**Work Health and Safety (Labelling of Workplace Hazardous Chemicals) Code of Practice 2015**

made under the

***Work Health and Safety Act 2011*, section 274 (Approved Codes of Practice)**

**1 Name of instrument**

This instrument is the Work Health and Safety (Labelling of Workplace Hazardous Chemicals) Code of Practice 2015.

**2 Commencement**

This instrument commences on the day after it is registered on the Federal Register of Legislative Instruments.

**3 Code of Practice Approval**

I approve the Labelling of Workplace Hazardous Chemicals Code of Practice. I am satisfied that this code of practice was developed by a process described in section 274(2) of the *Work Health and Safety Act 2011*.

Michaelia Cash

Minister for Employment

17 December 2015

Date

LABELLING OF WORKPLACE

HAZARDOUS CHEMICALS

**Code of Practice**

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# FOREWORD

This code of practice for labelling workplace chemicals is an approved code of practice under section 274 of the *Work Health and Safety Act* (WHS Act).

An approved code of practice is a practical guide to achieving the standards of health, safety
and welfare required under the WHS Act and the Work Health and Safety Regulations (the
WHS Regulations).

A code of practice applies to anyone who has a duty of care in the circumstances described in
the code. In most cases, following an approved code of practice would achieve compliance
with the health and safety duties in the WHS Act, in relation to the subject matter of the code.
Like regulations, codes of practice deal with particular issues and do not cover all hazards or
risks that may arise. The health and safety duties require duty holders to consider all risks associated with work, not only those for which regulations and codes of practice exist.

Codes of practice are admissible in court proceedings under the WHS Act and Regulations.
Courts may regard a code of practice as evidence of what is known about a hazard, risk or
control and may rely on the code in determining what is reasonably practicable in the circumstances to which the code relates.

An inspector may refer to an approved code of practice when issuing an improvement or prohibition notice.

This Code of Practice has been developed by Safe Work Australia as a model code of practice under the Council of Australian Governments’ *Inter-Governmental Agreement for Regulatory
and Operational Reform in Occupational Health and Safety* for adoption by the Commonwealth, state and territory governments.

A draft of this Code of Practice was released for public consultation on 7 December 2010
and was endorsed by the Workplace Relations Ministers Council on 10 August 2011.

## Scope and application

This Code applies to substances, mixtures and articles used, handled or stored at the workplace and which are defined as hazardous chemicals under the WHS Regulations.

While this Code applies to hazardous chemicals as defined, it is recommended practice to provide a label for any chemical that is suspected of producing adverse health, safety or environmental effects but has insufficient information generated to allow it to be correctly classified. The label should reflect current state of knowledge.

This Code provides practical guidance to persons conducting a business or undertaking involved
in the manufacture, import, supply or use of hazardous chemicals on how to correctly label hazardous chemicals used in the workplace.

### How to use this Code of Practice

In providing guidance, the word ‘should’ is used in this Code to indicate a recommended course
of action, while ‘may’ is used to indicate an optional course of action.

This Code also includes various references to provisions of the WHS Act and Regulations which set out the legal requirements. These references are not exhaustive. The words ‘must’, ‘requires’ or ‘mandatory’ indicate that a legal requirement exists and must be complied with.

# 1. INTRODUCTION

This Code describes the type of information that is needed on labels for various hazardous chemicals so that users of these chemicals in workplaces can identify any hazards associated
with the correct classification of the chemical and take appropriate steps to eliminate or minimise the risks.

## 1.1 When is a label under the WHS Regulations not required?

In general, a label is required for any substance, mixture or article classified as a hazardous chemical under the WHS Regulations. However, there are several types of hazardous chemical that are excluded from the labelling provisions under Regulation 335 or exempted from coverage from all provisions in Part 7.1 of the WHS Regulations.

***Dual use products***

Some hazardous chemicals may be intended for supply to both the consumer household markets and workplaces in identical containers and packaging. These products are sometimes referred to as dual use products. A dual use product label need only comply with the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) labelling requirements. If the manufacturer or importer determines that the use handling and storage of the product are predominantly related
to a work activity, the label must meet WHS requirements.

### Food and beverages

Food and beverage products that are packaged in a form intended for consumption do not require labelling under the WHS Regulations. However, large or bulk quantities must be labelled to meet workplace requirements. For example, a 1000 L container of flammable alcoholic spirits must be labelled to meet WHS requirements, while a 750 mL bottle of the same spirits does not.

### Therapeutic goods

Therapeutic goods are regarded as correctly labelled under the WHS Regulations when labelled
in accordance with Therapeutic Goods Administration (TGA) requirements and in a form:

* intended for intake or administration to or by a patient or consumer, or
* intended for use for therapeutic purposes.

When not in a form intended for intake or administration to or by a patient or consumer, or for therapeutic purposes, workplace labelling must be used.

For example, a pharmacist repacks a 1 kg container of formulated tablets in smaller containers for dispensing to patients. The 1 kg container must comply with TGA labelling requirements. However, a 1 kg container of the same material in powdered form used by a pharmacist in manufacturing or formulating products must be labelled according to workplace labelling requirements.

## 1.2 The meaning of key terms and abbreviations

***ADG Code*** means the *Australian Code for the Transport of Dangerous Goods by Road and Rail, 7th edition,* approved by the Australian Transport Council. The ADG Code is accessible at the [National Transport Commission](http://www.ntc.gov.au/) website www.ntc.gov.au.

***Container*** means anything in or by which a hazardous chemical is, or has been, wholly or partly covered, enclosed or packed, including anything necessary for the container to perform its function as a container.

***Hazardous chemical*** means any substance, mixture or article that satisfies the criteria for a hazard class in the *Globally Harmonised System of Classification and Labelling of Chemicals* (GHS) including a classification referred to in Schedule 6 of the WHS Regulations, but does not include a substance, mixture or article that satisfies the criteria solely for one of the following hazard classes:

* acute toxicity - oral - Category 5
* acute toxicity - dermal - Category 5
* acute toxicity - inhalation - Category 5
* skin corrosion/irritation - Category 3
* serious eye damage/eye irritation - Category 2B
* aspiration hazard - Category 2
* flammable gas - Category 2
* acute hazard to the aquatic environment – Category 1, 2 or 3
* chronic hazard to the aquatic environment - Category 1, 2, 3 or 4, or
* hazardous to the ozone layer.

***Label*** means the written, printed or graphical information elements concerning a hazardous chemical that is affixed to, printed on or attached to the container of a hazardous chemical.

Further definitions and abbreviations used in this Code are listed in Appendix A.

## 1.3 What are the duties in relation to labelling hazardous chemicals?

The WHS Regulations apply specific duties to various persons in relation to the correct labelling
of workplace hazardous chemicals. These duties are summarised below.

| **Duty holder** | **Responsibilities** |
| --- | --- |
| **Manufacturers and importers**  | * Ensure that the chemical is correctly labelled.
 |
| **Suppliers** | * Must not supply a hazardous chemical to a workplace if the supplier knows, or ought reasonably to know, that the chemical is not correctly labelled.
 |
| **Person who is conducting a business or undertaking** | * Ensure that any hazardous chemical that is used, handled or stored at the workplace is correctly labelledin accordance with Schedule 9 of the WHS Regulations, except where:
* the hazardous chemical is a consumer product, retaining its original label and only used in workplaces in household quantities and in a way that is incidental to the nature of the work, or
* a hazardous chemical is in transit.
* Ensure that a hazardous chemical is correctly labelled if the chemical is manufactured at the workplace; or transferred or decanted from the chemical’s original container at the workplace.
 |
| **Person who is conducting a business or undertaking** | * Ensure, so far as reasonably practicable, that containers are correctly labelled while holding a hazardous chemical.
* Ensure that containers that are labelled for holding a hazardous chemical are used only for the use, handling or storage of the hazardous chemical.

Note: The three duties directly above do not apply if the hazardous chemical is used immediately after being put into the container and the container is thoroughly cleaned after the chemical has been used, handled or stored so it is in a condition it would be in if the container had never contained the chemical.* Ensure, so far as is reasonably practicable, that a hazardous chemical in pipe work is identified by a label, sign or another way on or near the pipe work.
 |

*Note*: a person who packages or re-labels a hazardous chemical with their own product name is considered to be a manufacturer and therefore will have the same obligations as the manufacturer or importer under the WHS Regulations to correctly label.

Under the WHS Regulations, manufacturers and importers of a substance, mixture or article have an obligation to correctly classify that substance, mixture or article. To prepare a correct and accurate label for a hazardous chemical, you need to know the correct classification of the hazardous chemical.

# 2. LABELLING HAZARDOUS CHEMICALS – GENERAL INFORMATION

This chapter deals with the complete set of labelling elements that should be included on a container. A checklist for the preparation of a label is provided in Appendix B.In some situations it is not possible or reasonably practicable to legibly include the complete set of labelling elements on a label. Reduced label requirements are permitted in such situations. Guidance on the label requirements for these and other special situations is provided in Chapter 3 of this Code.

## 2.1 What information must be included on a label?

**Regulation 335, Part 3 of Schedule 9:** A hazardous chemical is correctly labelled if the chemical is packed in a container that includes the following:

* is written in English
* the product identifier
* the name, Australian address and business telephone number of either the manufacturer
or importer
* the identity and proportion disclosed, in accordance with Schedule 8 of the WHS Regulations, for each chemical ingredient
* any hazard pictogram(s) consistent with the correct classification(s) of the chemical
* any hazard statement(s), signal word and precautionary statement(s) that is consistent
with the correct classification(s) of the chemical
* any information about the hazards, first aid and emergency procedures relevant to the chemical, which are not otherwise included in the hazard statement or precautionary statement, and
* the expiry date of the chemical, if applicable.

You may include any information on the label that does not contradict or cast doubt on any other information that is required on the label.

The following additional information should also be included on the label, where available:

* an emergency phone number, for specific poisons or treatment advice
* the overseas name, address and telephone number of the manufacturer or supplier
* a valid website or internet address
* reference to the safety data sheet, for example a statement on the label that says: “Additional information is listed in the safety data sheet”.

## 2.2 Product identifier, including details of ingredients

Information on the identity of a product includes a product identifier and the disclosure of certain ingredients. The product identifier and details of ingredients should be grouped together and located at the most prominent position on the label, for example at the top or centre of the label,
or on a front panel.

A product identifier is a unique name or number by which the chemical is to be known, and which allows the product users to identify the hazardous chemical. The product identifier must be the same as that listed in the safety data sheet, and may be identical to the trade name.

A label must identify those ingredients, including their proportions, which contribute to the overall hazard class and hazard category of the hazardous chemical in accordance with Schedule 8 of the WHS Regulations. Disclosure of ingredient names is not required for ingredients that meet only physicochemical and/or environmental hazard classifications.

For pure substances, the identity of an ingredient can be identical to the product identifier.

The identity of a hazardous ingredient must be disclosed on a label using its *chemical identity*, unless the use of a generic name is permitted. The chemical identity of the hazardous ingredient can be disclosed by any of the following:

* the IUPAC name
* the CAS name
* the technical name (if different from the IUPAC or CAS name), which must be generally used
in commerce, regulations and codes to identify a substance or mixture, and recognised by the scientific community.

*Note*: Trade names are not acceptable as technical names.

A generic name may be used to describe a hazardous ingredient if:

* the identity of the ingredient is commercially confidential, and
* an exposure standard has not been established for the ingredient, and
* the hazardous ingredient meets the criteria for any of the following GHS hazard classes
and categories, and no other GHS health hazard classes and categories:
	+ acute toxicity – Category 4 (oral, dermal, inhalation)
	+ aspiration hazard – Category 1
	+ serious eye damage/ eye irritation – Category 2A
	+ skin corrosion/irritation – Category 2
	+ specific target organ toxicity (single exposure) – Category 3.

A guide for selecting generic names for ingredients is included in Appendix C of this Code.

### For complex mixtures

The identity of all hazardous ingredients in a complex mixture must be determined so far as
is reasonably practicable. In some situations it may be difficult to identify individual ingredients
for example in natural products or extracts where the chemical composition of the mixture may vary according to the source. In these circumstances, technical names may be used to identify hazardous ingredients.

The ingredient and formulation details for hazardous complex mixtures must include as much information as possible. Chemical families or sub-families should be distinguished wherever possible. Chemical sub-families that may be used to represent a mixture of ingredients in complex mixtures include aliphatic hydrocarbons, aromatic hydrocarbons, aliphatic alcohols, aliphatic aldehydes and silicates.

### Disclosing proportions of ingredients

The proportion of a disclosed ingredient, expressed as a weight or volume percentage of the hazardous chemicals must be described as an exact proportion, unless the exact concentration
of an ingredient is commercially confidential. For multiple ingredients, proportions of hazardous ingredients should be listed in descending order by mass or volume.

Where the proportions of ingredients in the hazardous chemical are commercially confidential, the following ranges—or a narrower range as described in the paragraph immediately below—must be used as an alternative to disclosing exact proportions:

* <10%
* 10- <30%
* 30 – 60%
* >60%

The proportion of an ingredient may be disclosed using a narrower range than the applicable range listed above. For example, for an ingredient present at 35%, a range of 30 - 40% may be used instead of 30 - 60%.

For complex mixtures, proportion ranges should be used to cover any variability in the composition. Where the exact composition of a complex mixture is not known, this should be clearly indicated
on the label.

Where possible, the percentage composition should add up to or indicate a total of 100%, even
if an estimate of non-hazardous ingredients needs to be provided.

**Example of how ingredients can be represented on the subsection of a label**

Flammable Liquid A contains the following ingredients:

Toluene 55 %

Ethyl methyl ketone 40 %

Methanol 3.5 %

2-Butanol 1 %

Xylene 0.5 %

As both xylene and 2-butanol are not hazardous to health at these concentrations,
 they do not need to be disclosed in the ingredients subsection of the label.

Note: as they both have exposure standards they should be disclosed on the label
as good practice.

The ingredients and their proportions may be disclosed on the label using the exact proportions:

Flammable Liquid A, contains:

Toluene 55 %

Ethyl methyl ketone 40 %

Methanol 3.5 %

Non-hazardous ingredients 1.5%

If the ingredient proportions are commercial-in-confidence, they may be disclosed on the label using a range:

Flammable Liquid A, contains:

Toluene 30 - 60 %

Ethyl methyl ketone 30 - 60%

Methanol <10 %

## 2.3 Manufacturer/importer information

The label must include the Australian contact details of the manufacturer or importer.

Additional information, including details of an overseas manufacturer or supplier – for example,
a website or internet address – may be included on the label.

The manufacturer or importer identification may be provided in a less-prominent position on the label, for example the back portion of the label. It should be grouped with the expiry date, where applicable.

## 2.4 Label elements

The combination of label elements required on the label of a hazardous chemical is directly linked to its hazard classification. Label elements apply to classification endpoints or hazard categories and must be determined as specified in the GHS.

Appendix Dincludes tables listing all the elements that apply to each hazard class and category
or division.

The potential exists for duplication or redundancy of certain label elements where a hazardous chemical meets the criteria for more than one hazard class or category in the GHS. Duplicate or redundant information should not be included on a label. Rules of precedence of certain label elements and general guidance that should be used to determine when elements may be omitted from a label are provided in Appendix E.

Some hazardous chemicals, for example dangerous goods which cannot otherwise be classified into any hazard class described in the GHS, will not have any corresponding label elements.
For these hazardous chemicals, hazard pictograms, hazard statements, signal words and precautionary statements cannot be included on the label. The labels for these products should include information on the hazards and safety precautions. For example, for dry ice (solid carbon dioxide), information on the asphyxiation hazard and precautions for handling to avoid cryogenic burns should be included on the label.

The signal word, hazard pictograms and hazard statements should be grouped together in a prominent position on the label, and located either immediately following or adjacent to the product identifier and chemical ingredients.

### Signal words

Signal words are used to indicate the relative level of severity of a hazard. The GHS uses ‘Danger’ and ‘Warning’ as signal words. ‘Danger’ is used for a more severe or significant hazard, while ‘Warning’ is used for the less severe hazards.

Only one signal word should be present on any one label. If the signal word ‘Danger’ applies, then the signal word ‘Warning’ should not appear on the label.

Signal words should be represented in bold and uppercase text.

### Hazard statements

Hazard statements describe the nature of a hazard, including the degree of hazard, where appropriate. A unique hazard statement is assigned to each hazard class and category. The hazard statements and corresponding hazard class and category are provided in Appendix D.
 All relevant hazard statements must appear on the label. Where a hazard classification results
in hazard statements with duplicate information, the information should only appear once, in line with the rules of precedence outlined in Appendix E.

