



## CLEANING PRODUCTS – SAFE USE

Most cleaning products are sold without much information for the user, although many contain quite toxic substances. Exposure to toxic substances can cause harm to health if they come in contact with the skin, get in the eyes, are swallowed or breathed in. Some can be absorbed into the bloodstream and cause damage in parts of the body far removed from their initial point of contact.

### ***How do you know if a cleaning product contains a toxic ingredient?***

Use of a product that contains a toxic ingredient is controlled by the Dangerous Goods (Storage & Handling) Regulations 2000 and the OHS (Hazardous Substances) Regulations 1999. These Regulations require an employer to obtain a **Material Safety Data Sheet (MSDS)** for each product. These are available from the supplier or manufacturer and should be provided free of charge when requested. Purchase orders to cleaning supplies companies should automatically request an **MSDS** for all products. Not all cleaning products found in a school are classified as Dangerous Goods (DG) or Hazardous Substances (HS). Those that are DG should have the diamond-shaped DG Class label on the container and those that are HS are indicated on the **MSDS**. Many products are classified as both.

Exposure to most cleaning products is usually by inhalation of vapours or mists, or by skin or eye contact with the chemicals. The most common effect on health after exposure is **irritation** - pain and inflammation, sometimes accompanied by redness and swelling - of the skin, eyes or respiratory tract. The site and severity of the irritation will depend on

- ◆ the type of chemical used
- ◆ specific properties of the chemical
- ◆ how the chemical was being used
- ◆ how the chemical came in contact with the body.

The best first aid for skin or eye contact is to wash the affected area with water for at least 10 minutes. Some alkaline chemicals are difficult to remove. For inhalation exposures, the person should be removed to fresh air and medical attention sought if symptoms persist.

The safe approach to working with cleaning chemicals is to

- ◆ follow the safe use procedures in the **MSDS** which may include
  - ◆ use the least hazardous product
  - ◆ use as little of the chemical as possible
  - ◆ minimise the time working with the chemical
  - ◆ ensure good ventilation
  - ◆ use personal protective equipment (PPE) where necessary eg gloves, safety glasses etc
  - ◆ have suitable material available for dealing with spills
- ◆ store the chemicals in accordance with the Dangerous Goods (Storage & Handling) Regulations 2000
- ◆ consider ordering smaller quantities to prevent manual handling injuries from the heavier containers

Chemicals **must not be stored in unlabelled containers**, even seemingly harmless ones such as cleaning products, **nor stored in containers that previously held food, drink or other chemicals**. Unexpected chemical reactions that release potentially toxic fumes can easily occur eg. *Domestos* mixed with a toilet bowl cleaner can produce chlorine gas.

### **Reference**

Miscellaneous Workers' Union – Chemical Safety Handbook for Union Members employed in The Cleaning Industry


**INFORMATION FOR TYPICAL GENERIC CLEANING CHEMICALS – CHECK MSDS FOR SPECIFIC PRODUCT**

Cleaning Product	Common Ingredients	Hazards	Safe Working Procedures
bleaches	hypochlorite	<ul style="list-style-type: none"> <li>may chemically react if mixed with each other or with other cleaning products</li> <li>strongly alkaline and very damaging to the eyes</li> <li>will cause dermatitis in some people</li> </ul>	<ul style="list-style-type: none"> <li>Nitrile, PVC or Neoprene gloves should be worn</li> <li>eye protection should be worn</li> <li>do not mix chemicals</li> <li>do not use two products in the one sink without rinsing the first through with plenty of water</li> </ul>
carpet cleaners	organic solvents in some e.g. glycol ethers, aromatic or chlorinated hydrocarbons (such as toluene, xylene, trichloroethylene, carbon tetrachloride)	<ul style="list-style-type: none"> <li>powdered forms can result in high dust levels, causing irritation to eyes, nose and throat</li> <li>organic solvents may form vapours, which when inhaled can damage the nervous system</li> <li>if splashed on skin can cause localised dermatitis, and gain entry into the body</li> </ul>	<ul style="list-style-type: none"> <li>avoid products containing organic solvents</li> <li>wear gloves, preferably Neoprene or Nitrile</li> <li>ensure good ventilation</li> <li>wear a dust mask if dust cannot be avoided (see Australian Standard AS 1716)</li> <li>wear overalls</li> </ul>
chrome and metal cleaners	phosphoric acid, silica and silicon compounds	<ul style="list-style-type: none"> <li>very hazardous if contacted by skin or if splashed in eyes</li> </ul>	<ul style="list-style-type: none"> <li>wear safety glasses, aprons or overalls, especially when transferring products from one container to another</li> <li>avoid skin contact - wear PVC, Nitrile or Neoprene gloves for those containing solvents</li> <li>do not mix with other products</li> </ul>
degreasing agents and solvents	chlorinated hydrocarbons, particularly methylene chloride	<ul style="list-style-type: none"> <li>very hazardous if inhaled; are readily absorbed into body, resulting in effects on liver and nervous system eg. headaches, nausea, dizziness</li> <li>all are harmful to skin; many are harmful if splashed in eye</li> <li>many are inflammable, combustible</li> </ul>	<ul style="list-style-type: none"> <li>avoid products containing chlorinated hydrocarbons and glycol ethers</li> <li>work with small areas rather than large to minimise vapour production</li> <li>ensure adequate ventilation (or use a respirator)</li> <li>wear Neoprene, Nitrile or PVC gloves, not rubber</li> <li>if splashes are likely, wear protective apron, gloves, respirator and goggles</li> <li>wear footwear with a butyl sole if handling large amounts</li> <li>do not use plastic buckets</li> <li>do not pour from one container to another without safety glasses</li> <li>always label containers properly</li> </ul>


