












Guidelines for the Storage and Segregation of Hazardous Substances in Laboratories and Workshops (Australian Standards: AS2234.10 and AS1940)

When storing chemicals the following precautions must be observed:

1. The quantities of hazardous substances should be minimised.
2. The storage of chemicals and wastes should be based on their properties and reactivity with one another.
3. Gas cylinders should not be stored with chemicals.
4. Spill procedures should be established and practiced.
5. Information on the properties of the chemicals should be available to all personnel (MSDS)

The three dangerous goods (DGs) storage categories, **Low**, **Medium** and **High**, refer to the total quantity of each class of substances stored in a specific laboratory or workshop.

Segregation is achieved by storing chemicals in separate cupboards or in compatible spill trays on separate shelves or on the same shelf within a cupboard. At a minimum, spill trays must be able to contain the contents of the largest container within the tray.

DG Class	Description of Class	Storage Limits	Additional Requirements									
2	Gases  2.1  2.2  2.3	<ul style="list-style-type: none"> Gas cylinders must only be in a laboratory/workshop if connected to a system or used on a regular basis. Cylinders must be adequately secured around the body of the cylinder to prevent them falling. Cylinders are not to be chained around either the neck of the cylinder or the fittings. Each cylinder should have an individual chain. 										
		Flammable liquids  3	'In use' class 3 chemicals ¹ may be stored in each work area without segregation.									
		<table border="1"> <tr> <td>L</td> <td>≤ 10L</td> <td> <ul style="list-style-type: none"> Store in a labelled cupboard. Segregate from other classes in the cupboard. </td> </tr> <tr> <td>M</td> <td>> 10L & ≤ 100L</td> <td> <ul style="list-style-type: none"> Must be stored in a fireproof cabinet with no other classes. </td> </tr> <tr> <td>H</td> <td>> 100L</td> <td>Not recommended.</td> </tr> </table>	L	≤ 10L	<ul style="list-style-type: none"> Store in a labelled cupboard. Segregate from other classes in the cupboard. 	M	> 10L & ≤ 100L	<ul style="list-style-type: none"> Must be stored in a fireproof cabinet with no other classes. 	H	> 100L	Not recommended.	
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4.1	Flammable solids  4.1	There are no 'in use' exemptions for Class 4 chemicals										
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4.2	Substances liable to spontaneous combustion  4.2	<table border="1"> <tr> <td>L</td> <td>≤ 500g</td> <td> <ul style="list-style-type: none"> Store in a separate labelled cupboard with no other classes. May be stored with L quantities of Class 4.1 and 4.3 DGs. </td> </tr> <tr> <td>H</td> <td>> 500g</td> <td>Not recommended.</td> </tr> </table>	L	≤ 500g	<ul style="list-style-type: none"> Store in a separate labelled cupboard with no other classes. May be stored with L quantities of Class 4.1 and 4.3 DGs. 	H	> 500g	Not recommended.	<ul style="list-style-type: none"> Store away from water Limits do not apply to ≤ 10kg activated charcoal 			
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5	Oxidising substances and organic peroxides  5.1  5.2	'In use' class 5 chemicals ¹ are exempt from these guidelines and may be stored in each work area without segregation.										
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6.1	Toxic substances  6.1	'In use' class 6 chemicals ¹ are exempt from these guidelines and may be stored in each work area without segregation.										
		Notify Safety Officer (if applicable) and OHS before purchase and/or use of scheduled carcinogens										
8	Corrosives  8	'In use' class 8 chemicals ¹ are exempt from these guidelines and may be stored in each work area without segregation.										
		The maximum amount of each of the liquid and solid corrosives may be stored within a laboratory, eg you may have 10L mineral acid + 10L organic acid + 50kg corrosive solid in a laboratory of L category.										
		Notify Safety Officer (if applicable) and OHS before purchase and/or use of acid/alcohol etchants, hydrofluoric acid, perchloric acid or picric acid.										
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Corrosive – Liquids • Mineral acids & bases eg hydrochloric acid, sulphuric acid, nitric acid • Organic acids eg acetic acid, formic acid												
Corrosive – Solids Solid & liquid corrosives may be stored in the same cupboard or cabinet												

¹ 'In use' includes:

- Chemicals currently being used (ie, most weeks), and
- Containers of ≤ 1kg or ≤ 1L, and
- Only one container of each chemical per person or work area

Relevant Australian Standards

Australian Standard	Title
AS2243.10	Safety in Laboratories – Storage of Chemicals
AS1940	The Storage and Handling of Flammable and Combustible Liquids
AS/NZS3833:2007	The Storage and Handling of Mixed Classes of Dangerous Goods, in Packages and Intermediate Bulk Containers <i>(refer to Figure 6.1 for a pictorial segregation matrix)</i>