



Labelling of Hazardous Substances

1. Purpose

The NSW OHS Regulation (clauses 163, 174H) requires that all containers of hazardous substances and dangerous goods supplied, used in, or handled in the workplace must be appropriately labelled. This applies to substances that are decanted or transferred to other containers and of substances produced and used within the workplace. The purpose of this document is to assist laboratory workers within the School of Chemistry in complying with regulations in relation to the labelling of workplace substances.

2. Scope

This procedure applies to all personnel within the School of Chemistry who are synthesising compounds, extracting compounds or making up mixtures and stock solutions within the laboratory or who decant or transfer material from original supplier's containers. Please note this does not include at this stage recommendations made in the ASCC (Australian Safety and Compensation Council) Draft national standard for the control of workplace hazardous chemicals, September 2006.

3. References

NOHSC *National Code of practice for the labelling of workplace substances* [NOHSC:2012(1994)]

NOHSC *List of Designated Hazardous Substances* [NOHSC:10005(1999)]

WorkCover 2004 *Labels for Hazardous Substances* Information Sheet 21

Australian Safety and Compensation Council *Guidance Material for the Hazardous Substances Information System* <http://www.nohsc.gov.au/applications/hsis/HSGuidance.htm> [accessed Jan 2008]

4. Definitions

Hazardous substance means a substance which:

- (a) is listed in the National Occupational Health and Safety Commission's List of Designated Hazardous Substances [NOHSC:10005(1994)] or
- (b) has been classified as a hazardous substance by the manufacturer or importer, in accordance with the National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(1994)].

Class label: the label illustrating the class allocated to a substance under the ADG Code.

SUSDP: Standard for the uniform scheduling of drugs and poisons

Material Safety Data Sheet MSDS: means a document that describes the properties and uses of a substance, that is, identity, chemical and physical properties, health hazard information, precautions for use and safe handling information.

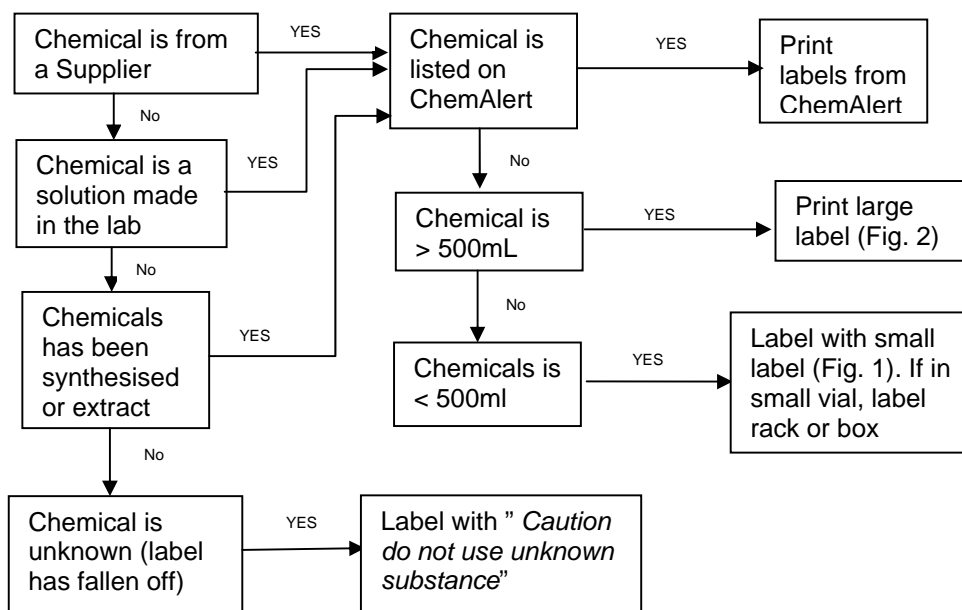


5. Procedure

5.1. General

Normally chemicals supplied to the workplace, by a known chemical supplier, will be correctly labelled. However compliancy should be checked if they have been **imported directly** from overseas as Australian regulations have specific requirements. If the substance has been **decanted** or **repackaged** or the original label removed, an MSDS or ChemAlert report will give the necessary information for labelling. If the substance has been decanted and is to be used within **12 hours** then it needs only to have the name and relevant risk or safety phrases.

If the substance is a novel compound **produced in the workplace** and is considered **hazardous**, labels according to the criteria below must be affixed to the container. See Appendix 1 for greater detail on terminology. If the chemical has been produced in the workplace and has an MSDS, use the information provided in the MSDS to produce the label. If a label is unreadable or fallen off and the contents of the container are unknown a label **“Caution do not use: unknown substance”** should be placed on the container. Contact the School OHS Facilitator and isolate the item until the contents can be identified or it can be suitably disposed of.



