Questions For Evaluating Products

Here are about 30 questions that you can use to evaluate the risks of janitorial products. It takes quite a bit of effort to answer all of the questions, so it may be best to initially focus on the product characteristics that pose a higher hazard. Later you can expand to include the other issues.

Health & Safety Impacts	How easy is it to use this question?	Do you want to use this question?
Carcinogenic / Prop. 65	Easy	
Reproductive Hazard - Mutagen	Hard	
Reproductive Hazard - Teratogen	Hard	
Endocrine Modifier	Medium	
Corrosivity / pH	Easy	
Flammability / Flash Point	Easy	
Reactivity	Easy	
Eye Irritant	Medium	
Skin Irritant	Medium	
Inhalation Irritant	Medium	
Ease of Skin Absorption	Hard	
Ease Of Inhalation / Vapor Pressure	Hard	
Overall Toxicity (LD50)	Medium	
Environmental Impacts		
Ozone Depleting Substance	Easy	
Global Warming Substance	Easy	
Hazardous Waste	Medium	
Stormwater Pollutant	Hard	
Sanitary Sewer Pollutant	Hard	
Persistence / Biodegradability / Bioaccum.	Hard	
Indoor Air Quality	Hard	
Phosphates	Medium	
Volatile Organic Compounds	Medium	
Other Impacts		
Has Added Fragrance	Hard	
Has Added Dye	Hard	
Packaged As Concentrate / Mixing System	Medium	
Safe Container	Medium	
Refillable Container	Medium	
Container Made Of Recycled Material	Medium	
Non-Aerosol Container	Medium	

Impacts	**Description Of Criteria**	**Where To Get Info**
Carcinogenic / Prop. 65 List	Does the product contain ingredients that are known or suspected of causing cancer, either in animals or humans? Example: Tetrachloroethylene Nitrilo Triacetic Acid Recommendation: Avoid products that have even trace amounts of cancer causing ingredients.	Material Safety Data Sheet (MSDS) for the product, or MSDSs for each ingredient, or published cancer studies. Cancer studies are available for only a few of the many hundreds of ingredients used in janitorial products. California's Proposition 65 chemical list is available on the internet.
Reproductive Hazard - Mutagen	Known or suspected of interfering with conception, either in animals or humans? Example: Tetrachloroethylene Recommendation: Avoid even trace amounts of such ingredients.	MSDS for the product, or separate MSDSs for its ingredients, or published toxicology studies.
Reproductive Hazard - Teratogen	Known or suspected of interfering with fetal development, either in animals or humans? Example: Tetrachloroethylene Recommendation: Avoid even trace amounts of such ingredients.	MSDS for the product or its ingredients, or published toxicology studies.
Endocrine Modifier	Known or suspected of interfering with hormone systems, either in animals or humans? Example: Alkylphenol Ethoxylate Dibutyl Phthalate Recommendation: Avoid even trace amounts of such ingredients. Although in normal use these ingredients do not affect the janitor, they do persist in the environment and affect fish and other animals, and can contaminate drinking water used by humans.	Contact product supplier for information - these ingredients are not yet required by OSHA to be listed on the MSDS. Refer to our project web site for links to internet sites with information about endocrine modifiers.

Corrosivity / pH	Will the product cause burns, or destroy skin, or cause blindness? Is the pH below 4 or above 11.5? Examples: Hydrochloric Acid Sodium Hydroxide Recommendation: Avoid corrosive ingredients (high or low pH) where possible. If no alternatives are available, then use product with extreme care.	MSDS for the product or its ingredients. Older MSDSs may not include pH.
Flammability / Flash Point	Is the product flammable or extremely flammable? Is the flash point below 140 F? Is the NFPA or HMIS fire rating 2 or higher? Examples: Propane (Aerosol Propellant) Isopropanol Toluene Recommendation: Avoid flammable (low flash point) ingredients where possible. Change to non-aerosol products if it is the propellant that causes the fire rating to exceed 2..	MSDS for the product or its ingredients.
Reactivity	Does the product contain ingredients that combine violently with other chemicals? Is the NFPA or HMIS reactivity rating 2 or higher? Examples: Bleach & Ammonia Bleach & Acid Recommendation: Avoid reactive ingredients where possible. Keep incompatible products away from each other.	MSDS for the product or its ingredients.