**INFORMATION FOR TYPICAL GENERIC CLEANING CHEMICALS – CHECK MSDS FOR SPECIFIC PRODUCT**

Cleaning Product	Common Ingredients	Hazards	Safe Working Procedures
deodorants	may contain hydrocarbons	<ul style="list-style-type: none"> <li>• high levels of hydrocarbon vapours may occur if excessive amounts are sprayed without good ventilation</li> <li>• very hazardous if inhaled; are readily absorbed into body, resulting in effects on liver and nervous system e.g. headaches, nausea, dizziness</li> <li>• harmful to eyes</li> </ul>	<ul style="list-style-type: none"> <li>• do not spray large amounts in confined spaces or poorly ventilated areas</li> <li>• do not remain in area after spraying</li> <li>• wear eye protection</li> </ul>
detergents	ammonium hydroxide and other alkaline salts; some also contain organic solvents	<ul style="list-style-type: none"> <li>• alkalis are corrosive to skin and eyes</li> </ul>	<ul style="list-style-type: none"> <li>• use detergents without organic solvents if possible</li> <li>• if organic solvents are present, wipe rather than spray, use small amounts and ensure good ventilation to ensure vapour concentration stays low</li> <li>• keep to manufacturers recommended use and concentration</li> <li>• do not mix products</li> <li>• wear rubber gloves except for those with organic solvents when Neoprene, Nitrile or PVC should be used</li> <li>• wear eye protection especially when transferring between containers</li> <li>• wear suitable footwear when using on slippery floors</li> </ul>
disinfectants	phenols, alcohols, alkaline salts, some have glycol ethers	<ul style="list-style-type: none"> <li>• eye splashes and dermatitis are main hazards</li> </ul>	<ul style="list-style-type: none"> <li>• keep to manufacturer's recommended method of use</li> <li>• avoid those with glycol ethers or formaldehyde</li> <li>• wear appropriate non-slip footwear, overalls and rubber gloves to avoid skin contact</li> <li>• use safety glasses when transferring between containers</li> <li>• do not mix different chemicals, particularly chlorinated disinfectants</li> </ul>