5.2. Labelling and the size of the container

The information that must be present on a label depends on the size of the container. Generally containers for compounds made or decanted in a research lab are **less than 500ml** and the labels should have the following:-

- Signal words, dangerous goods class and subsidiary risks
- Name, other ingredients (solvent), UN No.
- Risk and Safety phrases
- First aid procedures
- Details of the person who prepared the sample –name and contact



- Date prepared or Expiry date
- Reference to MSDS

If a container has stored volumes **greater than 500mL**, such as a stock solution or prepared mixture, the following additional information is required:

- Directions for use
- Emergency procedures

A system should be devised for **sample containers or very small vials**, which may not have room for an individual label. For example, attach a label to the sample rack or box and/or have an information sheet which can be referred to.

5.3. Labelling chemicals produced in the Laboratory

For chemicals that have been derived in the laboratory and are less than 500mL or 500g the following label can be used. Figure 1: Example of small label available on template

Hazardous Substance	
Chemical	
Ingredients	
Researcher	Group
R, S Phrases	
DG Class	3 6 8 other:
Date	stable / likely to degrade

Use the full chemical name or a common meaningful identifier and if there is a CAS No. or UN No. include that too.

Here is where you put the solvent, or if it is a mixture each of the ingredients

Risk and Safety phrases are required by law. A full listing is given on the Risk and Safety Phrase Factsheet

Circle the appropriate description

Is the compound flammable, toxic, oxidising or corrosive. Put in the DG class and/or any other major known property lachrymator, irritant etc.

Hardcopy labels are available in the Administrative Assistant's office 18.102. Information can be handwritten on pre-printed label. Softcopies are also available (section 7. Documentation). Labels are suitable for Avery L7163 adhesive labels. Small label templates and Risk, Safety and First Aid phrases are listed on a factsheet at <http://www.uow.edu.au/science/chem/ohs/index.html>

5.4. Labelling Mixtures and stock solutions prepared in the laboratory

If a mixture is prepared in the laboratory and will not be used within 12 hours, then the container must be labelled according to regulations (see 5.2). If the volume is **greater than 500mL**, then in addition to the standard requirements additional information is required:

- Directions for use
- Emergency procedures

- Firstly check to see if a label for the stock solution or mixture is available using ChemAlert.
- If the solution is not available on ChemAlert, customise a label by overtyping required information. View created template available from the website at <http://www.uow.edu.au/science/chem/ohs/index.html>



This template has some labels already customised. E-mail Sandra Chapman to have your customised labels added to the template which will allow other people to access the label or to obtain a soft copy of the template. This template is suitable for Avery 7165 adhesive labels.

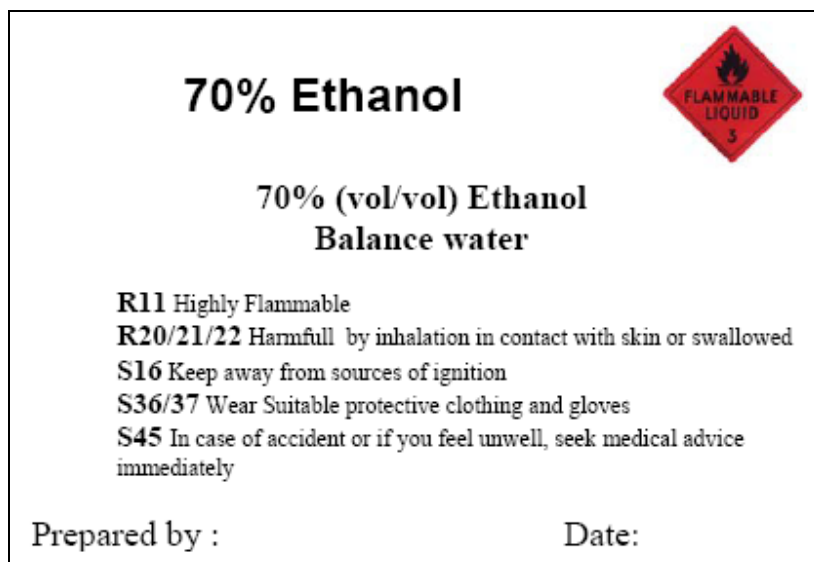


Figure 2: Example of large label generated from template

5.5. Summary

Supervisors and laboratory staff must ensure:-

- appropriate and correct labelling on all containers holding hazardous material
- correct labels are not removed, modified or defaced
- a procedure is in place for where original labels are unreadable and for unknown substances.
- If the substance is decanted (placed into another container), labelling is provided to indicate the product name, risk and safety phrases

Supervisors and laboratory staff must ensure all containers of hazardous substances are appropriately labelled if material is:-

- in use
- delivered to the workplace
- produced within the workplace

6. Reference Personnel

All changes to this document shall be referred to the School Safety Committee prior to implementation.

