Dry Cleaner Safety Meeting Kit

Hazards such as chemical, fire, and ergonomic-related are associated with dry cleaning processes. Exposure to hazardous chemicals commonly used in dry cleaning shops may occur through skin absorption, eye contact, or inhalation of the vapors. Perchloroethylene (PERC), a potential human carcinogen, is the most commonly used dry cleaning solvent.

Dry cleaning shops contain all elements necessary for uncontrolled fires: fuels, ignition sources, and oxygen. Potential combustible materials include furniture, garments, lint, and portions of the building. The greatest risk of fire and explosion exists if the dry-cleaning shop uses a petroleum-based solvent in dry cleaning machines.

Ergonomic risks occur during garment transfer, pressing, and bagging. These activities, combined with a high work rate and frequency, may cause physical discomfort and musculoskeletal problems for workers.

THIS IS PERC: Perchloroethylene, or Perc, is the dominant chemical solvent used in dry cleaning. It is is a clear, colorless liquid that has a sharp, sweet odor and evaporates quickly. It is an effective cleaning solvent and is used by most professional drycleaners because it removes stains and dirt from all common types of fabrics. Perc usually does not cause clothes to shrink, nor dyes to bleed. Perc is not flammable, unlike solvents commonly used to clean clothes in the 1930’s and 40’s. Since perc can be reused, it is a cost-effective and efficient solvent for cleaning clothes. Perc is also a toxic chemical with both human health and environmental concerns.

POTENTIAL HEALTH DANGERS OF DRY-CLEANING CLOTHES: Researchers and regulators determined that acute blasts of it can cause dizziness, drowsiness, headaches, loss of consciousness, limited memory loss, skin blistering, and visual and coordination issues. Long-term exposure (over the course of several years) to PERC also seems to be linked to several forms of cancer (like bladder cancer, non-Hodgkin lymphoma, and multiple myeloma), as well as damage to the central nervous system, kidneys, liver, lungs, and possibly the reproductive system and fetuses.

DOES PERC CAUSE CANCER?: The cancer-causing potential of perc has been extensively investigated. In laboratory studies, perc has been shown to cause cancer in rats and mice when they swallow or inhale it. There is also evidence, from several studies of workers in the laundry and dry-cleaning industry, suggesting a causal association between perc exposure and elevated risks of certain types of cancer. As with all health effects, the potential for an increased risk of cancer depends on several factors including how much perc exposure there is, how often the exposure occurs, and

how long it lasts.

DRY CLEANING EXPLAINED: Most drycleaners use perc as their primary solvent. Because the clothes are cleaned in a liquid solution that is mostly perc or some other solvent, with very little water if any, the term “dry cleaning” is used to describe the process.

- Drycleaners usually treat spots 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 to remove dirt, oil, and stains.
- Once clean, the clothes are either dried in the same machine or transferred manually to a separate dryer, then pressed and shaped.
- Used solvent is distilled so it can be purified. Distillation separates the solvent from waste residues such as detergents, dye, dirt, oil, so the solvent can be reused. 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.

BEST WORK PRACTICES FOR DRY CLEANING

- All shop owners should install dry cleaning machines that are equipped with vapour recovery systems, which will reduce the amount of “perc” in the air. Ventilation can be improved to also control perc.
- Owners should consider alternate methods of cleaning such as using water or petroleum-based solvents.
- In order to reduce the risk of repetitive strain injuries due to pressing, folding, etc. workstations can be redesigned in a more ergonomic way to avoid awkward postures and excessive turning and reaching.
- Do not load the machine past its capacity.
- Do not open the machine door when the cycle is running.
- Keep the machine door closed as much as possible.
- Do not “shortcut” the drying cycle by removing garments from the machine before the cycle is finished.
- Keep head and face turned away from machine to removing solvent-laden clothes from the washer.
- Avoid manually handling perchloroethylene. Instead, use a closed piping system that delivers perchloroethylene directly to the machine drum.
- Wait until the machine and solvent are cold before performing maintenance.
- Use perchloroethylene-free spotting agents, if possible.
- Use spotting agents sparingly.
- Clean up perchloroethylene spills immediately.
- Store containers of perchloroethylene and perchloroethylene wastes in tightly sealed containers.
- Workers should be given frequent breaks and should be rotated so that they don’t have to repeat the same task multiple times.
- Using newer versions of petroleum-based solvents and machines will be safer than traditional versions, reducing the risk of fires and explosions.
- Shops should pay attention to fire codes and make sure that their store is in compliance.
- Infected linen containing bodily fluids should be handled according to the appropriate procedures and should be kept in sealed, clearly marked plastic bags.

- In order to prevent noise induced hearing loss, workers should be provided with earphones or other protective equipment to wear when they are working near to noisy machines.
- To avoid dermatitis and skin irritation, workers should wear gloves when handling detergents

FINAL WORD

We all take drycleaning services for granted in our consumer driven society. The worst stains in our best garments are miraculously removed and packaged nicely on receipt. What is missing from the dialogue are the dangers and hazards in getting those “spots” removed from your clothes.