

## Halogenoalkanes: chloroalkanes

including 1-chlorobutane, 2-chlorobutane and  
2-chloro-2-methylpropane

Substance	Hazard	Comment
<b>1-chloropropane*</b> ( <i>n</i> -propyl chloride) <b>1-chlorobutane</b> ( <i>n</i> -butyl chloride) <b>2-chlorobutane</b> ( <i>sec</i> -butyl chloride) <b>2-chloro-2-methylpropane</b> ( <i>tert</i> -butyl chloride) <i>liquids</i>	 <b>HIGHLY FLAMMABLE</b>	 <b>HARMFUL*</b>
		DANGER: Highly flammable liquid and vapour. DANGER: 1-chloropropane* is also harmful if swallowed, in contact with skin, and if inhaled. The flash point of 1-chloropropane is -19°C, ie the liquid gives off sufficient vapour at -19°C to ignite if a flame or spark is applied.

## Typical control measures to reduce risk

- Wear suitable eye protection.
- Ensure no naked flames or other sources of ignition.
- Check equipment to put out fires, eg damp cloth, bench mat, fire blanket.
- Do not use the highly flammable liquids near naked flames; if heating is necessary, use an electrically-heated water bath or hot water from a kettle.
- Ensure good laboratory ventilation and avoid inhaling vapours.
- Use the smallest volume possible.

## Assessing the risks

- What are the details of the activity to be undertaken? What are the hazards?
- What is the chance of something going wrong?
- How serious would it be if something did go wrong?
- How can the risk(s) be controlled for this activity?  
*eg can it be done safely? Does the procedure need to be altered? Should goggles or safety spectacles be worn?*

## Emergency action

In all emergency situations, alert the responsible adult immediately. Be aware that actions may include the following:

- In the eye                                   Irrigate the eye with gently-running tap water for at least 20 minutes. Call 999/111.
- Vapour breathed in                       Remove the casualty to fresh air. Call 999/111.
- In the mouth/swallowed                 Do no more than rinse and spit with drinking water. Do **not** induce vomiting. Call 999/111.
- Spilt on the skin or clothing           Remove contaminated clothing. Wash the skin with soap and water. Take contaminated clothing outside for the solvent to evaporate.
- Spilt on the floor, bench, etc         Open windows if large amounts are spilt. Consider the need to evacuate for large spills. Cover with mineral absorbent (eg cat litter) and scoop into a bucket. Add washing-up liquid and work into an emulsion. Wash to waste with plenty of water.