7. Documentation

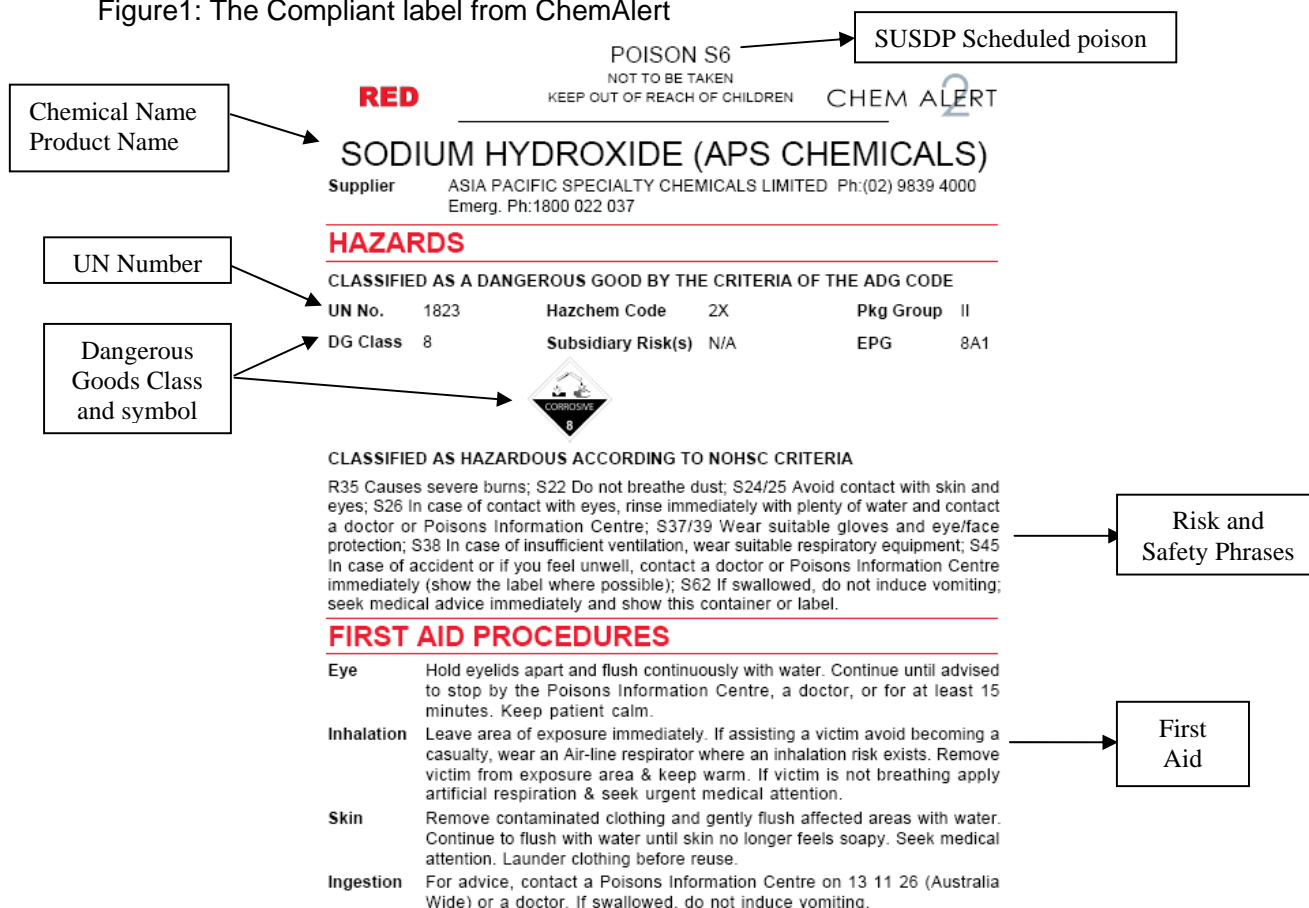
Risk and Safety Phrases factsheet	http://www.uow.edu.au/science/chem/ohs/
Small label template*	http://www.uow.edu.au/science/chem/ohs/ printed copy placed in 18.102
Large label template*	http://www.uow.edu.au/science/chem/ohs/

* For softcopy e-mail request to Sandra Chapman



Appendix 1: Description of various elements in the compliant label

Figure 1: The Compliant label from ChemAlert



Note: It is likely Risk, Safety and First Phrases will change with the implementation of the new National Standard.