AdditionallyAppendix D lists 12 non-GHS hazard statements that should be included on the label, where relevant.

A unique hazard statement code is assigned to each hazard statement. The hazard statement code is intended to be used for reference purposes only. It is not part of the hazard statement
and should not be used to replace it or be included on the label.

Hazard statements should be represented in bold and sentence case text.

### Precautionary statements

Precautionary statements describe the recommended measures that should be taken to minimise or prevent adverse effects resulting from exposure to, or improper storage or handling of, a hazardous chemical. Precautionary statements are assigned to each hazard class and category.

Precautionary statements are separated into five categories:

* Prevention statements refer to precautions to be taken to prevent an accident or exposure.
* Response statements refer to instructions in case of an accident.
* Storage statements refer to instructions for safe storage of the chemical.
* Disposal statements refer to appropriate disposal instructions.
* General statements for use as appropriate.

The precautionary statements that correspond to each hazard class and category are provided
in Appendix D. Not all precautionary statements relating to a particular hazard classification need to be used on the label. As a guide, a maximum of between six and ten precautionary statements should appear on the label, depending on the nature and severity of the hazards.

Where a hazard classification results in duplicate precautionary statements, the information should only appear once in line with the rules of precedence outlined in Appendix E.

A combination of precautionary statements may be used to save label space, improve readability and to provide flexibility in the application of precautionary phrases.

Related precautionary statements should be grouped together on a label to allow for ease of location. Precautionary statements should be printed in sentence case text.

A unique precautionary statement code is assigned to each precautionary statement. The precautionary statement code is intended to be used for reference purposes only. It is not part
of the precautionary statement and should not be used to replace it or be included on the label.

The general precautionary statements refer to general precautionary measures to be taken,
for example:

* If medical advice is needed, have product container or label at hand.
* Keep out of reach of children.
* Read label before use.

Unlike other precautionary statements, general precautionary statements are not linked to particular hazard classes or categories and their inclusion on labels of workplace hazardous chemicals is not mandatory.

Where general precautionary statements are used, they should be located in a prominent position on the label, for example adjacent to the product identifier. General precautionary statements should be printed in sentence case text.

### Hazard pictograms

The GHS specifies nine hazard pictograms, having regard to physical, health and environmental hazards. These are provided in Appendix Fof this Code.

Hazard pictograms must be included on the label in most cases. In some circumstances however, pictograms may be omitted from the label in line with the rules of precedence outlined in Appendix E. In all other cases, where pictograms are required, all the relevant hazard pictograms must be included on the label.

Hazard pictograms should be in the shape of a square set at an angle of 45o (i.e. diamond-shaped) on its point. The hazard pictograms should have a black symbol on a white background with a red border or frame of sufficient width to be clearly visible. Pictograms with a black border may also be used.

Class labels recommended for the transport of dangerous goods as specified in the ADG Code may be used instead of the relevant hazard pictograms specified in the GHS*.* Never use both in
the same label. A comparison of the hazard pictograms as specified in the GHS and the ADG Code class labels are shown in Appendix G[[1]](#footnote-1).

## 2.5 Expiry Date

The expiry date for a chemical must be provided, where, for example degradation or decomposition of the chemical may occur over time, with the result that the hazard classification
of the chemical changes, or where the chemical is no longer within acceptable specifications for potency and stability. For example ethers may form explosive peroxides over time.

An expiry date may be provided in a less prominent position of the label, for example the back portion of the label. It should be grouped with any manufacturer or importer identification information. An expiry date should be represented in sentence case text.

## 2.6 Pipe work

**Regulation 343:** A person conducting a business or undertaking must ensure, so far as is reasonably practicable, that a hazardous chemical in pipe work is identified by a label, sign or another way on or near the pipe work.

Pipelines and pipe-work used for the conveyance of hazardous chemicals must be identified.
The identification used should communicate information relevant to the identity of the chemical,
its hazards and any necessary precautions to be observed. Methods for identifying hazardous chemicals in pipe work may include:

* signs adjacent to pipe-work
* markings on the pipe-work, for example colour coding (refer to *AS 1345-1995 Identification
of the contents of pipes, conduits and ducts* for guidance)
* schematic layouts displayed prominently.

# 3. SPECIAL LABELLING SITUATIONS

This chapter outlines requirements and guidelines for labelling hazardous chemicals in special situations where the full requirements do not apply. You should always aim to provide as much information on the hazards and safe use of the chemical on the label as possible.

Under the WHS Regulations, reduced labelling is permitted for hazardous chemicals that are:

* supplied in small containers
* research chemicals or samples for analysis
* decanted or transferred
* not supplied to another workplace, and where the hazards are known to the workers using
the chemical
* hazardous wastes
* classified into the explosives hazard class and are not explosive articles.

This section also provides guidance on the acceptability of labels prepared in accordance with other labelling systems and handled in a workplace, specifically:

* hazardous chemicals classified in the explosive hazard class and labelled in compliance with the Australian Explosives Code (AEC)
* dangerous goods labelled in compliance with transport requirements**[[2]](#footnote-2)**
* consumer products
* agricultural or veterinary chemical products that are labelled in accordance with the requirements of the Australian Pesticides and Veterinary Medicines Authority.

## 3.1 Small containers

**Regulation 335, Part 3 of Schedule 9:** Where a hazardous chemical is packaged in a container that is too small to attach a label with information that is required of hazardous chemical labels in general, then the label must be written in English and include the following:

* the product identifier
* the name, Australian address and business telephone number of either the manufacturer
or importer.
* a hazard pictogram or hazard statement that is consistent with the correct classification
of the chemical, and
* any other information required for hazardous chemicals labels in general that is reasonably practicable to include.

In addition to the mandatory items mentioned above, labels for small containers or packages must include as much labelling information required for hazardous chemical labels in general that is reasonably practicable to include. Priority should be given to the inclusion of those labelling elements relating to the most significant hazards of the hazardous chemical.

The most significant hazard will vary from chemical to chemical, and will be dependent upon, for example, likely routes of exposure based on its physical state (i.e. whether it is a gas, liquid or solid), its packaging and its intended use.

### Examples of the most significant hazard

* The information relating to a hazardous chemical’s inhalation hazard properties may be considered most significant for a paint that is intended for application using a spray gun,
 but not where it is intended for application using a brush.
* The information relating to dermal toxicity may be considered most significant for a chemical that is packaged in an ampoule (i.e. where spillage could occur during opening), but not where the chemical is packaged in a ready-to-use syringe.

For hazardous chemicals with multiple hazard categories, the most stringent set of precautionary statements should be selected. This is appropriate for situations where rapid action or response may be crucial following accidental exposure, and therefore, information relating to these actions should be included in preference to non-critical information.

### Example of the most stringent set of precautionary statements

* If a chemical can cause long term systemic effects, and is also acutely toxic, then the first aid measures for acute toxicity will normally take precedence over those for longer term effects. However, medical attention for the delayed health effects may be required in some cases
of incidental exposure, even if it is not associated with immediate symptoms of exposure. Therefore, the information relevant to medical attention that is required due to delayed health effects may be applicable.

Where certain hazard or other information has been omitted from the label, then it is recommended that alternative means for communicating the information should be used. The complete set of hazard and other information may be included on an outer box (for example for a box containing several very small ampoules), a swing tag or insert, or a leaflet inside a box.

Examples of acceptable labels for small containers are provided in *Appendix H*.

## 3.2 Research chemicals or samples for analysis

A research chemical is a substance or mixture that has been manufactured in a laboratory for the purposes of genuine research and which is not for use or supply to others for a purpose other than genuine analysis or research. A chemical that is supplied commercially to another workplace is not included under the meaning of research chemical or samples for analysis under any circumstances.

**Regulation 335, Part 3 of Schedule 9:** If a hazardous chemical is used for research purposes only or is a sample for analysis, the label must, at a minimum, be written in English and include the product identifier and a hazard pictogram or hazard statement that is consistent with the correct classification of the chemical.

A research chemical or sample for analysis must be correctly classified and the identity of the substance or mixture must be determined.

The product identifier of a research chemical or sample for analysis may be:

* the actual name of the chemical
* a recognised abbreviation or acronym
* a chemical formula, structure or reaction components.

Where a research chemical or sample for analysis cannot be identified this should be indicated clearly on the label. Labels for research chemicals or samples for analysis should include as much hazard information as possible, based on the identity and the known or suspected hazards.

Where labelling the actual laboratory container is impractical due to its size or the conditions under which it is used, other methods of providing the information can be used, for example a secure swing tag, a sign attached to supporting apparatus or labelling an outer container.

For example, for a rack of test tubes, rather than label each individual test tube containing the same hazardous chemical, you may attach a label to the rack using a swing tag.

## 3.3 Decanted or transferred hazardous chemicals

**Regulation 335, Part 3 of Schedule 9:** If a hazardous chemical has been decanted or transferred from the container in which it was packed and it will not be used immediately or it is supplied to someone else, the label must, at a minimum, be written in English and include the following:

* the product identifier, and
* a hazard pictogram or hazard statement consistent with the correct classification of the chemical.

For the purposes of this Code, *decant* means to transfer a hazardous chemical from a correctly labelled container to another container within a workplace. Such a container may range from a small flask in a research laboratory to a large vessel that is used to contain reaction components prior to use in a mixing or reaction process.

Where the entire amount of a decanted hazardous chemical will be used immediately, labelling
of its container is not required.

A decanted hazardous chemical can only be considered to be used immediately in situations where:

* it is not left unattended by the person who decanted it
* the decanted hazardous chemical is used only by a person present at the decanting process
* the container is subsequently rendered free from any hazardous chemical immediately after use, so the container is in the condition it would be in if it had never contained the chemical.

### Examples

* A sample of hydrocarbon solvent is dispensed from a bulk container into a 15 L container by Worker A. All of the decanted hydrocarbon solvent in the 15 L container is then used immediately by Worker A in the same shift. No hydrocarbon solvent is left in the 15 L container (as though it has never contained the chemical). The container with the dispensed solvent is not left unattended by Worker A before it is used.

In this example, the decanted hydrocarbon solvent is considered to be used immediately.

* A sample of hydrocarbon solvent is dispensed from a bulk container into a 15 L container by Worker A. The solvent in the 15 L container is not completely used up by Worker A at the end of his/her work shift. Worker A has not left the container with the dispensed solvent unattended during the shift. The remainder of the solvent is left for Worker B.

In this example, the decanted hydrocarbon solvent is not considered to be used immediately.

Where a container is repeatedly used for decanting as part of normal work procedures or processes, a permanent label with all the general labelling information must be attached to the container. Permanently labelled containersmust not be used to contain any other substances or mixtures than those specified on the label.

## 3.4 Hazardous chemicals with known hazards that are not supplied to another workplace

**Regulation 335, Part 3 of Schedule 9:** If a hazardous chemical is not being supplied to another workplace and the hazards associated with the chemical are known to the workers involved in using, handling or storing the chemical, then the label must, at a minimum, be written in English and include the following:

* the product identifier, and
* a hazard pictogram or hazard statement that are consistent with the correct classification of the chemical.

Where a hazardous chemical will not be supplied to another workplace, and your workers involved in its handling have sufficient knowledge of the associated hazards, then you may omit some of the information normally required in a label. The label should communicate enough information on the hazards as necessary to ensure its safe use.

### Examples of labelling chemicals that are not supplied to another workplace

* Hazardous Chemical A is manufactured at Site A. Batch samples of Hazardous Chemical A
are routinely sent to a laboratory at the same manufacturing site for analysis. Samples of Hazardous Chemical A are handled on a regular basis at the on-site laboratory, and the hazards are well-known by the workers. Reduced labelling is permitted for the batch samples.
* Active Constituent A is manufactured at Site A and then later formulated into an end-use product, Agricultural Chemical Product A. The end-use product is formulated at the same facility, Site A, where the active ingredient is manufactured, and the workers undertaking the formulation step are aware of the hazards. In this case, the reduced labelling is permitted for Active Constituent A. However, Agricultural Chemical Product A must be labelled with all requisite labelling information.
* From the previous example, if Active Constituent A is transported to a different facility, Site B, for formulation into the end-use product Agricultural Chemical Product A, even where both facilities are owned and operated by the same company, Active Constituent A must be labelled with all requisite labelling information.

## 3.5 Hazardous waste products

Hazardous waste products must be identified and correctly classified, so far as is reasonably practicable. Where it is not reasonably practicable to undertake a complete hazard classification
of waste material, the hazard classification must be determined or estimated using a precautionary approach based on the known or likely constituents of the waste.

**Regulation 335, Part 3 of Schedule 9:** If it is reasonably likely that a waste product is a hazardous chemical, then the label on the container of the hazardous waste must be written in English and at a minimum, include the following:

* the product identifier
* the name, Australian address and business telephone number of either the manufacturer or the importer, and
* a hazard pictogram and hazard statement that are consistent with the correct classification of the chemical.

The product identifier should reflect the nature of the waste as closely as possible and may depend on the extent of knowledge about the components of the waste. Examples of product identifiers may include:

* chlorinated solvent waste
* flammable waste
* chromium VI waste
* heavy metal waste.

Labels for hazardous wastes should include as much hazard information as reasonably practicable based on what is known about the identity and any suspected hazards. The label of any hazardous wastes should also include, where possible, the following information:

* the identity of any known or likely hazardous constituents or impurities and their proportions (for example, ‘contains chromium VI, 5%’, or ‘may contain trace levels of organic peroxides’)
* relevant precautionary statements
* relevant first aid and safety directions
* any other information that may assist identification of the hazardous waste and its associated hazards.

If you have made every reasonable attempt to identify and classify the chemical waste and have been unsuccessful, you should clearly indicate this on the label.

## 3.6 Hazardous chemicals classified in the explosives hazard class

**Regulation 335, Part 3 of Schedule 9:** If a hazardous chemical may be classified in the explosives hazard class and is not an explosive article, the chemical must be packed in a container that has a label in English that complies with the Australian Code for the Transport of Explosives by Road and Rail and includes the following:

* the proper shipping name and UN number of the chemical, and
* any hazard pictogram, any hazard statement and any precautionary statement that are consistent with the correct classification of the chemical in relation to health hazards.

The *Australian Code for the Transport of Explosives by Road and Rail* (Explosives Code) outlines requirements for labelling of explosives hazard class. This labelling regime is designed primarily
for the communication of physical hazards of explosives during their transport.

Hazardous chemicals in the explosives class that meet the criteria for health hazards may require health and safety information on labels in addition to that required by the Explosives Code to meet workplace requirements.

Information on health hazards is not required on labels of explosive articles. Explosive articles should be labelled in accordance with the Explosives Code. However, where exposure to substances and mixtures within an article could occur during handling, any relevant health information should be included on labels.

## 3.7 Hazardous chemicals that are dangerous goods packaged for transport

Where a hazardous chemical has been packaged and labelled in accordance with dangerous goods transport requirements and is in-transit, the hazardous chemical is not subject to workplace labelling requirements. Where workplace hazardous chemicals are not in-transit, they must be labelled with all of the required labelling information.

Hazardous chemicals that are classified as dangerous goods and transported by road or rail must comply with the labelling or marking requirements that are specified in the ADG Code. Transport markings and class labels of the ADG Code are designed primarily to assist emergency services personnel in case of an accident or emergency.

Note: The ADG Code refers to dangerous goods pictograms as Class or Division labels. Other information required on a package or container is referred to as markings. The size and colour
of labels and markings required for transport are specified in the ADG Code.

 The ADG Code recognises the GHS as an appropriate labelling system for inner packages of dangerous goods during transport. As this code describes GHS-compliant labelling, labels prepared in accordance with this code should meet the inner package labelling requirements prescribed in the ADG Code for dangerous goods during transport.

To meet both workplace and transport labelling requirements, additional health and safety information may be required on some transport containers. The additional information would generally relate to chronic health hazards, which are not regulated for transport purposes.

For outer packaging used within the workplace, workplace labelling requirements may be met by attaching to the container a supplementary panel or label that includes the additional information. The additional information should be clearly distinguishable from the information required to meet transport laws.

## 3.8 Consumer products

**Regulation 335:** A hazardous chemical does not need to meet the labelling requirements under the WHS Regulations if the chemical is a consumer product with the original label on its container and if it is reasonably foreseeable that the hazardous chemical will be used in the workplace only:

* in a quantity that is consistent with consumer household use
* in a way that is consistent with consumer household use, and
* in a way that is incidental to the nature of the work carried out by a worker using the chemical.

