Laboratory waste from schools

This is a guide to the types of chemical waste produced by school laboratories that may be discharged to sewer.

It should be read in conjunction with the related information Laboratory chemical waste which is a general guide for all laboratories on what types of laboratory chemical waste may be discharged to sewer. It also contains advice on waste avoidance and minimisation and good laboratory management practices.

In all cases of chemical waste discharge to sewer, an application to discharge trade waste must be made to the Commercial & Industrial Services Section of the Water Corporation.

What should not be discharged to sewer?

Solids: Solid materials should not be disposed of into laboratory sinks or other access points to the sewer. The practice of dissolving large amounts of salts for subsequent discharge to sewer is not acceptable.

Organic liquids: Liquids which are insoluble or poorly soluble in water such as kerosene and other petroleum hydrocarbons, dichloromethane, or oils and greases are not acceptable.

Strong acids or alkalies: Amounts above 1 litre should be neutralised, diluted or discharged in smaller amounts.

Bulk chemicals: Strong solutions or formulations above 10 litres, including strong solutions of salt, are not acceptable. If in doubt, seek advice from the Water Corporation.

Toxic, reactive or persistent chemicals: Heavy metals, chlorinated hydrocarbons, compounds with toxic vapours, or chemicals that do not break down are only acceptable in small amounts (see the next section for acceptable amounts of heavy metals).

What can be discharged to sewer?

The acceptability of these chemicals is based on the assumption that the waste solutions are produced as a result of student activities; that is, **small-scale** use of chemicals rather than commercial scale processes.

The amounts and types of chemicals listed below are acceptable for discharge to sewer. Where specific volumes or masses of acceptable chemicals are stated, these refer to total **daily amounts** from the laboratory.

Dilute solutions (up to 1 M) of salts such as ammonium chloride, ammonium thiocyanate, barium chloride, calcium chloride, calcium sulphate, ferrous sulphate, potassium chloride, potassium iodide, potassium permanganate, sodium bicarbonate, sodium bromide, sodium chloride, sodium iodide, sodium sulphate, sodium thiosulphate.

Dilute solutions (up to 1 M) of organic compounds such as oxalic acid and salicylic acid.

Small amounts (up to 1 litre per day) of water-soluble, biodegradable organic liquids such as methanol, ethanol, propanol, butanol and acetone.

Dilute (up to 2 M) acid or alkali solutions including acetic, hydrochloric, nitric and sulphuric acids, and sodium hydroxide.

Small amounts (up to 1 litre per day) of solutions of oxidants such as 20-volume (6%) hydrogen peroxide, or sodium hypochlorite, bromine and iodine solutions at concentrations of up to 2% percent.

Limited amounts of solutions containing heavy metals:

- Solutions of potassium chromate or potassium dichromate containing up to 30 g per day of chromium.
- Solutions of copper salts such as copper sulphate containing up to 30 g per day of copper.
- Solutions of zinc, lead or nickel salts containing up to 30 g per day of the metal.

More information

If you are uncertain whether a particular laboratory waste is acceptable for discharge to sewer, contact the Water Corporation at tradewaste@watercorporation.com.au or call us on 13 13 95.

For advice on recycling options or disposal of wastes which cannot be discharged to sewer, please contact the Department of Water and Environment Regulation at www.dwer.wa.gov.au.