

LA TROBE UNIVERSITY

GUIDELINES FOR THE STORAGE OF CHEMICALS

PURPOSE

The purpose of these guidelines is to assist personnel in storing chemicals in a manner that is safe and in accordance with regulations.

STORAGE REQUIREMENTS

Chemical Storage in laboratories

- If a chemical is not being used, then it is considered to be in storage.
- Minimum quantities of chemicals should be stored in laboratories.
- Chemicals stored in laboratories must be stored in accordance with the appropriate Australian Standards.
- Work areas, including ventilated areas (fume cupboards, glove boxes, etc) should not be used as storage areas.
- If there is **any odour** in any part of the laboratory, inform the Laboratory Manager.

Containers

- All chemicals must be stored in appropriate containers. (*Food containers are NOT appropriate for use as containers for the storage of chemicals*)
- All containers must be stored in appropriate designated cabinets or shelves.
- Containers should be clearly and correctly labelled so that contents are easily identified.
- Containers can be re-used provided the following conditions are met:
 - 1) The container is appropriate for the new chemical which will be stored in it
 - 2) The container must be thoroughly cleaned (triple rinse recommended). A procedure should be drawn up for this process and be made available to all users. (The procedure should include information about what should be done with the first, second and third rinses.)
 - 3) The identity of the new contents of the container must be clearly displayed on the container. The old label should be either totally removed or totally defaced so that there is no ambiguity about the contents of the container.

Controls

- Ensure correct and effective controls are in place in storage areas.
- If other tasks or activities other than placement of or retrieval of chemicals occur in the storage area, a written procedure must be written up for each task or activity.
- Ensure that a Risk Assessment has also been completed and is available to all users for each activity undertaken.
- Ensure staff has access to and use appropriate Personal Protective Equipment (PPE), as outlined in the written procedure.
- Ensure controls are reviewed regularly, whenever a change in operation occurs or in any case at least every five years.
- Ensure that staff who use the storage area follow the written procedure.
- All breaches of procedure should be reported to the Laboratory Manager.

Emergency procedures

- Ensure there are written emergency procedures for all storage areas.
- Ensure personnel have undertaken training in and are aware of the procedures
- Ensure emergency equipment is appropriate for chemicals stored e.g. fire extinguishers, sprinkler system etc.
- Personnel trained in use of emergency equipment

Housekeeping

- Ensure storage areas and laboratories are kept neat and tidy at all times.
- Ensure aisles and exits within the storage area are kept clear at all times.
- Ensure access points to storage areas are clean and tidy at all times.
- Ensure area around the storage area is neat and tidy at all times.

Labels

- All containers must be *clearly* and *correctly* labelled (including relevant Hazardous Substance & Dangerous Goods details).
- Storage areas should be correctly labelled.

Lighting

- Ensure there is sufficient lighting in the storage area.

Material Safety Data Sheets (MSDS)

- There must be a *current, compliant* Material Safety Data Sheet (MSDS) for every chemical in storage in your department/school.
- Store all chemicals as directed on the MSDS. Special attention to specific requirements such as storing at lower temperatures, in coloured bottles, etc.
- Chemwatch MSDS can be used for mixtures and solutions prepared on campus.

Placards

- Storage areas should display legible and appropriate placards (the Occupational Health and Safety Section will provide advice regarding this)

Procedures

- Ensure there are written procedures for each activity which occurs within the storage area e.g. decanting, moving containers around, emergencies, spill, etc.
- People should be aware of the procedures.
- Training must be provided on these procedures.

Quantities

- Keep the quantities of all chemical in the workplace both in storage areas and in laboratories at a minimum.
- Review the quantities of chemicals (Dangerous Goods and Hazardous Substances) regularly.

Register

- All chemicals in the department **must be listed** on the Department's Register.
- The Register must be current (new chemicals added, old chemicals removed)
- Keep a separate list of all chemical you have removed (for 30 years)

Safety showers and eye wash stations

- A Risk assessment should be carried out in all storage areas to determine if safety showers and/or eye wash stations are required.
- Safety showers and/or eye wash stations may not be required or be appropriate within the storage area. Best location for them needs to be determined.

Security

- Storage areas must be secure, that access is restricted to chemicals if required

Segregation

- Place a copy of Worksafe's "**Recognising Dangerous Goods**" chart (available Victorian Worksafe web site: www.workcover.vic.gov.au or La Trobe University web site: http://www.latrobe.edu.au/ohs/dangerous_goods.html, in areas where chemicals (Hazardous Substances and Dangerous Goods are stored).
N.B. The recognising DG chart should only be used a guide when segregating. MSDS are the major source of information for segregation, incompatibilities and other storage information.
- Separate chemicals according to: Class, Subsidiary Risk and Packing Group.
- The Subsidiary Risk must be considered when segregating chemicals eg Glacial acetic acid, Class 8, but also has a subsidiary Risk of Class 3.

Specific requirements of Australian Standards (Storage cabinets, ignition sources)

- Store chemicals in appropriate cabinets, (refer to appropriate Australian Standard for each Dangerous Goods Class and Subsidiary Risk).
- Ensure that specific requirements outlined in Australian Standards, e.g. that Class 3 containers be well ventilated and that they be located at least 3m from ignition sources are implemented, that Class 3 and Class 8 storage cabinets be separated by at least 1 metre.
- Ensure all storage cabinets are correctly and clearly labelled.
- Do not store containers on the ground in a storage area if you can avoid doing so as this will affect the bunded volume (that is, the volume available to retain spilled chemicals) .
- Ensure there are no odours in any storage cabinet.
- Ensure doors on storage cabinet operate as designed.

Spill procedure and Spill Kits

- A spill procedure must be in place in all areas where Hazardous Substances and Dangerous Goods are stored. The procedure should cover all aspects of any [potential spill: how to tackle spill, when to evacuate, type of PPE to be used, when to turn off utilities, type of fire extinguisher should be used, etc
- Training must be provided on the spill procedure.
- All personnel should be familiar with the spill procedure for the area.
- The spill procedure should be written and communicated to all staff.
- A spill kit should be available in each area suitable for they type of chemical(s) stored there.
- The Spill kit should be maintained.
- All personnel should be trained in correct use of the spill kit.
- There should be a spill tray below all containers which have taps on them.

Training

- Ensure all staff receive appropriate and relevant information; instruction and training e.g. attend relevant training provided by the OHS Unit.

Ventilation

- Storage areas should be ventilated if MSDS indicates this is required.

REFERENCES

Australian Standard AS2243.10 Safety in laboratories Part 10: Storage of chemicals
WorkSafe Victoria Code of Practice for the storage and handling of dangerous goods