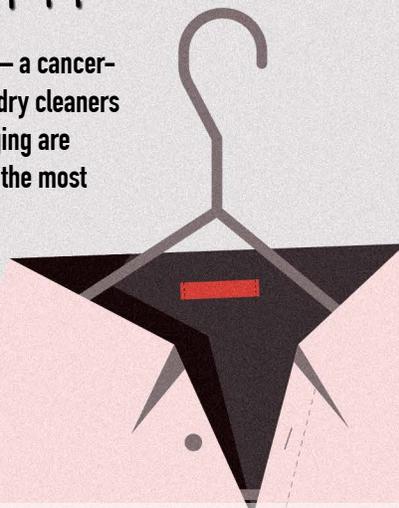


HOW GREEN IS YOUR CLEANER?

The state of California is phasing out perchloroethylene – a cancer-causing chemical used as a cleaning solvent by 28,000 dry cleaners nationwide. But not all of the alternatives that are emerging are equally green. The cheat sheet below identifies some of the most common solvents used in the professional cleaning process in the state and highlights some of the health concerns associated with them.



WHAT IS IT?

HOW GREEN IS IT?

Perchloroethylene (also known as “perc”)

The dominant dry cleaning solvent since the 1950s, perc is a colorless liquid that is especially effective on oil-based stains.

Perc is listed by the state as a chemical known to cause cancer and reproductive toxicity. [Long-term exposure](#) may cause damage to the liver, kidneys and central nervous system. Dry cleaning workers and those living in close proximity to dry cleaners are most at risk. Perc spills are considered “[severe environmental accidents](#),” that can contaminate the soil, air and aquifers. There are about 700 perc cleaners left in the state.

Wet cleaning

Developed in Germany, wet cleaning relies on computer-controlled machines, special detergents for the safe cleaning of delicate garments in water by trained cleaners.

Wet cleaning is the most eco-friendly alternative to perc and also uses [less energy](#) than other dry cleaning methods, according to researchers and regulators. There are currently fewer than 200 dedicated wet cleaners in California in spite of the state’s efforts to promote the process through incentives. San Francisco Department of the Environment [lists local wet cleaners](#).

CO2

[CO2](#) is a non-flammable, non-toxic, naturally-occurring gas that becomes a liquid solvent when subjected to pressure. It is the same solvent that removes caffeine from coffee.

CO2 is considered by state regulators to be an environmental alternative to perc-based dry cleaning, but the machines are expensive and there are few CO2 cleaners in California. San Francisco Department of the Environment [lists local CO2 cleaners](#).

Petroleum Hydrocarbon

An organic compound, hydrocarbon solvents are used in closed-loop machines.

Less toxic than perc, hydrocarbon [contributes to ozone](#), which is linked to respiratory problems and premature death. [There is a lack of data](#) about the potential harms of long-term exposure to hydrocarbons, but existing studies suggest inhalation exposures can cause dizziness and other central nervous system problems. Hydrocarbon solvents are combustible and so may present a fire risk to neighboring buildings. Hydrocarbon is used by about 2,000 dry cleaners in California.

Green Earth (liquid silicone or D5)

Green Earth is a colorless, odorless liquid that is used in many consumer and industrial applications, including hair products and lotion.

Green Earth is not regulated by the California Air Resources Board. Exposure to the solvent in high concentrations causes [cancer in rats](#). Its persistence in the environment and in human tissue has been raised as a concern. It is combustible and, if ignited, can transform into the toxic chemical [formaldehyde](#). The industry argues that the solvent does not pose harm to humans and can be [safely used](#) in the closed loop dry cleaning process. Green Earth has a [store locator](#) on its website.

See also San Francisco’s Department of the Environment’s [summary](#) of professional cleaning solvents and a [fact sheet](#) produced by the California Air Resources Board.