Treatment and Disposal Procedures

Hazardous Laboratory Chemicals Disposal Guide, Third Edition (2003)
by Margaret-Ann Armour. Published by CRC Press.
Available online:
http://tinyurl.com/d9q64
http://tinyurl.com/cxsyh

Prudent Practices in the Laboratory: Handling and Disposal of Chemicals (1995). Published by the National Academy Press
Available online:
http://books.nap.edu/openbook/0309052297/html/index.html

Destruction of Hazardous Chemicals in the Laboratory, 2nd ed (1994)
By Lunn and Sansone. Published by John Wiley & Sons.
Available in hard copy only.

Waste Exchanges

TerraNova Waste Exchange
http://www.terranova.org.nz/terranova/waste/
Phone: 03 336 0080
Email: jforsman@terranova.org.nz

Hazardous Waste Disposal Firms

Chemwaste Industries Ltd
Phone: 03 354 5435
Email: markc@environment.co.nz

Medi-Chem Waste Services Ltd
Phone: 03 381 1108
Email: don@medichem.co.nz or info@medichem.co.nz

See also the CCC Waste Minimisation and Recycling Directory
http://www.ccc.govt.nz/Waste/WasteMinimisation/

CHRISTCHURCH
CITY COUNCIL • YOUR PEOPLE • YOUR CITY

Managing School Laboratory Chemicals

CHRISTCHURCH
CITY COUNCIL • YOUR PEOPLE • YOUR CITY

Managing School Laboratory Chemicals

This is a brief general guide to the safe management and disposal of school laboratory chemicals. For more specific information, please see the references at the end of the guide.

Many chemicals used in school laboratories are hazardous. They need to be stored and used safely in accordance with hazardous substances regulations. In order to minimise hazards and risk from school laboratory chemicals, school management, staff and teachers should consider taking any or all of the following actions:

- using less hazardous or non-hazardous substances in school laboratory experiments.
- where substitutes for less hazardous chemicals cannot be made, consider using "micro-chemistry" techniques which require much smaller quantities of hazardous chemicals.
- reducing the amount of chemicals purchased at any one time, thus lowering the quantity of chemicals stored and reducing the likelihood of out-of-date or surplus chemicals to be treated and/or disposed. Particular care should be taken with chemicals that have a limited shelf life, such as Ethyl ether, so that out-of-date containers are avoided.
- consider coordinating chemical purchases with other schools, or obtaining chemicals through a waste exchange.

Reduction, reuse and recovery of chemicals should always be carried out first. To reduce the quantity of chemicals that will have to be disposed,

- minimise volumes of chemicals as described above.
- treat hazardous chemicals, where feasible, so that they can be subsequently disposed down the sink (if a liquid) or in the rubbish (if a solid). There are a number of references describing procedures to safely treat school laboratory chemicals. Refer to the list of references at the end of this guide.
- consider using a waste exchange. There may be some chemicals that are surplus to requirements but are otherwise in good condition. Consider making these chemicals available to other schools or to local businesses, through a waste exchange. TerraNova (formerly known as the Recovered Materials Foundation) provides an electronic exchange service – see the reference section below

If disposal of chemicals is still required contact hazardous waste services companies. There will be a charge for disposal via these companies.

References

Guidelines and Codes of Practice

New Zealand Association of Science Educators draft Code of Practice for School Exempt Laboratories
http://www.nzase.org.nz/codeofpractice.html

Ministry of Education hazard registers for school photographic laboratories and science laboratories
http://www.minedu.govt.nz/web/downloadable/dl7089_v1/hazard-register-art-room-photography.doc
http://www.minedu.govt.nz/web/downloadable/dl7089_v1/hazard-register-science--lab-rooms.doc

NZ Vice-Chancellor's Committee web site, the Code of Practice for Crown Research Institutes and University Exempt Laboratories
http://www.nzvcc.ac.nz/files/advocacy/Affairs/cop1-1.pdf

Laboratory Waste Minimisation and Pollution Prevention: A Guide for Teachers. Battelle Seattle Research Center, 1996 [includes chapters on microscale experiments, substituting materials, in-laboratory treatment and more]
http://www.p2pays.org/ref/01/00779.htm

Chemicals: Managing, Handling and Disposing; Science Safety Manual (1999), Maryland State Department of Education
http://www.mdk12.org/instruction/curriculum/science/safety/chemicals.pdf

Greening Schools – Green Your Lesson Plan; Illinois Environmental Protection Agency
http://www.greeningschools.org/resources/view_cat_teacher.cfm?id=3 *(chemistry)*
http://www.greeningschools.org/resources/view_cat_teacher.cfm?id=10 *(physics)*
http://www.greeningschools.org/resources/view_cat_teacher.cfm?id=2 *(biology)*
http://www.greeningschools.org/resources/view_cat_teacher.cfm?id=6 *(industrial arts/vocational)*

Massachusetts School Chemical Management Program (Dec 2005; Massachusetts Department of Environmental Protection
http://www.mass.gov/dep/service/schlchem.pdf

Northwestern University Laboratory Waste Minimisation Guide
http://www.northwestern.edu/research-safety/chem/min.htm