

Cleaning Products & Disinfectants

[MODEL SPECIFICATIONS »](#)

Product Subcategories Covered

- General purpose cleaners - glass, restroom, multipurpose cleaners, cleaner/degreasers
- Disinfectants and sanitizers
- Floor products - finishes, strippers, neutral cleaners
- Carpet and upholstery cleaners
- Laundry detergents
- Specialty cleaners - metal, stone, wood, tile, grill, oven, abrasive cleaners
- Furniture polish
- Odor control products



Issues and Impacts

Many certified products: Third-party certifications are well established for institutional cleaning products, with hundreds of certified products available. While some specialized products carry a higher price point, cost surveys of institutional products have shown little if any price difference between certified and non-certified products.

Worker exposure: Custodial workers face the highest exposures, with risks of skin or eye damage, asthma, organ damage, central nervous system effects, and endocrine effects, particularly when personal protective equipment is not used properly. Building occupants may also experience reduced indoor air quality.

Environmental impacts: Some cleaning products may have downstream impacts on aquatic life, for example, by causing direct mortality or disrupting hormone balances.

Dilution control: Concentrated products are less expensive and carry much lower climate impacts due to reduced transportation requirements. However, concentrates pose higher acute hazards such as skin and eye damage, particularly during mixing. Improper dilution can also cause unnecessarily high chemical use and greater risk to building occupants. Dilution control systems minimize these problems.

Excessive use of disinfectants: Disinfectants are more hazardous than most cleaning, and are often overused or used incorrectly. General purpose cleaners are safer and can remove most germs from surfaces.

Floor strippers: also top the list for worker and occupant hazards. Strippers are needed for old-style VCT (vinyl composition tile) flooring, but not for many newer types, which do not require floor finishes or strippers.

Chemicals of Concern

Glycol ethers are found in many cleaning products, especially floor strippers and degreasers, and have skin, eye, organ, and central nervous system effects

Alkylphenol ethoxylates, which includes nonylphenol ethoxylates, are found in various products, especially laundry detergents. They can have reproductive, developmental, and endocrine effects, and also are highly toxic to aquatic life.

Sodium hypochlorite (chlorine bleach) poses skin and eye hazards, as well as causing asthma.

Quaternary ammonium compounds commonly found in disinfectants can cause asthma, skin and eye hazards from concentrated products, and also may have downstream effects on aquatic life.

1-4 dioxane is a carcinogen and hormone disruptor that is an impurity in some cleaning products, particularly in aerosols.

Fragrances are often proprietary chemicals with unknown hazards, and may cause adverse reactions in some people. Some fragrances are stabilized with phthalates, which are hormone disruptors.

SPLC Recommendations

Certifications for cleaning products: Require Green Seal, EPA Safer Choice or UL Ecologo certification, which all prohibit certain hazardous chemicals, prohibit animal testing, limit toxicity and environmental impacts, require product performance testing as part of the criteria, and have rigorous and frequently updated criteria.

Disinfectants and sanitizers must be EPA registered. Disinfectants are not covered by the above certifications, although a few safer products have been identified by the US EPA's Design for the Environment Program. For general custodial use, specify disinfectants that have the following active ingredients: Hydrogen peroxide, lactic acid, citric acid, caprylic acid, ethanol, isopropanol, thymol, or hypochlorous acid. Avoid devices that make disinfectant claims unless they come with prepackaged capsules or packets that are EPA registered.

Dilution systems and concentrates: Specify the purchase of concentrated products for multipurpose cleaners, neutral floor cleaners, window cleaners, disinfectants and restroom cleaners. Require that these products be in spill-resistant packaging designed for use in dilution/portion control systems. Packaging must not allow for access or exposure to the concentrated product after opening a cap or lid, or before or while connecting to the dispensing system, and must contain a backflow prevention system that meets current American Society of Sanitary Engineering (ASSE) 1055 standard.

Engage with architects or maintenance staff the next time they order flooring. Choosing flooring materials that do not require floor finishes and strippers means lower maintenance costs and lower hazards.

SPLC Category Guidance

Check our [category guidance on cleaning and disinfection](#) for model contract language used by other purchasers, case studies, trainings and other resources

Resources

- [Plastic & Health: The Hidden Costs of a Plastic Planet](#). 2019.
- [Green Seal](#): Listings of Green Seal certified products, by product type.
- [US EPA Safer Choice](#): Listings of Safer Choice labeled products, by company or product type.
- [UL Ecologo](#): The SPOT online tool provides multiple ways to search for certified products.
- [Design for the Environment list](#) of safer disinfectant products.