The following example shows how to distinguish between a consumer product and a workplace hazardous chemical:

Toilet cleaner is sold in 750 ml bottles for domestic use and is sold in 20 L containers to commercial cleaning businesses. The 750 ml bottle is intended for domestic use and does not need to be labelled in accordance with the WHS Regulations.

However, it is reasonably foreseeable that, due to the package size of the 20 L product, it would be used in a workplace rather than in a domestic situation. Therefore, the 20 L product must be labelled according to workplace labelling requirements.

Consumer products which do not meet the definition of a workplace hazardous chemical and are covered by the SUSMP must comply with SUSMP labelling requirements.

## 3.9 Agricultural or veterinary chemical products

**Regulation 335, Part 3 of Schedule 9:** Agricultural and veterinary chemicals must have a label in English that complies with the requirements of the Australian Pesticides and Veterinary Medicines Authority and also includes the following:

* any hazard statement that is consistent with the correct classification of the chemical, and
* any precautionary statement that is consistent with the correct classification of the chemical.

Agricultural or veterinary chemical refers to any agricultural chemical product or veterinary chemical product as defined in the Commonwealth’s *Agricultural and Veterinary Chemicals
Code Act* *1994.*

The Australian Pesticides and Veterinary Medicines Authority (APVMA) labelling codes for agricultural and veterinary chemical products are the *Ag Labelling Code* and the *Veterinary Labelling Code*, respectively. You may omit the hazard pictogram and signal word from the labels of these chemicals. However, the label must contain hazard statements and precautionary statements for all of the intrinsic hazards of the product.

*Note*: Hazard and precautionary statements required for some intrinsic hazards under the WHS Regulations may not be required on labels by APVMA legislation. As the manufacturer or importer, you must ensure that any additional hazard and precautionary statements required by the WHS Regulations are included on the label, provided they are not contrary to the information required
by the APVMA legislation.

## 3.10 Products containing nanomaterials

For engineered or manufactured nanomaterials[[3]](#footnote-3) or chemicals containing engineered or manufactured nanomaterials, it is recommended that labels be prepared in accordance with this Code unless there is evidence that the nanomaterials are not hazardous.

The following label statements are recommended for products containing nanomaterials when the hazards are not fully characterised:

* Contains engineered/manufactured nanomaterials. Caution: Hazards unknown.
* Contains engineered/manufactured nanomaterials. Caution: Hazards not fully characterised.

These phrases are for use on an interim basis, as the manufacturer/importer has a duty to correctly classify the chemical and include information on known hazards on the label in accordance with the WHS Regulations.

# 4. LABELLING DESIGN AND LAYOUT

The label must be written English.

The size of a label should be:

* large enough to contain all of the relevant hazard and other information in a size and style that is easily visible and legible in the workplace
* appropriate to the size of the container, with larger labels present on larger containers.

The information on a label may be presented using one or more panels, or sections, dependent
on the size and shape of the container. The label should be firmly secured to the outside of the container and should be visible in the normal storage position. The label should be sufficiently durable so as to remain legible and firmly attached to the container for the foreseeable lifetime
of the product under normal storage and handling conditions.

The information and hazard pictograms on any label should be printed in a colour or colours that provide a distinct contrast to the background colour.

## 4.1 Grouping information

A label should group specific information together so that hazard or precautionary information
can be easily located.

## 4.2 Orientation and size of label elements

The text, hazard pictograms and other information on a label should be of a size and style that
is easily legible and is appropriate to the size of the label and container.

The following table is provided as a guide for the minimum dimensions for hazard pictograms
and sizes of text on containers of various capacities:

| **Container capacity** | **Minimum hazard pictogram dimensions** | **Minimum****text size** |
| --- | --- | --- |
| ≤ 500 mL | 15 x 15 mm | 2.5 mm |
| > 500 mL and ≤ 5 L | 20 x 20 mm | 3 mm |
| > 5 L and ≤ 25 L | 50 x 50 mm | 5 mm |
| ≥ 25 L | 100 x 100 mm | 7 mm |

*Note 1*: Refer to the ADG Code for marking requirements for dangerous goods being transported.

Examples of labels that have been produced in accordance with the labelling system described
in this Code are provided in Appendix H.

# 5 OTHER DUTIES IN RELATION TO LABELLING

**Regulation 342:** A person conducting a business or undertaking who manufactures hazardous chemicals at the workplace or decants or transfers a hazardous chemical from its original container,must ensure that the container is correctly labelled.

The person conducting a business or undertaking at the workplace must also ensure that a container labelled for a hazardous chemical is used only for the use, handling or storage of that hazardous chemical.

These requirements do not apply if the hazardous chemical is used immediately after it is put into the container and the container is thoroughly cleaned immediately after use to the condition it would be in if it had never contained the material.

## 5.1 Containers found without correct labelling

If you find that a container of a hazardous chemical is not correctly labelled in accordance with
the WHS Regulations, you should attach the product identifier to the container. You should not
use a hazardous chemical that is not correctly labelled. Store it in isolation until it is appropriately labelled.

If the product identifier of an unlabelled chemical is not known, this should be clearly marked
on the container, for example by attaching a label to the container with the statement:

### Caution - Do Not Use - Unknown Substance.

You should take steps to either identify and correctly label the unknown chemical or dispose
of the contents in accordance with relevant environmental regulations and, where necessary,
in consultation with the relevant waste management authority.

## 5.2 Reviewing and updating information on labels

From time to time, the hazard classification of a hazardous chemical may change, for example where new information becomes available. Where the hazard classification of a hazardous chemical changes, the label must be reviewed and, if necessary, revised to reflect any required changes.

Importers, manufacturers and suppliers should review any new or significant information in relation to any hazardous chemicals they import, manufacture or supply. A review of the literature and other relevant sources of information should be undertaken on a regular basis.

It is good practice to review the label information of a hazardous chemical at the same time as the safety data sheet (SDS) is updated. SDSs are updated:

* when any new information about the hazardous chemical is known or received to ensure the SDS contains correct, current information
* at least once every five years.

If you have duty to label a workplace hazardous chemical, then you must ensure that the label contains correct information at the time it is affixed to the container of the hazardous chemical.

# APPENDIX A – DEFINITIONS AND ABBREVIATIONS

***Article*** means a manufactured item, other than a fluid or particle, that:

* is formed into a particular shape or design during manufacture, and
* has hazard properties and a function that are wholly or partly dependent on the shape
or design.

***CAS Name*** is the chemical name recommended by the Chemical Abstracts Service, Columbus, Ohio, USA.

***Chemical identity*** means a name, in accordance with the nomenclature systems of the International Union of Pure and Applied Chemistry or the Chemical Abstracts Service,
or a technical name, that gives a chemical a unique identity.

***Class*** of dangerous goods, means the number assigned to the goods in the ADG Code indicating the hazard, or most predominant hazard, exhibited by the goods.

*Class label* means a pictogram described in the *ADG Code* for a class, or division of a class,
of dangerous goods.

***Combustible liquid*** means a liquid, other than a flammable liquid, that has a flash point,
and a fire point less than its boiling point.

***Combustible substance*** means a substance that is combustible and includes dust, fibres, fumes, mists or vapours produced by the substance.

***Consumer product*** means a thing that:

* is packed or repacked primarily for use by a household consumer or for use in an office
* if the thing is packed or repacked primarily for use by a household consumer—is packed
in the way and quantity in which it is intended to be used by a household consumer
* if the thing is packed or repacked primarily for use in an office—is packed in the way and quantity in which it is intended to be used for office work.

***Division,*** of dangerous goods, means a number, in a class of dangerous goods, to which the dangerous goods are assigned in the *ADG Code*.

**Explosives Code** means the *Australian Code for the Transport of Explosives by Road and Rail* endorsed by the Workplace Relations Ministers’ Council as amended from time to time.

*Exposure standard* means an exposure standard published by Safe Work Australia in the *Workplace Exposure Standards for Airborne Contaminants.*

*Note:* Workplace Exposure Standards for Airborne Contaminants will replace the Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOSHC:1003(1995)].

***Generic name*** means a name applied to a group of chemicals having a similar structure and properties.

***Genuine research*** means systematic investigative or experimental activities that are carried out for either acquiring new knowledge (whether or not the knowledge will have a specific practical application) or creating new or improved materials, products, devices, processes or services.

***GHS*** means the Globally Harmonised System of Classification and Labelling of Chemicals,
Third revised edition, published by the United Nations.

***Hazard*** means a situation or thing that has the potential to harm people, property or the environment.

***Hazard category*** means a division of criteria within a hazard class in the GHS.

***Hazard class*** means the nature of a physical, health or environmental hazard and includes a class of dangerous goods

***Hazard pictogram*** means a graphical composition, including a symbol plus other graphical elements, that is assigned in the GHS to a hazard class or hazard category.

***Hazard statement*** means a statement assigned to a hazard class or hazard category describing the nature of the hazards of a hazardous chemical including, if appropriate, the degree of hazard.

***Import*** means to bring into the jurisdiction from outside Australia.

***Ingredient*** means any component of a mixture.

***In transit*—**a thing is ***in transit*** if the thing:

* is supplied to, or stored at, a workplace in containers that are not opened at the workplace, and
* is not used at the workplace, and
* is kept at the workplace for not more than five consecutive days.

***ISO name*** is a chemical name approved by the International Organisation for Standardisation.

***IUPAC name*** is the chemical name recommended by the International Union of Pure and Applied Chemistry.

***Laboratory*** means a building or room equipped for analysis, genuine research or practical teaching, and which is not used for production purposes.

***Manufacture*** includes the activities of packing, repacking, formulating, blending, mixing, making, remaking and synthesising.

***Mixture*** means a combination of, or a solution composed of, two or more substances that do not react with each other.

***Precautionary Statement*** means a phrase prescribed by the GHS that describes recommended measures to be taken to prevent or minimise the adverse effects of exposure to a hazardous chemical or the improper handling of a hazardous chemical.

***Product identifier*** means the name or number used to identify a product on a label or in a safety data sheet.

***Proper Shipping Name*** means a proper shipping name under the *ADG Code*.

***Research chemical*** means a substance or mixture that is manufactured in a laboratory for genuine research and is not for use or supply for a purpose other than analysis or genuine research.

***Safety data sheet* (SDS)** means a document that describes the identity, properties (that is to say chemical and physical properties and health hazard and environmental hazard information), uses, precautions for use, safe handling procedures and safe disposal procedures of a hazardous chemical.

***Signal word*** means the word **danger** or **warning** used on a label to indicate to a label reader the relative severity level of a hazard, and to alert the reader to a potential hazard, under the GHS.

***Substance*** means a chemical element or compound in its natural state or obtained or generated by a process:

* including any additive necessary to preserve the stability of the element or compound
and any impurities deriving from the process, but
* excluding any solvent that may be separated without affecting the stability of the element
or compound, or changing its composition.

***SUSMP*** means the Standard for the Uniform Scheduling of Medicines and Poisons, published
by the National Drugs and Poisons Schedule Committee as amended from time to time.

***Technical name*** means a name that is:

* ordinarily used in commerce, regulations and codes to identify a substance or mixture, other than an International Union of Pure and Applied Chemistry or Chemical Abstracts Service name
* recognised by the scientific community.

***Transfer*** includes the pumping, dispensing or decanting from one container into another or from one place to another.

***UN Number*** means the number assigned to dangerous goods by the United Nations Subcommittee of Experts on the Transport of Dangerous Goods. UN Numbers are published
in the UN Recommendations on the Transport of Dangerous Goods – Model Regulation, and
in the *ADG Code.*

# APPENDIX B – CHECKLIST FOR PREPARATION OF A LABEL

The following table lists the steps that are recommended for the preparation of a label for a hazardous chemical. The information is intended for use as a quick reference guide. It may not apply to all situations. The relevant sections of this Code should be referred to for full details
of the labelling requirements.

| **Step** |  | **Comments/Reference information** |
| --- | --- | --- |
| **1** | Select the suitable product identifier. |  |
| **2** | Determine which ingredients require disclosure. | Refer to Subsection 2.2 for ingredient disclosure requirements. |
| **3** | Select the label elements which apply to classification endpoints or hazard categories, in accordance with correct hazard classification | Label elements applicable to all hazard categories are tabulated in Appendix D.  |
| **4** | Combine all applicable elements, and then determine which elements may be omitted from the label to avoid duplication or redundancy. | Refer to Appendix Efor precedence rules and hierarchy of elements.  |
| **5** | Determine which label elements may be omitted where a special labelling situation may apply. | Refer to Chapter 3. |
| **6** | Determine whether other relevant health and safety information may be required. | Particularly important for hazard endpoints not covered by the GHS but where there are health and safety concerns  |
| **7** | Select the appropriate supplier details to be included.  | Other information, for example web address or emergency contact phone number, may be included.  |
| **8** | Determine whether an expiry date is required. | Expiry date is required if degradation over time could change the hazard classification. For example, if a highly toxic impurity is formed.  |
| **9** | Identify any other relevant information that may be required.  | For example, reference to SDS or product use information.  |
| **10** | Design the label layout and grouping of information. | Refer to Chapter 4.  |

# APPENDIX C – GUIDE FOR SELECTING GENERIC NAMES

This guide describes a procedure for naming hazardous chemicals and the division of substances into families.

The families are defined in the following manner:

* inorganic or organic substances whose properties are identified by having a common chemical element as their chief characteristic. The family name is derived from the name
of the chemical element. These families are identified as in subsection C1.3 below by the atomic number of the chemical element (001 to 103)
* organic substances whose properties are identified by having a common functional group as their chief characteristic.
* the family name is derived from the functional group name, and
* these families are identified by the number convention found in subsection C1.3
(601 to 650).
* sub-families bringing together substances with a common specific character have been added in certain cases.

## Establishing the Generic Name

**C.1. General Principles**

In selecting a generic name, the following approach is adopted:

* identify the functional groups and chemical elements present in the molecule
* determine the most important functional groups and chemical elements, which contribute
to its properties.

The identified functional groups and elements taken into account are the names of the families
and sub-families. These names are set out in subsection C.3 in the form of a (non-restrictive) list.

**C.2. Practical application**

After having conducted a search to see if the substance belongs to one or more families
or sub-families on the list, the generic name can be established in the following way:

1. If the name of a family or sub-family is sufficient to characterise the chemical elements
or important functional groups, this name will be chosen as the generic name.

**Examples:**

| Name | Family  Sub-family | Generic Name |
| --- | --- | --- |
| 1,4-dihydroxybenzene | 604: Phenols and derivatives | Phenol derivative |
| Butanols | 603: Alcohols and derivatives Aliphatic alcohols | Aliphatic alcohol |
| 2-isopropoxyethanol | 603: Alcohols and derivatives Glycolethers | Glycolether |
| Methacrylate | 607: Organic acids and derivatives Methacrylates | Methacrylate |

1. If the name of a family or sub-family is not sufficient to characterise the chemical elements of important functional groups, the generic name should be a combination of the corresponding different family or sub-family names.

Examples:

|  |  |  |
| --- | --- | --- |
| Name | Family  Sub-family | Generic Name |
| Lead hexafluorosilicate | 009: Fluorine compounds Inorganic fluorides082: Lead compounds | Inorganic lead fluoride |
| Chlorobenzene | 602: Halogenated hydrocarbons Halogenated aromatic hydrocarbons017: Chlorine compounds | Chlorinated aromatic hydrocarbon |
| 2,3,6-Trichlorophenylacetic acid | 607: Organic acids and derivatives Halogenated aromatic acids017: Chlorine compounds | Chlorinated aromatic acid |
| 1-Chloro-1-nitropropane | 610: Chloronitrated compounds601: Hydrocarbons Aliphatic hydrocarbons | Chlorinated aliphatic hydrocarbon |
| Tetrapropyl dithiopyrophosphate | 015: Phosphorus compounds Phosphoric esters016: Sulphur compounds | Thiophosphoric ester |

1. In the case of certain elements, notably metals, the name of the family or sub-family may be indicated by the words 'organic' or 'inorganic'.