**INFORMATION FOR TYPICAL GENERIC CLEANING CHEMICALS – CHECK MSDS FOR SPECIFIC PRODUCT**

Cleaning Product	Common Ingredients	Hazards	Safe Working Procedures
floor sealers and polishes	resins, waxes, polymers, ammonia, some contain organic solvents, including glycol ethers	<ul style="list-style-type: none"> <li>• fumes of ammonia released by many, particularly those containing alkali salts such as caustic soda</li> <li>• all are hazardous to eyes and skin</li> </ul>	<ul style="list-style-type: none"> <li>• wear safety goggles while pouring</li> <li>• avoid those containing organic solvents; if unable, wear appropriate gloves</li> <li>• use products with least ammonia</li> <li>• wear overalls and non-slip footwear</li> <li>• make maximum use of available ventilation, organise work to minimise breathing of fumes</li> </ul>
floor strippers	ammonia, alkalis, glycol ethers	<ul style="list-style-type: none"> <li>• ammonia fumes released</li> <li>• more toxic fumes released by those with both ammonia and alkalis</li> </ul>	<ul style="list-style-type: none"> <li>• protect eyes with safety goggles when pouring concentrates</li> <li>• wear gloves (nitrile, PVC or neoprene) for those containing glycol ethers or hydrocarbons</li> <li>• wear overalls and non-slip footwear</li> <li>• minimise breathing fumes, use available ventilation</li> </ul>
furniture polish	organic solvents, waxes and oils	<ul style="list-style-type: none"> <li>• inflammable, combustible</li> <li>• relatively high airborne vapour levels readily reached, with symptoms of headaches, dizziness, eye irritation</li> <li>• contaminated rags are a fire hazard</li> </ul>	<ul style="list-style-type: none"> <li>• use in small amounts, or only with good ventilation</li> <li>• wear neoprene, PVC or nitrile gloves</li> <li>• wear goggles when pouring liquids between containers</li> <li>• mop up minor spills with rags, allow to dry outside before disposal</li> <li>• do not use products containing formaldehyde</li> </ul>
glass and hard surface cleaners	organic solvents (particularly alcohols) and ammonium hydroxide	<ul style="list-style-type: none"> <li>• spraying creates a mist which can result in inhalation and eye exposure</li> </ul>	<ul style="list-style-type: none"> <li>• do not use those containing glycol ethers</li> <li>• wear rubber gloves, except for those containing glycol ethers - use neoprene or nitrile</li> <li>• wear goggles when transferring liquids</li> <li>• wipe on, do not spray, where possible</li> </ul>
graffiti removers and paint strippers	solvents, alkalis, glycol ethers, chlorinated hydrocarbons, alcohols	<ul style="list-style-type: none"> <li>• spraying creates a mist which can result in inhalation and eye exposure</li> <li>• many release significant amounts of solvent vapours</li> <li>• can damage and be absorbed through skin</li> </ul>	<ul style="list-style-type: none"> <li>• wipe on, do not spray, where possible</li> <li>• if using large amounts, wear a respirator with organic vapour cartridge</li> <li>• wear overalls and nitrile, neoprene or PVC gloves</li> <li>• wear appropriate footwear if cleaning up large spills</li> </ul>


**INFORMATION FOR TYPICAL GENERIC CLEANING CHEMICALS – CHECK MSDS FOR SPECIFIC PRODUCT**

Cleaning Product	Common Ingredients	Hazards	Safe Working Procedures
hand cleansers and barrier creams	hydrocarbons, surfactants, oils	<ul style="list-style-type: none"> <li>many are flammable or combustible</li> <li>some may contain glycol ethers</li> </ul>	<ul style="list-style-type: none"> <li>avoid using those containing glycol ethers, such as ethylene glycol</li> </ul>
pesticides	pyrethrins (natural and/or synthetic), hydrocarbons	<ul style="list-style-type: none"> <li>can be inhaled if sprayed, particularly with poor ventilation</li> </ul>	<ul style="list-style-type: none"> <li>wear a respirator</li> <li>wear neoprene or PVC gloves, and full length sleeves and trousers</li> <li>use a skin cleanser immediately if skin contact occurs</li> </ul>
soaps (liquid)	soap, surfactant, alkaline salts	<ul style="list-style-type: none"> <li>those with alkaline ingredients can be quite caustic on skin</li> <li>avoid contact with eyes</li> </ul>	<ul style="list-style-type: none"> <li>wear rubber gloves and goggles when transferring liquids</li> <li>avoid use of those containing formaldehyde</li> </ul>
stove, range and drain cleaners	alkali salts (sodium or potassium hydroxide), solvents	<ul style="list-style-type: none"> <li>corrosive to skin and eyes</li> </ul>	<ul style="list-style-type: none"> <li>do not mix with acid based cleaners, or a toxic gas will be produced</li> <li>wipe rather than spray</li> <li>wear neoprene or PVC gloves; nitrile if chlorinated hydrocarbons present</li> <li>always wear safety goggles when handling concentrate</li> <li>wear an organic respirator if product contains solvents</li> </ul>
swimming pool chemicals	hypochlorite, acid or alkali salts	<ul style="list-style-type: none"> <li>should not be mixed with other chemicals as hazardous gases may be released</li> <li>can cause serious eye damage</li> </ul>	<ul style="list-style-type: none"> <li>wear suitable gloves (on MSDS)</li> <li>wear eye protection or goggles when handling concentrates</li> <li>do not mix with other chemicals</li> <li>store well away from other chemicals</li> </ul>
toilet cleaners	acids, glycol ethers, surfactants, methyl salicylate	<ul style="list-style-type: none"> <li>all cause skin irritation</li> <li>may cause eye damage</li> </ul>	<ul style="list-style-type: none"> <li>PVC or rubber gloves should be used</li> <li>do not spray to minimise formation of mist</li> <li>wear eye protection if there is a splash risk</li> </ul>
toilet deodorants	dichlorobenzene	<ul style="list-style-type: none"> <li>fumes may be released when washing out containers with hot water</li> </ul>	<ul style="list-style-type: none"> <li>avoid skin contact; wear gloves when handling</li> <li>do not wash out containers with hot water</li> </ul>

**Disclaimer**

These notes are published as an information service and without assuming a duty of care. They contain general information only and should not be relied upon as a substitute for professional or legal advice.

