

APPENDIX 2.15.1

Storage Compatibility of Dangerous Goods in Laboratories and Chemical Stores



Department of Chemistry OHS&S Factheets

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	CI

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.

Department of Chemistry OHS Facilities



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	Infectious	Corrosive	Miscellaneous LDH	Excessively reactive
Explosives	1	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Flammable gases	2.1	Red	Green	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Non-toxic, non-flammable gases	2.2	Red	Green	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Toxic gases	2.3	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Flammable liquids	3	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Flammable solid	4.1	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Spontaneously combustible	4.2	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Dangerous when wet	4.3	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Oxidizing agent	5.1	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Organic peroxide	6.2	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Toxic	8	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Radioactive material	9	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Corrosive	8	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Miscellaneous LDH	9	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red

Key

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

Note
1 Segregate acids and bases/alkalis

Department of Chemistry CHMS Facilities



‡ 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
CYANHYDRINS	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