Examples:

|  |  |  |
| --- | --- | --- |
| Name | Family  Sub-family | Generic Name |
| Dimercury dichloride | 080: Mercury compounds | Inorganic mercury compound |
| Barium acetate | 056: Barium compounds | Organic barium compound |
| Ethyl nitrite | 007: Nitrogen compounds Nitrites | Organic nitrite |
| Sodium hydrosulphite | 016: Sulphur compounds | Inorganic sulphur compound |

C.3. Division of substances into families and sub-families

| **Family****No** | **Families**  **Sub-families** |
| --- | --- |
| 001 | Hydrogen compounds  Hydrides |
| 003 | Lithium compounds |
| 004 | Beryllium compounds |
| 005 | Boron compounds  Boranes  Borates |
| 006 | Carbon compounds  Carbamates  Inorganic carbon compounds  Salts of hydrogen cyanide  Urea and derivatives |
| 007 | Nitrogen compounds  Quaternary ammonium compounds  Acid nitrogen compounds  Nitrates  Nitrites |
| 008 | Oxygen compounds |
| 009 | Fluorine compounds Inorganic fluorides |
| 011 | Sodium compounds |
| 012 | Magnesium compounds Organometallic magnesium derivatives |
| 013 | Aluminium compounds  Organometallic aluminium derivatives |
| 014 | Silicon compounds  Silicones  Silicates |
| 015 | Phosphorus compounds Acid phosphorus compounds  Phosphonium compounds Phosphoric estersPhosphates  PhosphitesPhosphoramides and derivatives |
| 016 | Sulphur compounds  Acid sulphur compoundsMercaptans  Sulphates  Sulphites |
| 017 | Chlorine compounds  Chlorates  Perchlorates |
| 018 | Argon compounds |
| 019 | Potassium compounds |
| 020 | Calcium compounds |
| 021 | Scandium compounds |
| 022 | Titanium compounds |
| 023 | Vanadium compounds |
| 024 | Chromium compounds  Chromium VI compounds |
| 025 | Manganese compounds |
| 026 | Iron compounds |
| 027 | Cobalt compounds |
| 028 | Nickel compounds |
| 029 | Copper compounds |
| 030 | Zinc compounds  Organometallic zinc derivatives |
| 031 | Gallium compounds |
| 032 | Germanium compounds |
| 033 | Arsenic compounds |
| 034 | Selenium compounds |
| 035 | Bromine compounds |
| 036 | Krypton compounds |
| 037 | Rubidium compounds |
| 038 | Strontium compounds |
| 039 | Yttrium compounds |
| 040 | Zirconium compounds |
| 041 | Niobium compounds |
| 042 | Molybdenum compounds |
| 043 | Technetium compounds |
| 044 | Ruthenium compounds |
| 045 | Rhodium compounds |
| 046 | Palladium compounds |
| 047 | Silver compounds |
| 048 | Cadmium compounds |
| 049 | Indium compounds |
| 050 | Tin compounds  Organometallic tin derivates |
| 051 | Antimony compounds |
| 052 | Tellurium compounds |
| 053 | Iodine compounds |
| 054 | Xenon compounds |
| 055 | Caesium compounds |
| 056 | Barium compounds |
| 057 | Lanthanum |
| 058 | Cerium compounds |
| 059 | Praseodymium compounds |
| 060 | Neodymium compounds |
| 061 | Promethium compounds |
| 062 | Samarium compounds |
| 063 | Europium compounds |
| 064 | Gandolinium compounds |
| 065 | Terbium compounds |
| 066 | Dysprosium compounds |
| 067 | Holmium compounds |
| 068 | Erbium compounds |
| 069 | Thulium compounds |
| 070 | Ytterbium compounds |
| 071 | Lutetium compounds |
| 072 | Hafnium compounds |
| 073 | Tantalum compounds |
| 074 | Tungsten compounds |
| 075 | Rhenium compounds |
| 076 | Osmium compounds |
| 077 | Iridium compounds |
| 078 | Platinum compounds |
| 079 | Gold compounds |
| 080 | Mercury compounds  Organometallic mercury derivatives |
| 081 | Thallium compounds |
| 082 | Lead compounds  Organometallic lead derivatives |
| 083 | Bismuth compounds |
| 084 | Polonium compounds |
| 085 | Astate compounds |
| 086 | Radon compounds |
| 087 | Francium compounds |
| 088 | Radium compounds |
| 089 | Actinium compounds |
| 090 | Thorium compounds |
| 091 | Protactinium compounds |
| 092 | Uranium compounds |
| 093 | Neptunium compounds |
| 094 | Plutonium compounds |
| 095 | Americium compounds |
| 096 | Curium compounds |
| 097 | Berkelium compounds |
| 098 | Californium compounds |
| 099 | Einsteinium compounds |
| 100 | Fermium compounds |
| 101 | Mendelevium compounds |
| 102 | Nobelium compounds |
| 103 | Lawrencium compounds |
| 601 | Hydrocarbons  Aliphatic hydrocarbons  Aromatic hydrocarbons  Alicyclic hydrocarbons  Polycyclic aromatic hydrocarbons (PAH) |
| 602 | Halogenated hydrocarbons\*  Halogenated aliphatic hydrocarbons\*  Halogenated aromatic hydrocarbons\*  Halogenated alicyclic hydrocarbons\* \* Specify according to family corresponding to halogen. |
| 603 | Alcohols and derivates  Aliphatic alcohols Aromatic alcohols  Alicyclic alcohols  Alcanolamines Epoxy derivatives  Ethers  Glycolethers  Glycols and polyols |
| 604 | Phenols and derivatives  Halogenated phenol derivatives\* \* Specify according to the family corresponding to halogen. |
| 605 | Aldehydes and derivates  Aliphatic aldehydes  Aromatic aldehydes  Alicyclic aldehydes  Aliphatic acetals  Aromatic acetals  Alicyclic acetals |
| 606 | Ketones and derivatives  Aliphatic Ketones  Aromatic Ketones\*  Alicyclic Ketones \* Quinones included |
| 607 | Organic acids and derivatives  Aliphatic acids  Halogenated aliphatic acids\*  Aromatic acidsHalogenated aromatic acids\*  Alicyclic acids  Halogenated alicyclic acids\*  Aliphatic acid anhydrides  Halogenated aliphatic acid anhydrides\*  Aromatic acid anhydrides  Halogenated aromatic acid anhydrides\*  Alicyclic acid anhydrides  Halogenated alicyclic acid anhydrides\*  Salts of aliphatic acid  Salts of halogenated aliphatic acid\*  Salts of aromatic acid  Salts of halogenated aromatic acid\*  Salts of alicyclic acid  Salts of halogenated alicyclic acid\*  Esters of aliphatic acid  Esters of halogenated alicyclic acid\*  Esters of aromatic acid Esters of halogenated aromatic acid\*  Esters of alicyclic acid  Esters of halogenated alicyclic acid\*  Esters of glycol ether  Acrylates Methacrylates |
| 608 | Nitriles and derivatives |
| 609 | Nitro compounds |
| 610 | Chloronitrated compounds |
| 611 | Azoxy and azo compounds |
| 612 | Amine compounds  Aliphatic amines and derivatives  Alicyclic amines and derivatives  Aromatic amines and derivatives  Aniline and derivatives  Benzidine and derivatives |
| 613 | Heterocyclic basis and derivatives  Benzimidazole and derivatives  Imidazol and derivativesPyrethrinoids  Quinoline and derivatives  Triazine and derivatives  Triazole and derivatives |
| 614 | Glycosides and alkaloids  Alkaloid and derivatives  Glycosides and derivatives |
| 615 | Cyanates and isocyanates  Cyanates  Isocyanates |
| 616 | Amides and derivatives  Acetamide and derivatives  Anilides |
| 617 | Organic Peroxides |
| 650 | Various substances Do not use this family. Instead, use the families or sub-families mentioned above. |

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# APPENDIX D – APPLICATION OF LABEL ELEMENTS

This appendix is intended to provide guidance for the application of an appropriate signal word, and appropriate hazard pictograms, hazard statements, and precautionary statements. The tables at the end of this appendix specify the signal word, hazard pictograms, hazard statements and precautionary statements that apply to each hazard class and category.

## Structure of Hazard Statement Text

All of the hazard statement text that appears in bold should appear on the label, except as otherwise specified.

All of the information that appears in italics should appear as part of the hazard statement,
where applicable.

The hazard statement codes shown in the tables are intended to be used for reference purposes only. They are not part of the hazard statement text and should not be used on a label.

## Structure of Precautionary Statement Text

There are five types of precautionary statements: **general**, **prevention**, **response** (in case
of accidental spillage or exposure, emergency response and first aid), **storage** and **disposal**.

All of the precautionary statement text that appears in bold should appear on the label, except
as otherwise specified.

To provide flexibility in the application of precautionary phrases, a combination of statements may be used to save label space and improve the readability of phrases. A combination of phrases can also be useful for different types of hazard where the precautionary behaviour is similar.

When a forward-slash or diagonal mark [/] appears in a precautionary statement text, it indicates that a choice has to be made between the phrases they separate

When three full stops [**…**] appear in a precautionary statement text, it indicates that all applicable conditions are not listed.

When text in the precautionary statement text appearsin italics, this indicates that specific conditions apply to the use or allocation of the precautionary statement. This may relate to conditions attaching to either the general use of a precautionary statement or its use for a particular hazard class and/or hazard category. The text in italics is not intended to be present
on a label.

The precautionary statements included in the following matrices cover general emergency response and first-aid information. For some specific chemicals, supplementary first aid, treatment measures or specific antidotes or cleansing materials may be required. Poisons Centres and/or medical practitioners or specialist advice should be sought in such situations and included on labels where appropriate

The precautionary statement codes that are used in the tables are intended to be used for reference purposes only. They are not part of the precautionary statement text and should not
be used on a label.

***Precautionary Statement Formed from a Combination of Phrases***

‘**Keep away from heat, sparks and open flame and store in a cool well ventilated place**’.

***Precautionary Statement that Contains a Forward-Slash [/]***

The precautionary statement:

P280 ‘**Wear protective gloves/protective clothing/eye protection/face protection**’, could read:

‘**Wear eye protection**’, where the hazard classification does not warrant the additional personal protective equipment.

***Precautionary Statement that Contains Three Full Stops […]***

For the precautionary statement:

P241 ‘**Use explosion-proof electrical/ventilating/lighting/.../equipment’**, the use of ‘**...**’ indicates that other equipment may need to be specified.

***Precautionary Statement that Contains Text in Italics***

The precautionary statement:

P241 ‘**Use explosion-proof electrical/ventilating/lighting/.../ equipment**’, only applies for flammable solids ‘if dust clouds can occur’.

### General Precautionary Statements

General precautionary statements are not aligned with any particular hazard category, and according to the GHS principles, these statements are required for consumer products only. Manufacturers of hazardous chemicals may choose to include these on workplace labels, particularly where it is foreseeable that the chemical may be used in a non-workplace situation.

***General Precautionary Statements***

P101 If medical advice is needed, have product container or label at hand

P102 Keep out of reach of children

P103 Read label before use

### Allocation of label elements

The matrices below provide the following information for each hazard class and hazard category
of the GHS:

* 1. hazard category; and
	2. the assigned symbol; and
	3. the assigned signal word; and
	4. the assigned hazard statement and code; and
	5. the assigned precautionary statements, by precautionary statement type, and code.

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| **EXPLOSIVES** |
|  |  |  | **Symbol**Exploding bomb |
| **Hazard category** | **Signal word** | **Hazard statement** | **Image of an exploding bomb** |
| Unstable Explosive | Danger | H200 **Unstable Explosive**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P201**Obtain special instructions before use.**P202**Do not handle until all safety precautions have been read and understood.**P281**Use personal protective equipment as required.** | P372**Explosion risk in case of fire.**P373**DO NOT fight fire when fire reaches explosives.**P380**Evacuate area.** | P401**Store ...** …in accordance with local/regional/ national/international Regulations (to be specified). | P501**Dispose of contents/container to...**…in accordance with local/regional/ national/international Regulations (to be specified). |

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| **EXPLOSIVES** |
|  |  |  | **Symbol**Exploding bomb |
| **Hazard category** | **Signal word** | **Hazard statement** | **Image of an exploding bomb** |
| Division 1.1 | Danger | H201 **Explosive; mass explosion hazard**  |
| Division 1.2 | Danger | H202 **Explosive; severe projection hazard**  |  |
| Division 1.3 | Danger | H203 **Explosive; fire, blast or projection hazard**  |  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P210**Keep away from** **heat/sparks/open flames/hot surfaces.** - **No smoking.**Manufacturer/supplier or the competent authority to specify applicable ignition source(s).P230**Keep wetted with...**…Manufacturer/supplier or the competent authority to specify appropriate material.*- if drying out increases explosion hazard, except as needed for manufacturing or operating processes (e.g. nitrocellulose).*P240**Ground/bond container and receiving equipment.***- if the explosive is electrostatically sensitive.*P250**Do not** **subject to grinding/shock/…/friction.**…Manufacturer/supplier or the competent authority to specify applicable rough handling.P280**Wear face protection.** Manufacturer/supplier or the competent authority to specify type of equipment. | P370 +P380**In case of fire: evacuate area.**P372**Explosion risk in case of fire.**P373**DO NOT fight fire when fire reaches explosives.** | P401**Store ...** …in accordance with local/regional/national/international Regulations (to be specified). | P501**Dispose of contents/container to...**…in accordance with local/ regional/national/international Regulations (to be specified). |

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| **EXPLOSIVES** |
|  |  |  | **Symbol**Exploding bomb |
| **Hazard category** | **Signal word** | **Hazard statement** | **Image of an exploding bomb** |
| Division 1.4 | Warning | H204 **Fire or projection hazard**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P210**Keep away from** **heat/sparks/open flames/hot surfaces**. **- No smoking**.Manufacturer/supplier or the competent authority to specify applicable ignition source(s).P240**Ground/bond container and receiving equipment.***- if the explosive is electrostatically sensitive.* P250**Do not subject to** **grinding/shock/…/friction**.Manufacturer/supplier or the competent authority to specify applicable rough handling.P280**Wear face protection.**Manufacturer/supplier or competent authority to specify type of equipment.  | P370+P380**In case of fire: Evacuate area.**P372**Explosion risk in case of fire.**- except if explosives are *1.4S AMMUNITION AND COMPONENTS THEREOF.*P373**DO NOT fight fire when fire reaches explosives.**P374**Fight fire with normal precautions from a reasonable distance.***- If explosives are 1.4S AMMUNITION AND COMPONENTS THEREOF*. | P401**Store ...** …in accordance with local/regional/ national/international Regulations (to be specified). | P501**Dispose of contents/container to...** … in accordance with local/regional/national/international Regulations (to be specified). |

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| **EXPLOSIVES** |
|  |  |  | **Symbol\*** |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of explosive division 1.5 class label |
| Division 1.5 | Danger | H205 **May mass explode in fire**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P210**Keep away from** **heat/sparks/open flames/hot surfaces**. **- No smoking**.Manufacturer/supplier or the competent authority to specify applicable ignition source(s).P230*Keep wetted with...*…Manufacturer/supplier or the competent authority to specify appropriate material.*- if drying out increases explosion hazard, except as needed for manufacturing or operating processes (e.g. nitrocellulose).*P240**Ground/bond container and receiving equipment***- if the explosive is electrostatically sensitive.* P250**Do not subject to** **grinding/shock/…/friction**.**…**Manufacturer/supplier or the competent authority to specify applicable rough handling.P280**Wear face protection.**Manufacturer/supplier or competent authority to specify type of equipment. | P370 + P380**In case of fire: Evacuate area.**P372**Explosion risk in case of fire.**P373**DO NOT fight fire when fire reaches explosives.** | P401**Store ...** …in accordance with local/regional/ national/international Regulations (to be specified). | P501**Dispose of contents/container to...**… in accordance with local/regional/ national/international Regulations (to be specified). |

\*Note: This symbol is according to the ADG Code for the transport of dangerous goods

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| **EXPLOSIVES** |
|  |  |  | **Symbol\*** |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of explosive division 1.6 class label |
| Division 1.6 | *No signal word* | *No hazard statement*  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| *No precautionary statements* | *No precautionary statements* | *No precautionary statements* | *No precautionary statements* |

\*Note: Symbol for Explosive Division 1.6 is the symbol used for the transport of dangerous goods

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| **FLAMMABLE GASES** |
|  |  |  | **Symbol**Flame |
| **Hazard category** | **Signal word** | **Hazard statement** |  |
| 1 | Danger | H220 **Extremely flammable gas**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P210**Keep away from heat/sparks/open flames/hot surfaces. -No smoking.**Manufacturer/supplier or competent authority to specify applicable ignition source(s). | P377**Leaking gas fire:Do not extinguish, unless leak can be stopped safely.**P381**Eliminate all ignition sources if safe to do so.** | P403**Store in well-ventilated place.** |  |

