

Dry cleaning chemical

Suffolk suit over water contamination highlights concerns

BY JENNIFER SMITH
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Beloved by dry cleaners for its near-magical ability to lift stains, the solvent tetrachloroethylene has few fans among environmental advocates or local water suppliers, who have spent millions to remove it from drinking water on Long Island.

Recently, the Suffolk County Water Authority sued Dow Chemical, seeking damages for contamination of drinking water by the chemical, which is also known as perc or perchloroethylene. Dow responded that it had "seen claims of this nature filed before and has been successful in defending the litigation."

Still, the suit highlights an environmental and human health issue that few connect with the crisp shirts and slacks they pick up from the cleaners.

Used across Long Island

Perc has been classified as a likely carcinogen by federal health and environmental agencies, and exposure to high concentrations can also damage the central nervous system. Across Long Island, 440 dry cleaners use perc in their washing machines, and people who work in the industry can be exposed to perc by breathing in vapors; those who live above or near facilities may also be exposed to concentrations in indoor air.

Drinking water that contains perc is another route of exposure, though water suppliers are required to test for such contaminants and filter them out to comply with federal guidelines.

Perc taints soil and groundwater at 73 state hazardous waste cleanup sites on Long Island, nearly a quarter of all such sites here. It's found at 10 of the region's 26 federal Superfund sites.

Much of the contamination on Long Island is a legacy of days when laundry and manufacturing workers would slosh perc-tainted water out the door or down the drain. Dryers vented the solvent into the air, or in buildings attached to dry cleaners. Inside the laundry, perc-soaked garments produced dizzying fumes.

"Back in the old days, you'd

A primer on the solvent perc

What is perc?

Tetrachloroethylene, often called perc or PCE (from one of its other chemical names, perchloroethylene), is a chemical solvent widely used to dry clean fabrics and also as a metal degreaser.

How are people exposed?

People can swallow water that has been contaminated by perc. Inhalation is another route: Workers at dry-cleaning facilities can be exposed to concentrations in indoor air. Clothes that have been dry-cleaned also release small amounts of perc, but at levels considered safe.

So, it's in the groundwater?

Yes, in many places, but



Hazardous waste label on dry-cleaning drum.

local water utilities filter it out before it is pumped up from the ground and sent to people's homes.

What about its effect on human health?

Perc is classified as a potential or likely human carcinogen by the EPA and other federal health and safety agencies. It can damage the nervous system, kidney and liver.

hold your breath, open the washer and pull out the clothes," said Larry Bleck of Harbor French Cleaners in Baldwin Harbor.

Perc became popular among dry cleaners after World War II because it posed less of a health risk compared with more flammable solvents such as kerosene and white gasoline. The federal government classified tetrachloroethylene as a hazardous waste in the 1970s. Now perc wastewater is carted away in sealed containers. To limit harmful vapors, the state requires dry-cleaning machines to wash and dry clothes inside the same drum.

"A dry cleaner operating today would not cause the problems we're cleaning up," said Jim Harrington of the state Department of Environmental Conservation's division of environmental remediation.

Few violations these days

Enforcement statistics seem to bear that out. Over the past five years, six of Long Island's 440 perc dry cleaners were cited by the DEC for seven hazardous waste violations. The federal Occupational Safety and Health Administration, which sets limits for workplace exposure to perc,

inspected 11 dry cleaners in New York State over the past five years. None were cited, said spokesman John Chavez.

Still, many environmental advocates say dry cleaners should stop using the solvent. They cite health risks for workers and people who live above or near dry cleaners, places where some studies have found elevated levels of perc in indoor air.

"It's a groundwater contaminant. We think that it's a likely carcinogen," said Patti Wood, executive director of Grassroots Environmental Education in Port Washington. "If you're living above or adjacent to a dry-cleaning establishment there are going to be higher than I would feel acceptable levels of perc in your apartment." According to a review of scientific studies by the U.S. Department of Health and Human Services, perc has been shown to cause liver tumors in mice and kidney tumors in male rats. Some epidemiological studies of people exposed to the chemical at work also show cancer though some say the human risk is less clear.

In 2006, the federal Environmental Agency announced that perc would be phased out by

2020 in dry cleaners located in residential buildings. But some don't think that was enough.

"It's one of the big cancer risk drivers in the cities and across the country," said James Pew, an attorney with the environmental advocacy group Earthjustice, which has sued the EPA over the issue. "There is just no way to keep it in the machines reliably."

