

## Maintaining Dry Cleaning Premises

To avoid further chemical contributions and contamination, efforts are needed to reduce pollution, new measures are needed.

Common countermeasures to reduce the potential for releases include:

- Install impervious epoxy floor sealants;
- Seal all floor drains, cracks and seams, including seams between the floor and walls and those on spent-filter storage containers; and
- Position secondary containment beneath equipment, as well as under all solvent storage and handling areas
- If pollution has occurred, corrective actions depend on the exposure risk of a plume in which the pollution occurred. Corrective actions include continued monitoring; containment and dewatering; groundwater extraction and treatment; aerobic stripping; and chemical oxidation.

There are several new technologies on the horizon but only two are commercially available at this time: wetcleaning and a synthetic petroleum solvent process. The new petroleum solvent process has a reduced potential for fire hazards and is currently being used by some drycleaners. Even with the new process changes, some local fire codes still restrict or prohibit the use of these solvents because they are considered a fire hazard.



## Keeping Clean Solutions

The US EPA's Design for the Environment (DfE) Program is a voluntary initiative that forges partnerships with a variety of industries including drycleaning, in an effort to encourage the design of safer processes and products by eliminating or minimizing pollution. For more information:

<https://www.epa.gov/saferchoice/design-environment-dfe-workplace-best-practices>

The Garment and Textile Care Program (GTCP) is a voluntary collaboration among the professional clothes cleaning industry, labor, research and environmental groups, other government agencies, and the EPA. The GTCP is dedicated to reducing risks and preventing pollution associated with chemicals used in the textile and garment care industries.

<https://nepis.epa.gov/Exe/ZyPDF.cgi/P100C28X.PDF?Dockey=P100C28X.PDF>

The Florida Legislature has established a state-funded program to clean up properties that are contaminated as a result of the operations of a drycleaning facility. The program is administered by the Florida Department of Environmental Protection.

<https://floridadep.gov/waste/waste-cleanup/documents/drycleaning-solvent-cleanup-program-general-information>



### For more information from Charlotte County:

Phone: 941.764.4380

To report illicit discharge: 1.866.Y.DUMP.CC (1.866.938.6722)

Web Site:

[www.charlottecountyfl.gov/services/engineering/pages/stormwater-NPDES-public-education-outreach](http://www.charlottecountyfl.gov/services/engineering/pages/stormwater-NPDES-public-education-outreach)

To report illicit discharge online:

[www.charlottecountyfl.gov/services/solidwaste/pages/illegal-dumping](http://www.charlottecountyfl.gov/services/solidwaste/pages/illegal-dumping)

For other information: Public Works 941.575.3600 or Solid Waste Division 941.764.4380

# DRY CLEANING POLLUTION CONTROLS

Dry cleaner establishments are quite common in urban settings. And so is the contamination that is associated with dry cleaning activities. Such contamination may pose serious health risks due to its nature and resistance to environmental degradation.

While modern equipment and preventive measures have considerably reduce the occurrence of accidental spills and leaks at dry cleaning locations, the legacy of decades of dry cleaning activities is still felt today.



## Dry Cleaning: How it works.

Dry cleaners typically use either chlorinated solvents such as perchloroethylene (aka, perc,) or petroleum-based solvents as cleaning solvents. Despite its name, drycleaning is not totally dry. It involves the use of liquid chemicals. Most drycleaners use perc as their primary solvent. The clothes are cleaned in a liquid solution that is mostly perc or some other solvent, with very little water if any. Here are some ways drycleaners process clothes:

- Spots are usually treated by hand before placing garments in large machines.
- Liquid solvents, detergents, and sometimes a small amount of water, are added to the machines. The machines then agitate clothes in a manner similar to your own washing machine.
- Once clean, the clothes are dried in the machine or transferred to a separate dryer, then pressed and shaped.
- Used solvent is distilled so it can be purified. In addition to distillation, most machines also use filters to clean used solvent.
- After the purification process, filters which contain the solvent in very small amounts, and certain solvent residues, such as perc, must be managed and disposed of as hazardous waste. Drycleaners can send them to special facilities for recycling or incineration.



## Dry Cleaning Pollution Sources

Since 1992, the U.S. Environmental Protection Agency (EPA) Design for the Environment garment and Textile Care Program has been working in partnership with the drycleaning industry to reduce exposures to perchloroethylene, or "perc," the chemical solvent used by most drycleaners to clean garments and textile products. Approximately 85% of cleaners use perc as their primary solvent.

There are many steps during the dry cleaning process in which PERC and other solvents have the potential to become airborne. Filtration and distillation are the main methods used to recover solvents. Distillation removes soluble oils and greases not recovered by filtration. These processes convert PERC into a solid form that then renders it disposable as hazardous

## Greening Dry Cleaning

The greenest cleaning methods are wet cleaning and a process using liquid carbon dioxide. Wet cleaning relies on water and biodegradable detergents in a computer-controlled process that regulates temperature, pH and agitation to clean each garment as gently and thoroughly as possible. Liquid CO<sub>2</sub> is a virtually pollution-free solvent; carbon dioxide gas is compressed into a liquid (the CO<sub>2</sub> is harvested from industrial byproducts, so the process doesn't contribute to global warming).



## Greening Dry Cleaners (cont.)

Local dry cleaners should decide which method they use, and remember that improving cleaning methods isn't the only way that dry cleaning can get greener. An equally eco-friendly step is to forgo the plastic bags and ask your cleaner not to bother with paper hanger sleeves. Some shops offer hanger-recycling programs.

Dry cleaning should be assessed for various pollution problems. A number of issues are seen in numerous dry-cleaner locations. These include:



- Release of solvent to floor drains, commonly caused by storage tanks and overflow;
- Spillage on unsealed floors beneath dry-cleaning units;
- Poor storage of solvent and filters;
- Poorly designed plumbing for the residual solvent that is supposed to go into the sewer; and
- Wastewater discharge to floor drains, septic systems or injection wells or dry wells

With some of these exposure factors, a Phase II subsurface investigation may be the only way to determine if solvent usage has affected the property.

For further information regarding the remediation of drycleaner sites, visit the EPA's Clean-Up Information site at [www.drycleancoalition.org](http://www.drycleancoalition.org).