\*This symbol is according to the ADG Code for the transport of dangerous goods

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| **FLAMMABLE AEROSOLS** |
|  |  |  | **Symbol**Flame |
| **Hazard category** | **Signal word** | **Hazard statement** | **Image of a flame** |
| 1 | Danger | H222 **Extremely flammable aerosol** |
| 2 | Warning | H223 **Flammable aerosol**  |  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P210**Keep away from heat/sparks/open flames/hot surfaces. -No smoking.**Manufacturer/supplier or the competent authority to specify applicable ignition sources(s).P211**Do not spray on an open flame or other ignition source.**P251**Pressurized container: Do not pierce or burn, even after use.** |  | P410 + P412**Protect from sunlight. Do not expose to temperatures exceeding 50ºC/122ºF.**  |  |
| **OXIDISING GASES** |
|  |  |  | **Symbol**Flame over circle |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of a flame over a circle |
| 1 | Danger | H270 **May cause or intensify fire; oxidiser** |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P220**Keep/Store away from clothing/…/combustible materials.**…Manufacturer/supplier or the competent authority to specify other incompatible materials.P244**Keep reduction valves free from grease and oil.** | P370 + P376**In case of fire: Stop leak if safe to do so.** | P403**Store in well-ventilated place.** |  |

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| **GASES UNDER PRESSURE** |
|  |  |  | **Symbol**Gas cylinder |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of a gas cylinder |
| Compressed gas | Warning | H280 **Contains gas under pressure; may explode if heated**  |
| Liquefied gas | Warning | H280 **Contains gas under pressure; may explode if heated** |  |
| Dissolved gas | Warning | H280 **Contains gas under pressure; may explode if heated** |  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
|  |  | P410 + P403**Protect from sunlight. Store in a well-ventilated place.** |  |
| **GASES UNDER PRESSURE** |
|  |  |  | **Symbol**Gas cylinder |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of a gas cylinder |
| Refrigerated liquefied gas | Warning | H281 **Contains refrigerated gas; may cause cryogenic burns or injury**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P282**Wear cold insulating gloves/face shield/eye protection.** | P336**Thaw frosted parts with lukewarm water. Do not rub affected area.**P315**Get immediate medical advice/attention** | P403**Store** **in well-ventilated place.** |  |

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| **FLAMMABLE LIQUIDS** |
|  |  |  | **Symbol**Flame |
| **Hazard category** | **Signal word** | **Hazard statement** | **Image of a flame** |
| 1 | Danger | H224 **Extremely flammable liquid and vapour**  |
| 2 | Danger | H225 **Highly flammable liquid and vapour**  |  |
| 3 | Warning | H226 **Flammable liquid and vapour**  |  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P210**Keep away from heat/sparks/open flames/hot surfaces. No smoking**Manufacturer/supplier or the competent authority to specify applicable ignition source(s).P233**Keep container** **tightly** **closed.**P240**Ground/Bond container and receiving equipment***- if electrostatically sensitive material is for reloading.**- if product is volatile* so *as to* *generate hazardous atmosphere.*P241**Use explosion-proof electrical/ventilating/lighting/.../equipment.**... Manufacturer/supplier or competent authority to specify other equipment.P242**Use only non-sparking tools.**P243**Take precautionary measures against static discharge.**P280**Wear protective gloves/eye protection/face protection** Manufacturer/supplier or competent authority to specify type of equipment. | P303 + P361 + P353**IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.**P370 + P378**In case of fire: Use ... for extinction.**...Manufacturer/supplier or the competent authority to specify appropriate media.**-** *if water increases risk.* | P403 + P235**Store in a well-ventilated place. Keep cool.** | P501**Dispose of contents/container to...** … in accordance with local/regional/national/international Regulations (to be specified). |

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| **FLAMMABLE LIQUIDS** |
|  |  |  | **Symbol***No symbol* |
| **Hazard category** | **Signal word** | **Hazard statement** |  |
|  4 | Warning | H227 **Combustible liquid** |  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P210**Keep away from flames and hot surfaces. – No smoking.**P280**Wear protective gloves/eye protection/face protection**Manufacturer/supplier or the competent authority to specify type of equipment. | P370 + P378**In case of fire: Use ... for extinction.**... Manufacturer/supplier or the competent authority to specify appropriate media.**-** *if water increases risk.* | P403 + P235**Store in a well-ventilated place. Keep cool.** | P501**Dispose of contents/container to...**in accordance with local/regional/ national/international Regulations (to be specified). |

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| **FLAMMABLE SOLIDS** |
|  |  |  | **Symbol**Flame |
| **Hazard category** | **Signal word** | **Hazard statement** | **Image of a flame** |
| 1 | Danger | H228 **Flammable solid** |
| 2 | Warning | H228 **Flammable solid** |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P210**Keep away from heat/sparks/open flames/hot surfaces.** - **No smoking.**Manufacturer/supplier or the competent authority to specify applicable ignition source(s).P240**Ground/Bond container and receiving equipment.***- if electrostatically sensitive material is for reloading.*P241**Use explosion-proof electrical/ventilating/ lighting/... /equipment.**... Manufacturer/supplier or the competent authority to specify other equipment.**-** *if dust clouds can occur*.P280**Wear protective gloves/eye protection/face protection**Manufacturer/supplier or the competent authority to specify type of equipment. | P370 + P378**In case of fire: Use ... for extinction**...Manufacturer/supplier or the competent authority to specify appropriate media. - *if water increases risk.* |  |  |

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| **SELF-REACTIVE SUBSTANCES AND MIXTURES** |
|  |  |  | **Symbol**Exploding bomb |
| **Hazard category** | **Signal word** | **Hazard statement** | **Image of an exploding bomb** |
| Type A | Danger | H240 **Heating may cause an explosion**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P210**Keep away from heat/sparks/open flames/hot surfaces.** - **No smoking.**Manufacturer/supplier or the competent authority to specify applicable ignition source(s).P220**Keep/Store away from clothing/…/combustible materials....** Manufacturer/supplier or the competent authority to specify other incompatible materials.P234**Keep** **only** **in original container.**P280**Wear protective gloves/eye protection/face protection.** Manufacturer/supplier or the competent authority to specify type of equipment. | P370 + P378**In case of fire: Use ... for extinction**... Manufacturer/supplier or the competent authority to specify appropriate media.- *if water increases risk.*P370 + P380 + P375**In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.** | P403 + P235**Store in a well-ventilated place. Keep cool.**P411**Store at temperatures not exceeding …°C/…°F.**... Manufacturer/supplier or the competent authority to specify temperature.P420**Store away from other materials.** | P501**Dispose of contents/container to...**… in accordance with local/regional/national/international Regulations (to be specified). |

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| **SELF-REACTIVE SUBSTANCES AND MIXTURES** |
|  |  |  | **Symbol**Exploding bomb and flame |
| **Hazard category** | **Signal word** | **Hazard statement** | **Image of an exploding bomb** | **Image of a flame** |
| Type B | Danger | H241 **Heating may cause a fire or explosion**  |  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P210**Keep away from heat/sparks/open flames/hot surfaces.** - **No smoking.**Manufacturer/supplier or the competent authority to specify applicable ignition source(s).P220**Keep/Store away from clothing/.../combustible materials.** ... Manufacturer/supplier or the competent authority to specify other incompatible materials.P234**Keep** **only** **in original container.**P280**Wear protective gloves/eye protection/face protection.**Manufacturer/supplier or the competent authority to specify type of equipment. | P370 + P378**In case of fire: Use ... for extinction.**... Manufacturer/supplier or the competent authority to specify appropriate media.- *if water increases risk.*P370 + P380 + P375**In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.** | P403 + P235**Store in a well-ventilated place. Keep cool.**P411**Store at temperatures not exceeding …°C/…°F.**... Manufacturer/supplier or the competent authority to specify temperature.P420**Store away from other materials.** | P501**Dispose of contents/container to...** …in accordance with local/regional/national/international Regulations (to be specified). |

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| **SELF-REACTIVE SUBSTANCES AND MIXTURES** |
|  |  |  | **Symbol**Flame |
| **Hazard category** | **Signal word** | **Hazard statement** | **Image of a flame** |
| Type C  | Danger | H242 **Heating may cause a fire** |
| Type D | Danger | H242 **Heating may cause a fire** |
| Type E | Warning | H242 **Heating may cause a fire** |  |
| Type F | Warning | H242 **Heating may cause a fire** |  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P210**Keep away from heat/sparks/open flames/hot surfaces.** - **No smoking.**Manufacturer/supplier or the competent authority to specify applicable ignition source(s).P220**Keep/Store away from clothing/…/combustible materials.**  …Manufacturer/supplier or the competent authority to specify other incompatible materials.P234**Keep** **only** **in original container.**P280**Wear protective gloves/eye protection/face protection.**Manufacturer/supplier or the competent authority to specify type of equipment. | P370 + P378**In case of fire: Use ... for extinction**... Manufacturer/supplier or the competent authority to specify appropriate media.- *if water increases risk.* | P403 + P235**Store in a well-ventilated place. Keep cool.**P411**Store at temperatures not exceeding …°C/…°F.**...Manufacturer/supplier or the competent authority to specify temperature.P420**Store away from other materials.** | P501**Dispose of contents/container to...** …in accordance with local/regional/national/international Regulations (to be specified). |

**Note:** Hazard categoryType G: There are no label elements allocated to this hazard category

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| **PYROPHORIC LIQUIDS** |
|  |  |  | **Symbol**Flame |
| **Hazard category** | **Signal word** | **Hazard statement** | **Image of a flame** |
| 1 | Danger | H250 **Catches fire spontaneously if exposed to air**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P210**Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**Manufacturer/supplier or the competent authority to specify applicable ignition sources(s).P222**Do not allow contact with air.**P280**Wear protective gloves/eye protection/face protection.**Manufacturer/supplier or the competent authority to specify type of equipment. | P302 + P334**IF ON SKIN: Immerse in cool water/wrap with wet bandages**P370 + P378**In case of fire: Use ... for extinction**... Manufacturer/supplier or the competent authority to specify appropriate media.- *if water increases risk.* | P422**Store contents under...**... Manufacturer/supplier or the competent authority to specify appropriate liquid or inert gas. |  |

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| **PYROPHORIC SOLIDS** |
|  |  |  | **Symbol**Flame |
| **Hazard category** | **Signal word** | **Hazard statement** | **Image of a flame** |
| 1 | Danger | H250 **Catches fire spontaneously if exposed to air**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P210**Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**Manufacturer/supplier or the competent authority to specify applicable ignition source(s).P222**Do not allow contact with air.**P280**Wear protective gloves/eye protection/face protection.**Manufacturer/supplier or the competent authority to specify type of equipment. | P335 + P334**Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.**P370 + P378**In case of fire: Use ... for extinction**... Manufacturer/supplier or the competent authority to specify appropriate media.*- if water increases risk.* | P422**Store contents under...**…Manufacturer/supplier or the competent authority to specify appropriate liquid or inert gas. |  |

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| **SELF-HEATING SUBSTANCES AND MIXTURES** |
|  |  |  | **Symbol**Flame |
| **Hazard category** | **Signal word** | **Hazard statement** | **Image of a flame** |
| 1 | Danger | H251 **Self-heating; may catch fire**  |
| 2 | Warning | H252 **Self-heating in large quantities; may catch fire** |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P235 + P410**Keep cool. Protect from sunlight.**P280**Wear protective gloves/eye protection/face protection.**Manufacturer/supplier or the competent authority to specify type of equipment. |  | P407**Maintain air gap between stacks/pallets.**P413**Store bulk masses greater than … kg/…lbs at temperatures not exceeding …°C/…°F.** ... Manufacturer/supplier or the competent authority to specify mass and temperature.P420**Store away from other materials.** |  |

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| **SUBSTANCES AND MIXTURES WHICH, IN CONTACT WITH WATER, EMIT FLAMMABLE GASES** |
|  |  |  | **Symbol**Flame |
| **Hazard category** | **Signal word** | **Hazard statement** | **Image of a flame** |
| 1 | Danger | H260 **In contact with water releases flammable gases, which may ignite spontaneously**  |
| 2 | Danger | H261 **In contact with water releases flammable gases** |  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P223**Keep away from any possible contact with water, because of violent reaction and possible flash fire.**P231 + P232**Handle under inert gas. Protect from moisture.**P280**Wear protective gloves/eye protection/face protection.** Manufacturer/supplier or the competent authority to specify type of equipment. | P335 + P334**Brush off loose particles from skin and immerse in cool water/wrap in wet bandages.** P370 + P378**In case of fire: Use ... for extinction**... Manufacturer/supplier or the competent authority to specify appropriate media.*- if water increases risk.* | P402 + P404**Store in a dry place. Store in a closed container.** | P501**Dispose of contents/container to...** …in accordance with local/regional/national/ international Regulations (to be specified). |

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| **SUBSTANCES AND MIXTURES WHICH, IN CONTACT WITH WATER, EMIT FLAMMABLE GASES** |
|  |  |  | **Symbol**Flame |
| **Hazard category** | **Signal word** | **Hazard statement** | **Image of a flame** |
| 3 | Warning | H261 **In contact with water releases flammable gases**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P231 + P232Handle under inert gas. Protect from moisture.P280**Wear protective gloves/eye protection/face protection.**Manufacturer/supplier or the competent authority to specify type of equipment. | P370 + P378**In case of fire: Use ... for extinction.**...Manufacturer/supplier or the competent authority to specify appropriate media.*- if water increases risk.* | P402 + P404**Store in a dry place. Store in a closed container.** | P501**Dispose of contents/container to...**... in accordance with local/regional/national/international Regulations (to be specified). |

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| **OXIDISING LIQUIDS** |
|  |  |  | **Symbol**Flame over circle |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of a flame over a circle |
| 1 | Danger | H271 **May cause fire or explosion; strong oxidiser**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P210**Keep away from heat.**P220**Keep/Store away from clothing and other combustible materials.**P221**Take any precaution to avoid mixing with combustibles/...** ... Manufacturer/supplier or the competent authority to specify other incompatible materials.P280**Wear protective gloves /eye protection/face protection.**Manufacturer/supplier or the competent authority to specify type of equipment.P283**Wear fire/flame resistant/retardant clothing.** | P306 + P360**IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.** P371 + P380 + P375**In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.** P370 + P378**In case of fire: Use ... for extinction.**... Manufacturer/supplier or the competent authority to specify appropriate media.*- if water increases risk.* |  | P501**Dispose of contents/container to...** …in accordance with local/regional/ national/international Regulations (to be specified). |

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| **OXIDISING LIQUIDS** |
|  |  |  | **Symbol**Flame over circle |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of a flame over a circle |
| 2 | Danger | H272 **May intensify fire; oxidiser**  |
| 3 | Warning | H272 **May intensify fire; oxidiser**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P210**Keep away from heat.**P220**Keep/Store away from clothing/…/combustible materials.…**Manufacturer/supplier or the competent authority to specify other incompatible materials.P221**Take any precaution to avoid mixing with combustibles/...** ... Manufacturer/supplier or the competent authority to specify other incompatible materials.P280**Wear protective gloves/eye protection/face protection.**Manufacturer/supplier or the competent authority to specify type of equipment. | P370 + P378**In case of fire: Use ... for extinction.**... Manufacturer/supplier or the competent authority to specify appropriate media.*- if water increases risk.* |  | P501**Dispose of contents/container to...** …in accordance with local/regional/ national/international Regulations (to be specified). |

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| **OXIDISING SOLIDS** |
|  |  |  | **Symbol**Flame over circle |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of a flame over a circle |
| 1 | Danger | H271 **May cause fire or explosion; strong oxidiser** |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P210**Keep away from heat.**P220**Keep away from clothing and other combustible materials.**P221**Take any precaution to avoid mixing with combustibles/...** …Manufacturer/supplier or the competent authority to specify other incompatible materials.P280**Wear protective gloves/eye protection/face protection.**Manufacturer/supplier or the competent authority to specify type of equipment.P283**Wear fire/flame resistant/retardant clothing.** | P306 + P360**IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.**P371 + P380 + P375**In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.**P370 + P378**In case of fire: Use ... for extinction.**... Manufacturer/supplier or the competent authority to specify appropriate media.*- if water increases risk.* |  | P501**Dispose of contents/container to...** …in accordance with local/regional/ national/international Regulations (to be specified). |

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| **OXIDISING SOLIDS** |
|  |  |  | **Symbol**Flame over circle |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of a flame over a circle |
| 2 | Danger | H272 **May intensify fire; oxidiser**  |
| 3 | Warning | H272 **May intensify fire; oxidiser** |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P210**Keep away from heat.**P220**Keep/Store away from clothing/…/ combustible materials.**… Manufacturer/supplier or the competent authority to specify incompatible materials.P221**Take any precaution to avoid mixing with combustibles/...** …Manufacturer/supplier or the competent authority to specify other incompatible materials.P280**Wear protective gloves/eye protection/face protection.** Manufacturer/supplier or the competent authority to specify type of equipment. | P370 + P378**In case of fire: Use ... for extinction.**... Manufacturer/supplier or the competent authority to specify appropriate media.*- if water increases risk.* |  | P501**Dispose of contents/container to...**... in accordance with local/regional/national/international Regulations (to be specified). |