The argument over perc comes as the EPA is re-evaluating the chemical's potential to harm human health.

"We have a better understanding that this chemical may cause cancer," says Peter Preuss, the EPA's director of environmental assessment.

Preuss is overseeing the revision of the agency's toxicological assessment for perc. The assessment could lead to stricter limits for perc in air and water, or new rules for cleaning up hazardous waste sites.

The lawsuit filed by Suffolk County Water Authority comes a month after an announcement the EPA may lower the maximum contaminant level for perc in drinking water — now 5 parts per billion.

Some not sure of danger

Some aren't convinced the chemical poses a danger if exposure remains below the limits suggested by standards for indoor air and drinking water. "This compound is what you call a weak carcinogen," said pharmacologist Sam Kacew, who led a National Academy of Sciences panel that reviewed the EPA's draft perc assessment. He said exposure to concentrations higher than those in soil and groundwater would be needed to increase cancer risk.

A chemical scent still lingers at Harbor French Cleaners. But that could be from cleaned garments hanging in the 5,000-square-foot space. Bleck says his current machine, a self-contained unit about 8 feet tall with a bevy of gaskets and carbon filters, prevents perc leaks.

He's not worried. "My whole family was in this business, from the uncles to the cousins," Bleck said. "No one ever got cancer."

And his enthusiasm for the solvent remains undampened. "Nothing," he said, "cleans as good as perc."

Owner Larry Bleck still uses perc at Harbor French Cleaners in Baldwin Harbor, but he's testing this device that makes claim can break down the traditional solvent.



Thomas Davis' Greensleeves chain uses liquid silicone as an alternative to perc solution.



Find a map of LI sites with PCE contamination at newsday.com/li

raises new alarms



NEWSDAY PHOTO / KAREN WILES STABLE

Some cleaners use 'green' solutions

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Immersing stained clothes in tetrachloroethylene, or perc, isn't the only route dry cleaners can take. Some carefully launder garments in water or use petroleum-based compounds to dry-clean. Others opt for so-called "green" solvents such as liquid silicone or liquid carbon dioxide.

"The solvents are a medium that the clothes go in, just like water in a washer," said Thomas Davis, co-founder of Greensleeves, a dry-cleaning chain

based in Glen Cove that uses a liquid silicone solvent called GreenEarth.

Most alternative methods either cost more than perc or take longer to get clothes clean. And they may not be any more environmentally friendly.

Today's hydrocarbon solvents are essentially less-flammable versions of petroleum products used in the past, such as benzene. "They do not present the same exact problems as perc, but they are volatile organic compounds and they contribute to smog," said Patti Wood of Grassroots Envi-

ronmental Education.

Woods says carbon dioxide systems are the most sustainable way to go, because the CO₂ gets reused and no fluids are discharged to air or water.

But Davis said he chose liquid silicone because CO₂ doesn't get clothes as clean unless other chemical solvents are added to help lift off stains.

One of a broad class of compounds known as siloxanes, liquid silicone is not regulated by the federal government — something proponents say reflects its safety. Still, the EPA has selected siloxanes as one of

the chemicals that it plans to evaluate to determine whether it poses risks to the public.

At Harbor French Cleaners in Baldwin Harbor, owner Larry Bleck still uses perc. But he's experimenting with a gadget that uses microwaves to break down the chemical-tainted wastewater into carbon dioxide and water. The device, designed by a Long Beach engineering firm in conjunction with companies in Wyoming and California, is still being tested. It has not yet been approved for use by state environmental officials.

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CLARIFICATION

Lookin At Lucky was sixth in the Kentucky Derby on Saturday. His finish was unclear in the chart of the Derby that appeared Sunday.

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THIS DATE IN HISTORY

1626 Dutch explorer Peter Minuit landed on Manhattan.

1904 The United States took over construction of the Panama Canal.

1932 Al Capone, convicted of income-tax evasion, entered federal penitentiary in Atlanta. (He was later transferred to Alcatraz Island.)

1946 A two-day riot at Alcatraz prison in San Francisco Bay ended, the violence having claimed five lives.

1961 A group of "Freedom Riders" left Washington, D.C., for New Orleans to challenge racial segregation on interstate buses and in bus terminals.

1970 Ohio National Guardsmen opened fire during an anti-war protest at Kent State University, killing four students and wounding nine. (Two of those killed, Allison Krause and Jeffrey Miller, had taken part in the demonstration. The other two, Sandra Scheuer and William Schroeder, were passersby en route to their classes.)