1. Signal words and Dangerous Goods Class and Sub-Risk labels.

The signal words indicate the relative degrees of hazards and the Class label and Sub-Risk labels indicate the major hazards of the substance. If the compound is a dangerous good, then class and subsidiary risk labels are used. If the compound is not a dangerous good, it depends on if the compound is SUSDP scheduled as a drug or poison.

Hazard Rating	SUSDP Scheduled	Not SUSDP scheduled
CATEGORY 3 carcinogens and mutagens	WARNING	HARMFUL
CATEGORY 2 carcinogens, mutagens and teratogens	POISON	TOXIC



CATEGORY 1 carcinogens, mutagens and teratogens	DANGEROUS POISON	VERY TOXIC
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2. Identification

Provides the basis for identification of the substance. The components consist of:

2.1 Product name

The name by which substance is known. Often also the trade name. Need not be duplicated if same as *substance name* (2.2).

2.2 Chemical name

In order of preference (generally not if mixture):-

- Correct Shipping Name assigned by the ADG Code name
- SUSDP if a drug or poison scheduled in SUSDP
- Recognised chemical name, including abbreviations but **not** trade names, sufficiently informative to enable identification to enable emergency response

2.3 UN Number

A four digit number assigned to dangerous goods.

2.4 Ingredient and formulation details

Full identification of ingredients and composition is normally required. If commercially confidential some restraint on identification of name and composition is provided for in the Code. Variation is dependent on *Type* (see below). If scheduled in the SUSDP as a *Drug or Poison* (see page 415) full disclosure is required.

Type I ingredients *Hazardous substances* (other than certain *harmful substances* [ie. without an R-phrase]), or those with a listed exposure standard and exceeding the concentration cut-off level) must be identified by the chemical name as defined above.

Type II ingredients *Harmful substances*, other than *Type I harmful substances* (above concentration cut-off level to distinguish from Type III) may be described with a *generic name* if commercially confidential.

Type III ingredients Any ingredient not being Type 1 or Type II (ie. not a *hazardous substance*), may be identified with a generic name. If commercially confidential, type II ingredients may be described as '*other ingredients determined not to be hazardous*' **except** if possessing synergistic effects.

If commercially confidential, the ingredients may also be indicated by range;

- **greater than 60 %**,
- **30 - 60 %**,
- **10 - 30 %, or**
- **less than 10 %**).



Classes of chemicals should be distinguished. Compositional variability to be indicated, for example, ingredients should be listed in descending order of proportion unless the substance is classified as a *dangerous good* which requires the technical name to be listed first.

3. Risk phrases

Risk phrases (R-Phrases) provide a general description of the hazard under normal or reasonable foreseeable handling or use of the substance (eg. *May cause fire, Irritating to eyes* etc.). The National Commission recommends a limit of four phrases and each hazard category should be carefully considered for relevance. Risk phrases have been described on the Factsheet http://www.uow.edu.au/science/chem/ohs/ChemFS/RS_Phrases.pdf

4. Directions for Use.

Directions for use are used to provide specific directions for use of the substance. As directions for use often complement Safety Phrases, they should be located together.

5. Safety Phrases

Safety Phrases (S-Phrases) inform about the safe use of the substance. eg. *Avoid shock and friction, or Wear suitable gloves*. The selection of these phrases is according to the Appendix of the National Code although additional phrases may be used. Safety Phrases are grouped by categories (eg. Safe handling, Disposal etc.)

Selection

- No more than four phrases should be used.
- The phrases in the National Code tend to be general and should be made more specific as appropriate (eg. replacing the word *suitable* with more specific detail such as the material used in the protective clothing).
- According to the anticipated users.
- Phrases should be grouped with directions for use with a suitable heading (eg. *SAFETY*).

6. First Aid Procedures

First Aid phrases provide advice on immediate action using commonly available treatments following exposure to the substance. First Aid phrases have been described on the Factsheet http://www.uow.edu.au/science/chem/ohs/ChemFS/RS_Phrases.pdf

8. Emergency Procedures

Emergency procedure advice should detail simple and brief information on the control of leaks spills or fire. Advice could include materials, equipment and extinguishing agents relevant to spills, leaks and fires. No phrases are provided by the National Commission. Rationalisation with the Safety Phrases may be necessary. In contrast to the MSDS, there is no specific provision in the workplace labelling code for ingredient disclosure for emergency purposes

9. General

- A person shall not remove, deface, modify or alter a correct label of a substance used at work. It is an offence under the National Commission's National Model Regulations for the Control of Workplace Hazardous Substances [NOHSC:1005(1994)] to make any such alteration.