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| **ORGANIC PEROXIDES** |
|  |  |  | **Symbol**Exploding bomb |
| **Hazard category** | **Signal word** | **Hazard statement** | **Image of an exploding bomb** |
| Type A | Danger | H240 **Heating may cause an explosion**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P210**Keep away from heat/sparks/open flames/hot surfaces.**- **No smoking.**Manufacturer/supplier or the competent authority to specify applicable ignition source(s).P220**Keep/Store away from clothing/…/combustible materials.**... Manufacturer/supplier or the competent authority to specify incompatible materials.P234**Keep only in original container.**P280**Wear protective gloves/eye protection/face protection.**Manufacturer/supplier or the competent authority to specify type of equipment. |  | P411 + P235**Store at temperatures not exceeding …°C/…°F. Keep cool.**... Manufacturer/supplier or the competent authority to specify temperature.P410**Protect from sunlight.**P420**Store away from other materials.** | P501**Dispose of contents/container to...** ... in accordance with local/regional/national/international Regulations (to be specified). |

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| **ORGANIC PEROXIDES** |
|  |  |  | **Symbol**Exploding bomb and flame |
| **Hazard category** | **Signal word** | **Hazard statement** | **Image of an exploding bomb.** | **Image of a flame** |
| Type B | Danger | H241 **Heating may cause a fire or explosion**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P210**Keep away from heat/sparks/open flames/hot surfaces.** - **No smoking.** Manufacturer/supplier or the competent authority to specify applicable ignition source(s).P220**Keep /Store away from clothing/.../combustible materials.** ... Manufacturer/supplier or the competent authority to specify incompatible materials.P234**Keep** **only** **in original container.**P280**Wear protective gloves/eye protection/face protection.**Manufacturer/supplier or the competent authority to specify type of equipment. |  | P411 + P235**Store at temperatures not exceeding …°C/…°F. Keep cool.**Manufacturer/supplier or the competent authority to specify temperature.P410**Protect from sunlight.**P420**Store away from other materials.** | P501**Dispose of contents/container to...**... in accordance with local/regional/national/international Regulations (to be specified). |

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| **ORGANIC PEROXIDES** |
|  |  |  | **Symbol**Flame |
| **Hazard category** | **Signal word** | **Hazard statement** | **Image of a flame** |
| Type C | Danger | H242 **Heating may cause a fire**  |
| Type D | Danger | H242 **Heating may cause a fire**  |
| Type E | Warning | H242 **Heating may cause a fire**  |  |
| Type F | Warning | H242 **Heating may cause a fire**  |  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P210**Keep away from heat/sparks/open flames/hot surfaces.** - **No smoking.**Manufacturer/supplier or the competent authority to specify applicable ignition source(s).P220**Keep/Store away from clothing/.../ combustible materials** ... Manufacturer/supplier or the competent authority to specify incompatible materials.P234**Keep** **only** **in original container.**P280**Wear protective gloves/eye protection/face protection.**Manufacturer/supplier or the competent authority to specify type of equipment. |  | P411 + P235**Store at temperatures not exceeding …°C/…°F. Keep cool.**... Manufacturer/supplier or the competent authority to specify temperature.P410**Protect from sunlight.**P420**Store away from other materials.** | P501**Dispose of contents/container to...** ... in accordance with local/regional/national/international Regulations (to be specified). |

**Note:** Hazard categoryType G: There are no label elements allocated to this hazard category

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| **CORROSIVE TO METALS** |
|  |  |  | **Symbol**Corrosion |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of corrosion |
| 1 | Warning | H290 **May be corrosive to metals** |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P234**Keep** **only** **in original container.** | P390**Absorb** **spillage to prevent materialdamage.** | P406**Store in corrosive resistant/... container with a resistant inner liner.**...Manufacturer/supplier or the competent authority to specify other compatible materials. |  |

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| **ACUTE TOXICITY - ORAL** |
|  |  |  | **Symbol**Skull and crossbones |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of a skull and crossbones |
| 1 | Danger | H300 **Fatal if swallowed**  |
| 2 | Danger | H300 **Fatal if swallowed**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P264**Wash …thoroughly after handling.**… Manufacturer/supplier or the competent authority to specify parts of the body to be washed after handling.P270**Do not eat, drink or smoke when using this product.** | P301 + P310**IF SWALLOWED:** **Immediately call a POISON CENTER or doctor/physician.**P321**Specific treatment (see ... on this label)**... Reference to supplemental first aid instruction.- *if immediate administration of antidote is required*.P330**Rinse mouth.** | P405**Store locked up.** | P501**Dispose of contents/container to...** ... in accordance with local/regional/national/international Regulations (to be specified). |

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| **ACUTE TOXICITY – ORAL** |
|  |  |  | **Symbol**Skull and crossbones |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of a skull and crossbones |
| 3 | Danger | H301 **Toxic if swallowed**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P264**Wash … thoroughly after handling.**… Manufacturer/supplier or the competent authority to specify parts of the body to be washed after handling.P270**Do not eat, drink or smoke when using this product.** | P301 + P310**IF SWALLOWED:** **Immediately call a POISON CENTER or doctor/physician.**P321**Specific treatment (see ... on this label)**... Reference to supplemental first aid instruction.- *if immediate administration of antidote is required*.P330**Rinse mouth.** | P405**Store locked up.** | P501**Dispose of contents/container to...**... in accordance with local/regional/national/international Regulations (to be specified). |

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| **ACUTE TOXICITY – ORAL** |
|  |  |  | **Symbol**Exclamation mark |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of an exclamation mark |
| 4 | Warning | H302 **Harmful if swallowed** |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P264**Wash … thoroughly after handling.**…Manufacturer/supplier or the competent authority to specify parts of the body to be washed after handling.P270**Do not eat, drink or smoke when using this product.**  | P301 + P312**IF SWALLOWED:** **Call a POISON CENTER or doctor/physician if you feel unwell.**P330**Rinse mouth.** |  | P501**Dispose of contents/container to...** ... in accordance with local/regional/national/international Regulations (to be specified). |

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| **ACUTE TOXICITY - DERMAL** |
|  |  |  | **Symbol**Skull and crossbones |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of a skull and crossbones |
| 1 | Danger | H310 **Fatal in contact with skin**  |
| 2 | Danger | H310 **Fatal in contact with skin** |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P262**Do not get in eyes, on skin, or on clothing.**P264**Wash … thoroughly after handling.**…Manufacturer/supplier or the competent authority to specify parts of the body to be washed after handling.P270**Do not eat, drink or smoke when using this product.**P280**Wear protective gloves/protective clothing.**Manufacturer/supplier or the competent authority to specify type of equipment. | P302 + P350**IF ON SKIN: Gently wash with plenty of soap and water**.P310**Immediately call a POISON CENTRE or doctor/physician.**P322**Specific measures (see ... on this label)**... Reference to supplemental first aid instruction.- *if immediate measures such as specific cleansing agent is advised*.P361**Remove/Take off immediately all contaminated clothing.**P363**Wash contaminated clothing before reuse.** | P405**Store locked up.** | P501**Dispose of contents/container to...**... in accordance with local/regional/national/international Regulations (to be specified). |

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| **ACUTE TOXICITY - DERMAL** |
|  |  |  | **Symbol**Skull and crossbones |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of a skull and crossbones |
| 3 | Danger | H311 **Toxic in contact with skin** |  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P280**Wear protective gloves/protective clothing.**Manufacturer/supplier or the competent authority to specify type of equipment. | P302 + P352**IF ON SKIN: Wash with plenty of soap and water.**P312**Call a POISON CENTRE or doctor/physician if you feel unwell.**P322**Specific measures (see ... on this label)**... Reference to supplemental first aid instruction.- *if measures such as specific cleansing agent is advised.* P361**Remove/Take off immediately all contaminated clothing.**P363**Wash contaminated clothing before reuse.** | P405Store locked up. | P501**Dispose of contents/container to...**... in accordance with local/regional/national/international Regulations (to be specified). |

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| **ACUTE TOXICITY – DERMAL** |
|  |  |  | **Symbol**Exclamation mark |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of an exclamation mark |
| 4 | Warning | H312 **Harmful in contact with skin**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P280**Wear protective gloves/protective clothing**Manufacturer/supplier or the competent authority to specify type of equipment. | P302 + P352**IF ON SKIN: Wash with plenty of soap and water.**P312**Call a POISON CENTER or doctor/physician if you feel unwell.** P322**Specific measures (see ... on this label)**... Reference to supplemental first aid instruction.- *if measures such as specific cleansing agent is advised.*P363**Wash contaminated clothing before reuse.** |  | P501**Dispose of contents/container to...** ... in accordance with local/regional/national/international Regulations (to be specified). |
| **ACUTE TOXICITY - INHALATION** |
|  |  |  | **Symbol**Skull and crossbones |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of a skull and crossbones |
| 1 | Danger | H330 **Fatal if inhaled** |
| 2 | Danger | H330 **Fatal if inhaled**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P260**Do not breathe dust/fume/gas/mist/ vapours/spray.**Manufacturer/supplier or the competent authority to specify applicable conditions.P271**Use only outdoors or in a well-ventilated area.**P284**Wear respiratory protection.**Manufacturer/supplier or the competent authority to specify equipment. | P304 + P340**IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.**P310**Immediately call a POISON CENTER or doctor/physician.** P320**Specific treatment is urgent (see ... on this label)**... Reference to supplemental first aid instruction.- *if immediate administration of antidote is required*. | P403 + P233**Store in a well-ventilated place. Keep container tightly closed.**- *if product is volatile* *as to* *generate hazardous atmosphere.*P405**Store locked up.** | P501**Dispose of contents/container to...** ... in accordance with local/regional/national/international Regulations (to be specified). |

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| **ACUTE TOXICITY - INHALATION** |
|  |  |  | **Symbol**Skull and crossbones |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of a skull and crossbones |
| 3 | Danger | H331 **Toxic if inhaled**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P261**Avoid breathing dust/fume/gas/mist/ vapours/spray**.Manufacturer/supplier or the competent authority to specify applicable conditions.P271**Use only outdoors or in a well-ventilated area.** | P304 + P340**IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.** P311**Call a POISON CENTER or doctor/physician.**P321**Specific treatment (see ... on this label)**... Reference to supplemental first aid instruction. - *if immediate specific measures are required*. | P403 + P233**Store in a well-ventilated place. Keep container tightly closed.**  - *if product is volatile* *so as to* *generate hazardous atmosphere.*P405**Store locked up.**  | P501**Dispose of contents/container to…** … in accordance with local/regional/national/international Regulations (to be specified). |

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| **ACUTE TOXICITY - INHALATION** |
|  |  |  | **Symbol**Exclamation mark |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of an exclamation mark |
| 4 | Warning | H332 **Harmful if inhaled**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P261**Avoid breathing dust/fume/gas/mist/ vapours/spray.**Manufacturer/supplier or the competent authority to specify applicable conditions.P271**Use only outdoors or in a well-ventilated area.** | P304 + P340**IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.**P312**Call a POISON CENTER or doctor/physician if you feel unwell.** |  |  |

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| **SKIN CORROSION/IRRITATION** |
|  |  |  | **Symbol**Corrosion |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of corrosion |
| 1A to 1C | Danger | H314 **Causes severe skin burns and eye damage**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P260**Do not breathe dusts or mists.** *- if inhalable particles of dusts or mists may occur during use.*P264**Wash …thoroughly after handling.…**Manufacturer/supplier or the competent authority to specify parts of the body to be washed after handling.P280**Wear protective gloves/protective clothing/eye protection/face protection.**Manufacturer/supplier or the competent authority to specify type of equipment. | P301 + P330 + P331**IF SWALLOWED:** **Rinse mouth. Do NOT induce vomiting.**P303 + P361 + P353**IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.** P363**Wash contaminated clothing before reuse.**P304 + P340**IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.**P310**Immediately call a POISON CENTER or doctor/physician.**P321**Specific treatment (see ... on this label)**... Reference to supplemental first aid instruction.- *Manufacturer/supplier or the competent authority may specify a cleansing agent if appropriate.*P305 + P351 + P338**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.** | P405**Store locked up.** | P501**Dispose of contents/container to...**... in accordance with local/regional/national/international Regulations (to be specified). |

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| **SKIN CORROSION/IRRITATION** |
|  |  |  | **Symbol**Exclamation mark |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of an exclamation mark |
| 2 | Warning | H315 **Causes skin irritation**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P264**Wash … thoroughly after handling.**… Manufacturer/supplier or the competent authority to specify parts of the body to be washed after handling.P280**Wear protective gloves.**Manufacturer/supplier or the competent authority to specify type of equipment. | P302 + P352**IF ON SKIN: Wash with plenty of soap and water**.P321**Specific treatment (see ... on this label)**... Reference to supplemental first aid instruction.*- Manufacturer/supplier or the competent authority may specify a cleansing agent if appropriate.*P332 + P313**If skin irritation occurs: Get medical advice/attention.**P362**Take off contaminated clothing and wash before reuse.** |  |  |

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| **Serious EYE DAMAGE/IRRITATION** |
|  |  |  | **Symbol**Corrosion |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of corrosion |
| 1 | Danger | H318 **Causes serious eye damage**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P280**Wear eye protection/face protection.**Manufacturer/supplier or the competent authority to specify type of equipment. | P305 + P351 + P338**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**P310**Immediately call a POISON CENTER or doctor/physician.** |  |  |

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| **Serious EYE DAMAGE/IRRITATION** |
|  |  |  | **Symbol**Exclamation mark |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of an exclamation mark |
| 2A | Warning | H319 **Causes serious eye irritation**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P264**Wash … thoroughly after handling.**…Manufacturer/supplier or the competent authority to specify parts of the body to be washed after handling.P280**Wear eye protection/face protection.**Manufacturer/supplier or the competent authority to specify type of equipment. | P305 + P351 + P338**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**P337 + P313**If eye irritation persists: Get medical advice/attention.** |  |  |

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| **SENSITISATION – RESPIRATORY** |
|  |  |  | **Symbol**Health hazard |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of health hazard |
| 1, 1A, 1B | Danger | H334 **May cause allergy or asthma symptoms or breathing difficulties if inhaled** |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P261**Avoid breathing dust/fume/gas/mist/ vapours/spray.**Manufacturer/supplier or the competent authority to specify applicable conditions.P285**In case of inadequate ventilation wear respiratory protection.**Manufacturer/supplier or the competent authority to specify equipment | P304 + P341**IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.**P342 + P311**If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.** |  | P501**Dispose of contents/container to...** ... in accordance with local/regional/national/international Regulations (to be specified). |

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| **SENSITISATION – SKIN** |
|  |  |  | **Symbol**Exclamation mark |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of an exclamation mark |
| 1, 1A, 1B | Warning | H317 **May cause an allergic skin reaction**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P261**Avoid breathing dust/fume/gas/mist/ vapours/spray.** Manufacturer/supplier or the competent authority to specify applicable conditions.P272**Contaminated work clothing should not be allowed out of the workplace.**P280**Wear protective gloves.**Manufacturer/supplier or the competent authority to specify type of equipment. | P302 + P352**IF ON SKIN: Wash with plenty of soap and water**.P333 + P313**If skin irritation or rash occurs: Get medical advice/attention.**P321**Specific treatment (see ... on this label)**... Reference to supplemental first aid instruction.- *Manufacturer/supplier or the competent authority may specify a cleansing agent if appropriate.*P363**Wash contaminated clothing before reuse.** |  | P501**Dispose of contents/container to...** ... in accordance with local/regional/national/international Regulations (to be specified). |

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| **GERM CELL MUTAGENICITY** |
|  |  |  | **Symbol**Health hazard |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of health hazard |
| 1A, 1B | Danger | H340 **May cause genetic defects** <...> |
| 2 | Warning | H341 **Suspected of causing genetic defects** <...>  |
|  |  | <...> *(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)* |  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P201**Obtain special instructions before use.**P202**Do not handle until all safety precautions have been read and understood.**P281**Use personal protective equipment as required.** | P308 + P313**IF exposed or concerned: Get medical advice/attention.** | P405**Store locked up.** | P501**Dispose of contents/container to...**... in accordance with local/regional/national/international Regulations (to be specified). |

