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What is in commercial cleaning and disinfecting products and why do we care?

A survey was done using 1,476 professional Swiss cleaning companies. The cleaning products used by those companies contained more than 132 different chemical substances across 105 products. Up to 75% of the products contained irritant, harmful, and corrosive-labeled substances. Most reported were hazards for eyes (59%), skin (50%), and if ingested (60%).

Commercial cleaning products commonly contain synthetic fragrances, glycol ethers, surfactants, solvents, and to a lesser extent, phosphates, salts, detergents, pH-stabilizers, acids, and bases.¹

Ingredients in fragrances are not required to be disclosed (even if they make up as much as 20% of the product), and often includes phthalates. Phthalates are a group of various artificial compounds that were originally developed in the 1930s. They are present in many commonly used items such as plastics (to make plastics flexible), solvents, personal care products, and fragrances (to make fragrances last longer). In studies with laboratory animals, phthalates have been found to be hormone disruptors. They can mimic or block female hormones, and block the hormones needed for male sexual development. They've also been linked to asthma and allergies. In 2000, the CDC tested 289 people and found high levels of phthalates in the blood of all the subjects tested. Phthalates also cross the placenta and have been found to decrease sperm motility and sperm concentration in men and to cause genital abnormalities in baby boys.²

Ammonia quaternary compounds ("quats"): Quats are commonly found in household products such as disinfectant sprays and wipes, and toilet bowl cleaners, as well as in some healthcare hand and body washes. They are registered with the EPA as pesticides and are antimicrobial compounds. However, it's never been proven that using products containing quats actually reduces illness in the home. Quats are irritating to skin and to the lungs. There have been two studies that show certain quats can trigger asthma in cleaning workers (occupational asthma) or worsen existing asthma. There has been research indicating that exposure to quats can trigger reproductive issues and disrupt the endocrine system.

How can you identify if quats are in a product? The names are usually "...onium chloride" (e.g., benzalkonium chloride).

Some microbes are now becoming resistant to quats. Quat-based products are widely used for disinfecting in the livestock industry, but they are becoming less effective due to quat-resistant microbes.³

¹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4096065/>

² [Cheatsheet: Phthalates | Environmental Working Group \(ewg.org\)](#)

³ [quats fact sheet.pdf \(womensvoices.org\)](#)