



Storage Compatibility of Dangerous Goods in laboratories and Chemical Stores

A common practice is to store all chemical materials alphabetically. However, in order to prevent unwanted reactions from occurring in a storage area, chemicals should be stored in compatible groups. The following tables give possible combinations of dangerous goods classes which may be stored together. Note that **class 1** may not be stored with anything else. Sometimes further advice can be obtained from the MSDS or the supplier.

For operations at the Department of Chemistry, UOW, no dangerous goods may be stored together that have a classification of I or R.

Reference : Appendix G, Australian/New Zealand Standard AS/NZS 3833 The Storage and Handling of Mixed Classes of Dangerous Goods in Packages and Intermediate Bulk Containers.

Class	2	3	4.1	4.2	4.3	5.1	6.1	8
2	C	I	I	R	I	R	C	C
3	I	C	I	R	I	R	C	I
4.1	I	I	C	R	R	R	C	I
4.2	R	R	R	C	R	R	I	R
4.3	I	I	R	R	C	R	C	R
5.1	R	R	R	R	R	R†	R	R
6.1	C	C	C	I	C	R	C	R
8	C	I	I	R	R	R	R	C‡

Key:

C = are likely to be compatible with each other

I = are likely to be incompatible with each other

R = are likely to react dangerously with each other

† All dangerous goods of this Class may be regarded as reacting dangerously with other dangerous goods of the same class but with different UN Numbers.



‡ Liquids may be regarded as incompatible with other liquids or solids of the same class but with different UN Numbers.

The table below indicates more specific chemicals may be safely stored together. Within a group, chemicals may be stored alphabetically.

Chemical Group	Reactivity	Do Not Store With
	Group #	Group #
INORGANIC ACIDS	1	2-8,10,11,12,13,15-18,20,21
ORGANIC ACIDS	2	1,3,4,7,13,15-18
CAUSTICS	3	1,2,6-8,12-17,19,21
AMINES AND ALKANOLAMINES	4	1,2,5,7,8,12-17,21
HALOGENATED COMPOUNDS	5	1,3,4,11,13,16
ALCOHOLS, GLYCOLS, GLYCOL Ethers	6	1,7,13,15,19,21
ALDEHYDES	7	1-4,6,8,14-16,18,19,21
KETONES	8	1,3,4,7,18,19
PETROLEUM OILS,SATURATED HYDROCARBONS	9	19
AROMATIC HYDROCARBONS	10	1,19
OLEFINS	11	1,5,19
ESTERS	12	1,3,4,18,19
MONOMERS, POLYMERIZABLE Esters	13	1-6,14,15,18,19,20,21
PHENOLS	14	3,4,7,13,15,18,19
ALKYLENE OXIDES	15	1-4,6,7,13,14,16-18,21
CYANOHYDRINS	16	1-5,7,15,18,21
NITRILES	17	1-4,15,21
AMMONIA	18	1,2,7,8,12-16,19,21
HALOGENS	19	3,6-14,18,20
ETHERS	20	1,13,19
ACID ANHYDRIDES	21	1,3,4,6,7,13,15-18



This table details some sub-classes within the nine dangerous goods classes.

Reference <http://info.anu.edu.au/hr/OHS/ Procedure Attachments/Storage Compatibility Table.pdf>

	Dangerous Goods Class	Explosives	Flammable gases	Non-toxic, non flammable gases	Toxic gases	Flammable liquids	Flammable solids	Spontaneously combustible	Dangerous when wet	Oxidizing agent	Organic peroxide	Toxic	Radioactive	Corrosive	Miscellaneous DG	Foodstuffs
Explosives	1	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Flammable gases	2.1	Red	Green	White	Orange	Orange	Red	Red	Red	Red	Red	Yellow	Red	Yellow	White	Yellow
Non-toxic, non flammable gases	2.2	Red	White	Green	White	Yellow	Yellow	Red	Yellow	Yellow	Red	Yellow	Yellow	Yellow	White	Yellow
Toxic gases	2.3	Red	Orange	White	Green	Red	Red	Red	Yellow	Red	Red	Yellow	Yellow	Yellow	White	Red
Flammable liquids	3	Red	Orange	Yellow	Red	Green	White	Red	Yellow	Red	Red	Orange	Red	Yellow	White	Yellow
Flammable solid	4.1	Red	Red	Yellow	Yellow	White	Green	Red	White	Red	Red	White	Red	Yellow	White	Yellow
Spontaneously combustible	4.2	Red	Red	Red	Red	Red	Red	Green	White	Red	Red	White	Red	Yellow	White	Yellow
Dangerous when wet	4.3	Red	Red	Yellow	Yellow	Yellow	White	Red	Green	Red	Red	Yellow	Red	Red	White	Yellow
Oxidizing agent	5.1	Red	Red	Yellow	Red	Red	Red	Red	Red	Green	Red	Orange	Red	Red	Orange	Orange
Organic peroxide	5.2	Red	Red	Red	Red	Red	Red	Red	Red	Red	Green	Orange	Red	Red	Orange	Orange
Toxic	6	Red	Yellow	Yellow	Yellow	Orange	White	White	Yellow	Red	Red	Green	Yellow	Orange	Yellow	Red
Radioactive material	7	Red	Red	Yellow	Yellow	Red	Red	Red	Red	Red	Red	Yellow	Green	Red	Yellow	Red
Corrosive	8	Red	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Red	Red	Red	Orange	Red	Green	White	Red
Miscellaneous DG	9	Red	White	White	White	White	White	White	White	Orange	Orange	Yellow	Yellow	White	Green	Yellow

Key

Red	Incompatible – Do not store together
Orange	Caution and conditions apply. Avoid storing together
Yellow	Not to be stored together unless
Green	Compatible when stored correctly

Note

1 Segregate acids and bases/alkalis