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| **CARCINOGENICITY** |
|  |  |  | **Symbol**Health hazard |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of health hazard |
| 1A, 1B | Danger | H350 **May cause cancer** <...>  |
| 2 | Warning | H351 **Suspected of causing cancer** <...> |
|  |  | <...> *(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).* |  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P201**Obtain special instructions before use.**P202**Do not handle until all safety precautions have been read and understood.**P281**Use personal protective equipment as required.** | P308 + P313**IF exposed or concerned: Get medical advice/attention.** | P405**Store locked up.** | P501**Dispose of contents/container to...** ... in accordance with local/regional/national/international Regulations (to be specified). |

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| **TOXIC TO REPRODUCTION** |
|  |  |  | **Symbol**Health hazard |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of health hazard |
| 1A, 1B | Danger | H360 **May damage fertility or the unborn child** <...> <<...>> |
| 2 | Warning | H361 **Suspected of damaging fertility or the unborn child** <...> <<...>>  |
|  |  | <...> *(state specific effect if known)* |  |
|  |  | <<...>> *(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)* |  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P201**Obtain special instructions before use.**P202**Do not handle until all safety precautions have been read and understood.**P281**Use personal protective equipment as required.** | P308 + P313**IF exposed or concerned: Get medical advice/attention.** | P405**Store locked up.** | P501**Dispose of contents/container to...**... in accordance with local/regional/national/international Regulations (to be specified). |

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| **TOXIC TO REPRODUCTION****(effects on or via lactation)** |
|  |  |  | **Symbol***No symbol* |
| **Hazard category** | **Signal word** | **Hazard statement** |  |
| *(additional)* | *No signal word* | H362 **May cause harm to breast-fed children**  |  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** |  |
| P201**Obtain special instructions before use.**P260**Do not breathe dusts or mists.***- if inhalable particles of dusts or mists may occur during use.*P263**Avoid contact during pregnancy/while nursing.**P264**Wash … thoroughly after handling.**…Manufacturer/supplier or the competent authority to specify parts of the body to be washed after handling.P270**Do not eat, drink or smoke when using this product.** | P308 + P313**IF exposed or concerned: Get medical advice/attention.** |  |  |

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| **SPECIFIC TARGET ORGAN TOXICITY (Single Exposure)** |
|  |  |  | **Symbol**Health hazard |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of health hazard |
| 1 | Danger | H370 **Causes damage to organs** <...> <<...>>  |
|  |  | <...> *(or state all organs affected if known)* |
|  |  | <<...>> *(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)* |  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P260**Do not breathe dust/fume/gas/mist/ vapours/spray.**Manufacturer/supplier or the competent authority to specify applicable conditions.P264**Wash …thoroughly after handling.**…Manufacturer/supplier or the competent authority to specify parts of the body to be washed after handling.P270**Do not eat, drink or smoke when using this product.** | P307 + P311**IF exposed: Call a POISON CENTER or doctor/physician.**P321**Specific treatment (see ... on this label)**... Reference to supplemental first aid instruction.- *if immediate measures are required*. | P405**Store locked up.** | P501**Dispose of contents/container to...**... in accordance with local/regional/national/international Regulations (to be specified). |

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| **SPECIFIC TARGET ORGAN TOXICITY (Single Exposure)** |
|  |  |  | **Symbol**Health hazard |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of health hazard |
| 2 | Warning | H371 **May cause damage to organs** <...> <<...>> |
|  |  | <...> *(or state all organs affected, if known)* |
|  |  | <<...>> *(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)* |  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P260**Do not breathe dust/fume/gas/mist/ vapours/spray.**Manufacturer/supplier or the competent authority to specify applicable conditions.P264**Wash … thoroughly after handling.**…Manufacturer/supplier or the competent authority to specify parts of the body to be washed after handling.P270**Do not eat, drink or smoke when using this product.** | P309 + P311**IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.** | P405**Store locked up.** | P501**Dispose of contents/container to...**... in accordance with local/regional/national/international Regulations (to be specified). |

|  |
| --- |
| **SPECIFIC TARGET ORGAN TOXICITY (Single Exposure)** |
|  |  |  | **Symbol**Exclamation mark |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of an exclamation mark |
| 3 | Warning | H335 **May cause respiratory irritation;** or  |
|  |  | H336 **May cause drowsiness or dizziness**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P261**Avoid breathing dust/fume/gas/mist/ vapours/spray.**Manufacturer/supplier or the competent authority to specify applicable conditions.P271**Use only outdoors or in a well-ventilated area.** | P304 + P340**IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.**P312**Call a POISON CENTER or doctor/physician if you feel unwell.** | P403 + P233**Store in a well-ventilated place. Keep container tightly closed.-** *if product is volatile* *so as to* *generate hazardous atmosphere.*P405**Store locked up.**  | P501**Dispose of contents/container to...** ... in accordance with local/regional/national/international Regulations (to be specified). |

|  |
| --- |
| **SPECIFIC TARGET ORGAN TOXICITY (Repeated Exposure)** |
|  |  |  | **Symbol**Health hazard |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of health hazard |
| 1 | Danger | H372 **Causes damage to organs** <...> **through prolonged or repeated exposure** <<...>>  |
|  |  | <...> *(state all organs affected, if known)* |
|  |  | <<...>> *(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)* |  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P260**Do not breathe dust/fume/gas/mist/ vapours/spray.**Manufacturer/supplier or the competent authority to specify applicable conditions.P264**Wash … thoroughly after handling.**…Manufacturer/supplier or the competent authority to specify parts of the body to be washed after handling.P270**Do not eat, drink or smoke when using this product.** | P314**Get medical advice/attention if you feel unwell.** |  | P501**Dispose of contents/container to...**... in accordance with local/regional/national/international Regulations (to be specified). |

|  |
| --- |
| **SPECIFIC TARGET ORGAN TOXICITY (Repeated Exposure)** |
|  |  |  | **Symbol**Health hazard |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of health hazard |
| 2 | Warning | H373 **May cause damage to organs** <...> **through prolonged or repeated exposure** <<...>>  |
|  |  | <...> *(state all organs affected, if known)* |  |
|  |  | <<...>> *(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)* |  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
| P260**Do not breathe dust/fume/gas/mist/ vapours/spray.**Manufacturer/supplier or the competent authority to specify applicable conditions. | P314**Get medical advice/attention if you feel unwell.** |  | P501**Dispose of contents/container to...**... in accordance with local/regional/national/international Regulations (to be specified). |

|  |
| --- |
| **ASPIRATION HAZARD** |
|  |  |  | **Symbol**Health hazard |
| **Hazard category** | **Signal word** | **Hazard statement** | Image of health hazard |
| 1 | Danger | H304 **May be fatal if swallowed and enters airways**  |
| **Precautionary statements** |
| **Prevention** | **Response** | **Storage** | **Disposal** |
|  | P301 + P310**IF SWALLOWED:** **Immediately call a POISON CENTER or doctor/physician.**P331**Do NOT induce vomiting.** | P405**Store locked up.** | P501**Dispose of contents/container to...** ... in accordance with local/regional/national/international Regulations (to be specified). |

**ADDITIONAL NON-GHS HAZARD STATEMENTS**

**Regulation 335, Schedule 9:** A label must include any information about the hazards, first aid
and emergency procedures relevant to the chemical, not otherwise included in the hazard statement and precautionary statements.

The following twelve non-GHS hazard statements should be used on labels of hazardous chemicals where applicable.

## Physical hazard statements

*AUH001: Explosive when dry*

For explosive substances and mixtures placed on the market wetted with water or alcohols or diluted with other chemicals to suppress their explosives properties.

*AUH006: Explosive with or without contact with air*

For substances and mixtures that are unstable at ambient temperatures, for example acetylene.

*AUH014: Reacts violently with water*

For substances and mixtures that react violently with water, for example acetyl chloride, alkali metals and titanium tetrachloride.

*AUH018: In use, may form flammable/explosive vapour-air mixture*

For substances and mixtures not classified as flammable themselves but which may form flammable/explosive vapour-air mixtures. For substances this might be the case for halogenated hydrocarbons and for mixtures this might be the case due to a volatile flammable component or due to the loss of a volatile non-flammable component.

*AUH019: May form explosive peroxides*

For substances and mixtures that may form explosive peroxides during storage, for example diethyl ether, 1,4-dioxan.

*AUH044: Risk of explosion if heated under confinement*

For substances and mixtures not classified as explosive but which may nevertheless display explosive properties in practice if heated under sufficient confinement. In particular, substances and mixtures that decompose explosively if heated in a steel drum do not show this effect if heated in less-strong containers.

## Human health hazard statements

*AUH029: Contact with water liberates toxic gas*

For substances and mixtures, when in contact with water or damp air, evolve gases classified for acute toxicity in Category 1, 2 or 3 in potentially dangerous amounts, for example aluminium phosphide, phosphorus pentasulphide.

*AUH031: Contact with acids liberates toxic gas*

For substances and mixtures that react with acids to evolve gases classified for acute toxicity in Category 3 in dangerous amounts, for example sodium hypochlorite and barium polysulphide.

*AUH032: Contact with acids liberates very toxic gas*

For substances and mixtures that react with acids to evolve gases classified for acute toxicity in Category 1 or 2 in dangerous amounts, for example salts of hydrogen cyanide, sodium azide.

*AUH066: Repeated exposure may cause skin dryness or cracking*

For substances and mixtures which may cause concern as a result of skin dryness, flaking or cracking but which do not meet the criteria for skin irritancy.

*AUH070: Toxic by eye contact*

For substances or mixtures where an eye irritation test has resulted in overt signs of systemic toxicity or mortality among the animals tested, which is likely to be attributed to absorption of the substance or mixture through the mucous membranes of the eye. The statement should also be applied if there is evidence in humans for systemic toxicity after eye contact.

The statement should also be applied where a substance or a mixture contains another substance labelled for this effect, if the concentration of this substance is equal to, or greater than 0.1 %.

*AUH071: Corrosive to the respiratory tract*

For substances and mixtures in addition to classification for inhalation toxicity, if data is available that indicates the mechanism of toxicity was corrosivity.

In addition to an appropriate acute toxicity symbol, a ‘corrosion’ symbol (similar to the ‘corrosion’ symbol used for skin and eye corrosivity) is added along with the hazard statement AUH071: Corrosive to the respiratory tract.

For substances and mixtures in addition to classification for skin corrosivity, if no acute inhalation test data is available and which may be inhaled.

# APPENDIX E – PRECEDENCE RULES OF LABEL ELEMENTS

This appendix provides information on the rules of precedence of certain label elements, and general guidance for when redundant elements may be omitted from a label.

Duplication or redundancy of label elements may occur where a hazardous chemical meets the criteria for more than one hazard class or category. Duplication of an element may occur where:

* a specific precautionary statement applies to several hazard categories into which a particular chemical is classified
* an element may become redundant because a more stringent control applies to another hazard category (for example, the type of PPE required).

Duplicate or redundant information should not be included on a label.

## Multiple Hazards and Precedence of Hazard Information

### Hazard pictograms

The following rules apply for the use of hazard pictograms on a label:

* where a transport of dangerous goods class label (pictogram) is required on the container to meet transport regulations, the equivalent hazard pictogram, as specified in the GHS, should not appear
* if the skull and crossbones hazard pictogram applies, the exclamation mark hazard pictogram should not appear
* if the corrosive hazard pictogram applies, the exclamation mark hazard pictogram should not appear if it is used to communicate skin or eye irritation
* if the health hazard pictogram appears for respiratory sensitisation, the exclamation mark hazard pictogram should not appear if it is used to communicate skin sensitisation, or for skin or eye irritation.

### Hazard statements

Where hazard statements are required to be present on a label, then all of the assigned hazard statements must appear on the label except where:

* the statement duplicates or conflicts with another statement or other hazard information that is required on the label
* omission of the statement would not decrease the level of protection or information in relation to the hazards.

### Signal words

Where the signal word ‘Danger’ applies, the signal word ‘Warning’ should not appear concomitantly.

### Precautionary statements

Where precautionary statements are required to be present on a label, then normally not more than six to ten precautionary statements are required, unless necessary to reflect the nature and the severity of the hazards. For example, precautionary statements can be omitted if:

* the statement duplicates or conflicts with another statement or other hazard information that is required on the label; and
* omission of the statement would not decrease the level of protection or information in relation to the hazards.

Any conflict that arises between precautionary statements that are present on labels may be resolved by modifying the statements. However, the new statement(s) must give equivalent levels of information or protection.

**Note**: It is not mandatory to include information relating to environmental hazard categories on the label of a workplace hazardous chemical. However, this information should be included if a fully GHS-compliant label is desired.

### Example of where the omission of a precautionary statement is acceptable

An example where the omission of a precautionary statement on the label may be acceptable (and recommended) is where the use of personal protective equipment applies to different hazard categories for the same hazardous chemical.

For example, where the precautionary statements ‘Wear face protection’ and ‘Wear gloves and face protection’ are specified, then only the latter statement should appear on the label as it relates to the more stringent protective measures.

### Example that illustrates how some of the precedence rules for elements should be applied on labels

In the following example, the chemical meets the criteria for flammable liquid (Category 2) and skin sensitisation (Category 1), as specified in the GHS.

The label that contains all of the elements required to meet the criteria for a substance or mixture that is classified as a flammable liquid (Category 2) and skin sensitiser (Category 1) is provided below. No precedence rules are applied:

|  |  |  |
| --- | --- | --- |
|  | **Flammable liquid****(Category 2)** | **Skin sensitisation****(Category 1)** |
| **Signal word** | **Danger** | **Warning** |
| **Hazard** **statement** | **Highly flammable liquid and vapour** | **May cause an allergic skin reaction** |
| **Hazard Pictogram** | Image of GHS flame pictogram | Image of GHS exclamation mark pictogram |
| **Precautionary** **Statements** | **- Keep away from heat/sparks/open flames/hot surfaces.– No smoking.**Manufacturer/supplier or the competent authority to specify applicable ignition source(s).**- Keep container** **tightly** **closed.****- Ground/Bond container and receiving equipment***- if electrostatically sensitive material is for reloading**- if product is volatile* so *as to* *generate hazardous atmosphere.***- Use explosion-proof electrical/ventilating/lighting/.../equipment.**Manufacturer/supplier or the competent authority to specify other equipment.**- Use only non-sparking tools.****Take precautionary measures against static discharge.****- Wear protective gloves/eye protection/face protection** Manufacturer/supplier or the competent authority to specify type of equipment.**- IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing.****- Rinse skin with water/shower.** **- In case of fire: Use ... for extinction.**Manufacturer/supplier or the competent authority to specify appropriate media*- if water increases risk.***- Store in a well-ventilated place.****- Keep cool.****- Dispose of contents/container to** …In accordance with local requirements (to be specified). | **- Avoid breathing dust/fume/gas/mist/ vapours/spray.** Manufacturer/supplier or the competent authority to specify applicable conditions.**- Contaminated work clothing should not be allowed out of the workplace.****- Wear protective gloves.**Manufacturer/supplier or the competent authority to specify type of equipment.**- IF ON SKIN: Wash with plenty of soap and water**.**- If skin irritation or rash occurs: Get medical advice/attention.****- Specific treatment (see ... on this label)**Reference to supplemental first aid instruction.- *Manufacturer/supplier or the competent authority may specify a cleansing agent if appropriate.***- Wash contaminated clothing before reuse.****- Dispose of contents/container to...** In accordance with local requirements (to be specified). |

According to the precedence rules described above, the following elements should be omitted from the label:

* The signal word ‘Warning’ because ‘Danger’ applies.
* The precautionary statement ‘Wear protective gloves…’ because the statement ‘Wear protective gloves and eye protection/face protection…’ also applies, and therefore provides for more stringent PPE controls.
* The statement ‘Dispose of contents/container to…’ as this is duplicated and should only appear on the label once.

The following precautionary statements refer to similar controls and may be combined to aid comprehensibility and to save label space:

* IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing
* IF ON SKIN: Wash with plenty of soap and water

These statements could be combined to read:

* IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing and wash skin (or hair) with plenty of soap and water.

