



Disinfectants (2013)

Substance	Hazard	Comment
Disinfectants containing active chlorine, eg <i>Domestos</i> , <i>Milton</i>	varies See CLEAPSS <i>Student Safety Sheet 41</i> , Sodium chlorate(I) (sodium hypochlorite).	Effective against wide range of microorganisms. Less suitable for dirty conditions because degraded by organic matter. Corrode metals and generate toxic chlorine with acids. A good choice where blood is involved but use is discouraged by some employers. Requires a contact time of at least 15 minutes.
Disinfectants containing methanal (formaldehyde)	varies See CLEAPSS <i>Student Safety Sheet 67</i> , Methanal.	Very effective at killing microorganisms but more concentrated solutions are hazardous. The preferred option for killing the growth of microbes on agar plates.
Ethanol, 70% industrial denatured alcohol (IDA)	 HIGHLY FLAMMABLE See CLEAPSS <i>Student Safety Sheet 60</i> , Ethanol.	Active against most bacteria, viruses and fungi, within 5 minutes. Mainly useful for swabbing benches immediately before preparing cultures or for rapid disinfection of mouthpieces, dental mirrors, etc – rinse with clean water after sterilisation.
<i>VirKon</i> , powder	 IRRITANT	Main active component is dipotassium peroxomonosulfate, which oxidises the infective material. Powder can be poured directly onto liquid spills, but usually dissolved in water.
<i>VirKon</i> , 1% aqueous solution	LOW HAZARD	Very effective with 10 minutes contact against bacteria, fungi and viruses. Solution attacks metal after 10 minutes. The best choice for most situations.
Phenolic disinfectants	varies	Clear phenolics have been phased out under the <i>Biocidal Products Regulations</i> . Other phenolics (white or black, eg <i>Jeyes Fluid</i> , <i>Izal</i> , <i>Lysol</i>) are less effective and some are TOXIC/CORROSIVE. Not generally recommended for laboratory use.

Typical control measures to reduce risk

- Where possible, avoid the use of disinfectants classed as TOXIC or CORROSIVE and use freshly-made solutions.
- Wear eye protection, including when making or disposing of solutions.

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?**
Eg, Is the disinfectant effective against the organisms likely to be present; will it be left long enough to be effective?
- **How serious would it be if something did go wrong?**
Eg, Could a failure of disinfection result in serious illness?
- **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

- Sodium chlorate(I) incidents See CLEAPSS *Student Safety Sheet 41* if sodium chlorate(I) used.
- In the eye Immediately rinse the eye with gently-running tap water for at least 10 minutes. See a doctor.
- Swallowed Do no more than wash out the mouth with water. Do **not** induce vomiting. See a doctor.
- Spilt on the skin or clothing Brush off solids. Rinse skin or clothing thoroughly with water.
- Spilt on the floor, bench, etc Wear eye protection. Scoop up any solid and wipe up small amounts with a damp cloth and rinse it well. Cover solutions with mineral absorbent (eg, cat litter) and scoop into a bucket. Rinse well.