Eye Irritant	Does the product contain ingredients that irritate the eyes “moderately” or “severely”, or cause eye burns, or cause blindness? Examples: Hydrochloric Acid Ammonium Hydroxide Recommendation: Where possible, avoid ingredients that cause moderate eye irritation or worse. Otherwise use such products with extreme care.	MSDS for the product or its ingredients. Ask the supplier for eye irritation test data. Once scarce, these data are now becoming available for more products.
Skin Irritant	Does the product contain ingredients that irritate the skin “moderately” or “severely”, or cause skin burns, or damage/scar the skin? Examples: Hydrochloric Acid Sodium Hydroxide Recommendation: Where possible, avoid ingredients that cause moderate skin irritation or worse. Otherwise use such products with extreme care.	MSDS for the product or its ingredients. Ask the supplier for skin irritation test data. Once scarce, these data are now becoming available for more products.
Inhalation Irritant	Does the product contain ingredients that irritate the nose, throat, or lungs “moderately” or “severely”, or cause burns, or damage/scar the air passage? Examples: Hydrochloric Acid Sodium Hydroxide Recommendation: Where possible, avoid ingredients that cause moderate irritation or worse. Otherwise use such products with extreme care.	MSDS for the product or its ingredients.
Ease of Skin Absorbtion	Does the product contain ingredients that readily absorb through the skin, and that then damage or poison the kidneys, liver, or other internal organs? Examples: 2-Butoxyethanol Ethanolamine Acetone Recommendation: Where possible, avoid ingredients that can be absorbed through skin. Otherwise use such products with extreme care.	MSDS for the product or its ingredients. Ask the supplier for skin absorbtion test data. These data are available for only a few products and ingredients.

Ease of Inhalation / Vapor Pressure	Does the product contain ingredients that evaporate readily, and therefore are easy to inhale, and that then damage or poison the kidneys, liver, or other internal organs? Is the vapor pressure of the product or its most toxic ingredients more than 18 millimeters of mercury measured at 20 C? Examples: Isopropanol Tetrachloroethylene Recommendation: Where possible, avoid toxic ingredients that evaporate faster than water. Otherwise use such products with extreme care, provide good ventilation, and wear a breathing mask.	MSDS for the product or its ingredients.
Overall Toxicity (LD50)	Is the product or any of its ingredients highly toxic? Is the LD50 (oral - rat) for any ingredient less than 500 mg/kg? Examples: Naphthalene Quaternary Ammonium Chloride Recommendation: Where possible avoid ingredients that are highly toxic. Otherwise use such products with extreme care.	MSDS for the product or its ingredients.
Ozone Depleting Substance	Does the product contain any ingredient that evaporates readily and affects the earth's ozone layer? Examples: CFC-12 HCFC - 141 Recommendation: Do not use any product with ingredients that harm the earth's ozone layer.	MSDS for the product or its ingredients.
Global Warming Substance	Does the product contain any ingredient that evaporates readily and affects the earth's ozone layer? Examples: CFC-12 HCFC - 141 Recommendation: Do not use any products with ingredients that have a global warming potential.	MSDS for the product or its ingredients.

Hazardous Waste	Does the product contain any ingredient regulated under SARA Title III? Examples: Glycol Ethers Methylene Chloride Recommendation: Where possible avoid ingredients that are listed by SARA Title III. Otherwise use such products with extreme care.	MSDS for the product or its ingredients.
Stormwater Pollutant	If the product is to be used outdoors, does it contain any ingredients that are considered stormwater pollutants. Examples: Most Chemicals Recommendation: Do not use products containing stormwater pollutants outdoors, unless steps are taken to collect wastes before they can reach stormwater system.	Newer MSDSs (with 16-part format) might describe stormwater requirements. Otherwise ask local stormwater management agency for guidance.
Sanitary Sewer Pollutant	Will any unused product or any wastes be put into the sewer? If yes, does the product contain any ingredients regulated by the local sewer agency? Examples: High or low pH Toxic Organics Zinc & other metals Recommendation: Do not use products containing sanitary sewer pollutants, unless steps are taken to ship wastes off-site rather than putting them into the sewer system.	A few MSDSs mention specific ingredients of concern to local sewer agencies. Ask your local agency for guidance.
Persistence / Biodegradability / Bioaccumulation	Does the product contain any toxic ingredients that persist in the environment and bioaccumulate? Examples: Dibutyl Phthalate Alkylphenol Ethoxylate Recommendation: Do not use products containing ingredients that are not readily and fully biodegraded in the sanitary sewer system.	A few MSDSs mention specific ingredients of concern in this area. Contact product supplier and ask for their ecological fate assessment of the product. Ask your local county health agency for guidance.

Indoor Air Quality	Does the product contain any ingredient that evaporates easily, and that has a smell, is flammable, or is toxic? Examples: Isopropanol d-Limonene Recommendation: Where possible avoid ingredients that affect indoor air quality. Otherwise use such products with extreme care, with good outside ventilation, and at times when the building is empty.	MSDS for the product or its ingredients. Look for added unnecessary fragrances, flammables, and other volatile ingredients.
Phosphates	Does the product contain phosphates? Example: Trisodium Phosphate Recommendation: Where possible use products with no phosphates, or very low phosphate levels. In any case, be sure phosphate levels are less than required by local sewer agency.	MSDS for product.
Volatile Organic Compounds	Does the product have higher VOC levels than are allowed by California air quality rules? Example: General purpose cleaners must have less than 10% VOC content. Recommendation: Where possible do not use products containing any VOCs. If VOC ingredients are needed, assure that the VOC % is as low as possible.	MSDS for the product or its ingredients. Look for unnecessary added fragrances, flammables, and other volatile ingredients.
Has Added Fragrance	Does the product have a separate fragrance in addition to the natural odors of its other ingredients. Example: Lemon Oil Recommendation: Do not use products with unnecessary fragrances.	Product MSDS. Ask supplier for unscented products.
Has Added Dye	Does the product have a separate dye in addition to the natural colors of its other ingredients. Example: F&D Red Recommendation: Do not use products with unnecessary dyes.	Product MSDS. Ask supplier for uncolored products, or for ones where the color serves to identify different products.

Packaged As Bulk Concentrate / Mixing System	Is the product available as a concentrate? Example: Disinfectant Recommendation: If you have trained people responsible for mixing, and have safe mixing systems, then purchase concentrates. Otherwise buy only ready-to-use (RTU) products.	Ask supplier for mixing systems, dispensers, and mixing guides.
Safe Container	Is the product container spill resistant? Are product containers shipped in spill resistant packaging? Are the container and trigger strong enough to survive routine use? Example: Trigger assembly shipped separate with product in containers having tightly closed screw tops. Recommendation: Consider container safety when selecting products.	Ask supplier about spill resistant containers and packaging.
Refillable Container	Is the product container refillable? Example: Trigger bottles that can be refilled at a dispensing station. Recommendation: Use products that come in refillable containers.	Ask supplier about refillable containers and dispensing systems.
Container Made Of Recycled Material	Is the product container made of recycled plastic? Are shipping packages made of recycled cardboard? Example: Trigger bottles Recommendation: Use products whose shipping containers and trigger bottles are made of recycled materials.	Ask supplier about recycled content of containers and packaging.
Non-Aerosol Container	Is the product sold as an aerosol? Example: Baseboard stripper Furniture polish Glass Cleaner Graffiti Remover Recommendation: Where possible buy non-aerosol products.	Ask supplier for non-aerosol version of products.