The label elements that apply to a flammable liquid (Category 2) and skin sensitiser (Category 1) with the precedence rules applied are:

|  |  |
| --- | --- |
| ***Signal word*** | **Danger** |
| **Hazard** **statement** | **Highly flammable liquid and vapour****May cause an allergic skin reaction** |
| **Hazard Pictogram** | Image of GHS flame pictogram Image of GHS exclamation mark pictogram |
| **Precautionary** **Statements** | **- Keep container** **tightly** **closed.****- Keep away from heat/sparks/open flame/hot surfaces – No smoking.**Manufacturer/supplier or the competent authority to specify applicable ignition source(s).**- Ground/Bond container and receiving equipment.***- if electrostatically sensitive material is for reloading.**- if product is as volatile* *as to* *generate hazardous atmosphere:***- Use explosion-proof electrical/ventilating/lighting/…/equipment.**Manufacturer/supplier or the competent authority to specify other equipment.**- Use only non-sparking tools.****- Take precautionary measures against static discharge.****- Wear protective gloves and eye protection/face protection**Manufacturer/supplier or the competent authority to specify type of equipment.**- Avoid breathing dust/fume/gas/mist/vapours/spray.**Manufacturer/supplier or the competent authority to specify applicable conditions.**- Contaminated work clothing should not be allowed out of the workplace.****- In case of fire: Use ... for extinction.**Manufacturer/supplier or the competent authority to specify appropriate media..*- if water increases risk.***- IF ON SKIN (or hair) Remove/take off immediately all contaminated clothing and wash skin (or hair) with plenty of soap and water.****- Rinse skin with water/shower.** **- If skin irritation or rash occurs: Get medical advice/attention.****- Wash contaminated clothing before re-use.** **- Specific treatment (see … on this label)** …Reference to supplemental first aid instruction – *Manufacturer/supplier or the competent authority may specify a cleansing agent if appropriate.***- Store in a well-ventilated place.****- Keep cool.****- Dispose of contents/container to** …in accordance with local/regional/national/international Regulations (to be specified). |

# APPENDIX F – HAZARD PICTOGRAMS

The nine hazard pictograms that are representative of the physical, health and/or environmental hazards are shown below:

| **Pictogram** | **Hazard** |  | **Pictogram** | **Hazard** |
| --- | --- | --- | --- | --- |
| Image of GHS exploding bomb pictogram | - Explosive |  | Image of GHS gas cylinder pictogram | - Gases under pressure |
| Exploding bomb |  |  | Gas cylinder |  |
| Image of GHS flame pictogram | - Flammability |  | Image of GHS corrosion pictogram | - Corrosive |
| Flame |  |  | Corrosion |  |
| Image of GHS flame over circle pictogram | - Oxidising |  | Image of GHS skull and crossbones pictogram | - Acute toxicity |
| Flame over circle |  |  | Skull and crossbones |  |
| Image of GHS health hazard pictogram | - Chronic Health hazards |  | Image of GHS exclamation mark pictogram | - Certain healthHazards (e.g. sensitisers) |
| Health hazard |  |  | Exclamation mark |  |
| Image of GHS environment pictogram | - Environmentalhazard |  |  |  |
| Environment |  |  |  |  |

Chronic health hazards include carcinogens, reproductive toxins, mutagens, specific target organ toxicants, and aspiration toxicants.

# APPENDIX G – COMPARISON OF HAZARD PICTOGRAMS WITH ADG CODE CLASS LABELS

The table below compares hazard pictograms from the GHS with the corresponding ADG Code class labels.

| **Hazard Pictograms** | **GHS Hazard**  | **Dangerous Goods class labels (pictograms)** | **Dangerous goods classes** |
| --- | --- | --- | --- |
| Image of GHS exploding bomb pictogram | ExplosivesSelf-reactivesOrganic peroxides | Image of explosive Division 1 class labelImage of explosive Division 1.4 class labelImage of explosive Division 1.5 class labelImage of explosive Division 1.6 class label | Explosive |
| Image of GHS flame pictogram | FlammablesSelf-reactivesPyrophoricsSelf-heatingEmits flammable gas in contact with waterOrganic peroxides | Image of flammable liquid class labelImage of flammable solid class labelImage of spontaneously combustible class labelImage of dangerous when wet class labelImage of flammable gas class labelImage of organic peroxide class label | * Flammability (Liquid, Solid or Gas)
* Pyrophoric,
* Emits Flammable Gas
* Organic Peroxide
 |
| Image of GHS flame over circle pictogram | Oxidisers | Image of oxidizing agent class labelImage of oxidizing gas class label | * Oxidiser
* Oxidising gas
 |
| Image of GHS gas cylinder pictogram | Gases under pressure | Image of non-flammable non-toxic gas class labelImage of flammable gas class labelImage of oxidizing gas class labelImage of toxic gas class label | Non-toxic non-flammable gas, flammable gas, oxidising gas, toxic gas  |
| Image of GHS skull and crossbones pictogram | Acute toxicity | Image of acute toxicity class labelImage of acute toxic gas class label | * Acute toxicity
* Acute Toxic gas
 |
| Image of GHS exclamation mark pictogram | Acute toxicitySkin irritantsEye irritantsSkin sensitisers | No equivalent |  |
| Image of GHS health hazard pictogram | CarcinogensRespiratory sensitisersReproductive toxicantsTarget organ toxicantsGerm cell mutagens | No equivalent |  |
| Image of GHS corrosion pictogram | Eye corrosionSkin corrosionCorrosive to metal | Image of corrosive class label | Corrosive to metals |
| Image of GHS environment pictogram | Aquatic toxicity.Not covered within the scope of workplace hazardous chemicals requirements | Image of GHS environment pictogram | Environmentalhazard |
| No equivalent hazard pictogram |  | Image of miscellaneous dangerous goods class label | Miscellaneous dangerous goods |
|  |  |  |
| Not covered within the scope of workplace hazardous chemicals requirements | Image of infectious class label | Infectious |
| Not covered within the scope of workplace hazardous chemicals requirements  | Image of radioactive class label | Radioactive |

# APPENDIX H – EXAMPLE LABELS

This appendix contains example labels that have been produced in accordance with the labelling system described in this Code (in some cases they have been reduced in size for the purpose of presenting in this document). Examples 1-4 are prepared for a hypothetical hazardous mixture, *Flammosol*. *Flammosol* contains 95% aliphatic hydrocarbons and 5% toxicole and is classified as
a flammable liquid (Category 2), acute toxicity – oral (Category 3) and skin corrosion/irritation (Category 2).

**Note:** it is assumed that toxicole is an acceptable technical name.

**Example 1: *Flammosol* label containing the full set of workplace labelling information**

The general precautionary statements ‘Read label before use’ and ‘Keep out of reach of children’ have been included. Inclusion of these statements is not mandatory. In accordance with precedence rules described in Appendix E, the exclamation mark hazard pictogram and ‘Warning’ signal word have been omitted and duplicate precautionary statements have not been included.

|  |
| --- |
| Read label before use. Keep out of reach of children  |
| **Flammosol****FLAMMABLE LIQUID, TOXIC N.O.S.****(aliphatic hydrocarbons, toxicole)** |
| **UN 1992**Contains:Aliphatic hydrocarbons 95%Toxicole 5%  | **4 L**  |
| Image of GHS flame pictogram Image of GHS skull and crossbones pictogram | **DANGER** **Highly flammable liquid and vapour** **Toxic if swallowed** **Causes skin irritation**  |
|  |  |
| IF ON SKIN (or hair): Take off contaminated clothing and wash before re-use. | In case of fire: Use powder for extinction.  |
| Rinse skin using plenty of soap and water. | Keep away from sparks and open flames. – No smoking.  |
| If skin irritation occurs: Get medical advice/attention. | Keep container tightly closed. |
| IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician. | Ground/bond container and receiving equipment. |
| Rinse mouth. | Use explosion-proof electrical equipment. |
|  | Use only non-sparking tools. |
|  | Take precautionary measures against static discharge. |
| Store locked up in a well-ventilated place. Keep cool. | Wear protective gloves and eye and face protection. |
|  | Wash hands thoroughly after handling. |
| Dispose of contents/container in accordance with Jurisdictional regulations. | Do not eat, drink or smoke when using this product. |
| Refer to the Safety Data Sheet before use. Madeup Chemical Company, 999 Chemical Street, Chemical Town, My State. Telephone: 1300 000 000 www.madeup-chemical-company.com.au |

**Example 2: *Flammosol* label containing the full set of workplace labelling information using 2 separate panels**

**Front panel**

|  |
| --- |
| Read label before use. Keep out of reach of children |
| **Flammosol****FLAMMABLE LIQUID, TOXIC N.O.S.** **(aliphatic hydrocarbons, toxicole)** |
| **UN 1992**Contains:Aliphatic hydrocarbons 95%Toxicole 5% | **4 L**  |
| Image of GHS flame pictogramImage of GHS skull and crossbones pictogram | **DANGER** **Highly flammable liquid and vapour** **Toxic if swallowed** **Causes skin irritation**  |
| Madeup Chemical Company, 999 Chemical Street, Chemical Town, My State. Telephone: 1300 000 000www.madeup-chemical-company.com.au |

**Back panel**

|  |
| --- |
| IF ON SKIN (or hair): Take off contaminated clothing and wash before re-use.Rinse skin using plenty of soap and water.  |
| If skin irritation occurs: Get medical advice/attention. |
| IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician. |
| Rinse mouth. |
| In case of fire: Use powder for extinction.  |
| Keep away from sparks and open flames. – No smoking.  |
| Keep container tightly closed. |
| Ground/bond container and receiving equipment. |
| Use explosion-proof electrical equipment. |
| Use only non-sparking tools. |
| Take precautionary measures against static discharge. |
| Wear protective gloves and eye and face protection. |
| Wash hands thoroughly after handling. |
| Do not eat, drink or smoke when using this product. |
| Store locked up in a well-ventilated place. Keep cool. |
| Dispose of contents/container in accordance with Jurisdictional Regulations. |
| Refer to the Safety Data Sheet before use.  |

**Example 3: *Flammosol* label that meets both transport and workplace labelling requirements (single container)**

The equivalent dangerous goods (transport) classification for *Flammosol* is a class 3 (flammable liquid, packing group II) and a class 6.1 (oral toxicity, packing group III). The transport markings should be in the most prominent position on the container and should be clearly distinguishable from the workplace labelling. Hazard pictograms are not included on the workplace label panel as the equivalent class labels appear on the transport panel.

**Transport markings label portion (to comply with transport Regulations)**

|  |
| --- |
| **Flammosol****FLAMMABLE LIQUID, TOXIC N.O.S.****(aliphatic hydrocarbons, toxicole)** |
| **UN 1992** | Flammable liquid class labelImage of toxic class label |
| Madeup Chemical Company, 999 Chemical Street, Chemical Town, My State.  |

**Workplace information label panel:**

|  |  |
| --- | --- |
| **Flammosol** | Contains:Aliphatic hydrocarbon 95%Toxicole 5% |
| **DANGER** **Highly flammable liquid and vapour****Toxic if swallowed** **Causes skin irritation** | **4 L** |
| IF ON SKIN (or hair): Take off contaminated clothing and wash before re-use.Rinse skin using plenty of soap and water.  |
| If skin irritation occurs: Get medical advice/attention. |
| IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician. Rinse mouth |
| In case of fire: Use powder for extinction.  |
| Keep away from sparks and open flames. – No smoking.  |
| Keep container tightly closed. |
| Ground/bond container and receiving equipment. |
| Use explosion-proof electrical equipment. |
| Use only non-sparking tools. |
| Take precautionary measures against static discharge. |
| Wear protective gloves and eye and face protection. |
| Wash hands thoroughly after handling. |
| Do not eat, drink or smoke when using this product. |
| Store locked up in a well-ventilated place. Keep cool. |
| Dispose of contents/container in accordance with Jurisdictional Regulations. |
| Madeup Chemical Company, 999 Chemical Street, Chemical Town, My State. Telephone: 1300 000 000 www.madeup-chemical-company.com.au  |

**Example 4: *Flammosol* labels that are appropriate for small containers**

The amount of information included on the label of a small container will vary, and be dependent on the size and shape of the container; and the number of label elements to be included, particularly where the hazardous chemical meets the criteria for multiple hazard classes. As a mandatory minimum, small containers must be labelled with the product identifier, manufacturer or importer information and hazard pictograms or hazard statements. Labels for small containers or packages must include as much labelling information as reasonably practicable

1. This example contains the minimum labelling information permitted and a reference to the safety data sheet.

|  |  |
| --- | --- |
| **Flammosol** | Image of GHS flame pictogram Image of GHS skull and crossbones pictogram |
| Refer to the Safety Data Sheet before use. Madeup Chemical Company, 999 Chemical Street, Chemical Town, My State.Telephone: 1300 000 000 |

1. This label has sufficient room to include additional labelling information. Following the guidance provided in Appendix E, hazard statements, the identity and proportions of the hazardous ingredients, critical first aid instructions and reference to the safety data sheet have been included.

|  |  |  |
| --- | --- | --- |
| **Flammosol**Contains:Hydrocarbon solvent 95%Toxicole 5% | **Highly flammable liquid and vapour** **Toxic if swallowed** **Causes skin irritation**  | Image of GHS flame pictogram Image of GHS skull and crossbones pictogram |
| IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician. |
| Rinse mouth. |
| Additional information is listed in the Safety Data Sheet |
| Madeup Chemical Company, 999 Chemical Street, Chemical Town, My State. Telephone: 1300 000 000 |

**Example 5: Example labels for hazardous waste**

1. ***Hazardous Waste label that meets both transport and workplace labelling requirements (single container)***

Selected precautionary statements relating to first aid instructions, accident prevention and personal protective equipment and disposal advice have been included. Hazard pictograms have not been included as the corresponding transport class labels already appear. The generic type of waste solvent is expected to be known e.g.alcohols, esters, ketones, aliphatic hydrocarbons, aromatic hydrocarbons or chlorinated hydrocarbons.

|  |
| --- |
| **Flammable Toxic Waste - Batch 1****FLAMMABLE LIQUID, TOXIC N.O.S.****(hydrocarbons, organotin compound)** |
| **UN 1992** | Flammable liquid class labelImage of toxic class label |
| Contains Mixed aromatic and aliphatic hydrocarbons (90%)Alkyl tin (5%) |
| **Flammable liquid and vapour****Toxic if swallowed** |
|  |
| IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician. |
|  |
|  |  |
| Keep away from ignitions sources. – No smoking. |  |
| In case of fire: Use powder for extinction. |  |
| Wear protective gloves, eye and face protection. |  |
|  |  |
| Dispose of contents in accordance with Jurisdictional Regulations  |  |
|  |  |
| Madeup Chemical Company, 999 Chemical Street, Chemical Town, My State. Telephone: 1300 000 000www.madeup-chemical-company.com.au  |

1. ***Hazardous Waste label that meets workplace labelling requirements and transport inner packaging requirements***

The main differences between this and the previous example are that hazard pictograms are used and the proper shipping name and UN number are not included.

|  |  |
| --- | --- |
| **Flammable Toxic Waste – Batch 1** | Image of GHS flame pictogramImage of GHS skull and crossbones pictogram |
| Contains Mixed aromatic and aliphatic hydrocarbons (90%)Alkyl tin (5%) |
| **Flammable liquid and vapour****Toxic if swallowed** |
|  |
| IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician. |
| Keep away from ignitions sources. – No smoking. |  |
| In case of fire: Use powder for extinction. |  |
| Wear protective gloves, eye and face protection. |  |
| Dispose of contents in accordance with Jurisdictional Regulations  |  |
| Madeup Chemical Company, 999 Chemical Street, Chemical Town, My State. Telephone: 1300 000 000www.madeup-chemical-company.com.au  |

1. ***Labelling of hydrochloric acid waste that meets workplace labelling requirements and transport inner packaging requirements***

|  |
| --- |
| **Hydrochloric acid waste** |
| Image of GHS corrosion pictogram | **May be corrosive to metals****Causes serious eye damage** |
|  |
| Wear eye/face protection |
| IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.  |
| Immediately call a POISON CENTRE or doctor/physician. |
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***Example 6: Example labels for research chemicals or samples for analysis***

1. In this example, the chemical identity and some of the hazardous properties are known, and are therefore, included on the label.

|  |  |
| --- | --- |
| A.B. Researcher**Aromatic amide** |  |
| Image of the chemical structure of aromatic amide | **WARNING**Causes serious eye irritationCauses skin irritation |

1. In this example, the identity of the chemical is known. However, the hazardous properties have not been determined.

|  |  |
| --- | --- |
| A.B. Researcher**Phenolic aldehyde** |  |
| Image of the chemical structure of phenolic aldehyde (vanillin) | **CAUTION**Unknown properties |

Note: For examples 6(a) and 6(b), a generic name in accordance with Appendix C *should* be used, as chemical structures are difficult to communicate in the event of an incident.

1. In the following example, neither the identity nor the hazardous properties of the substance are known.

|  |  |
| --- | --- |
| ABR14b(Uncharacterised substance) | **CAUTION**Unknown properties |

## Example 7: Example labels for a substance not otherwise classifiable under the GHS.

The following two example labels are for carbon dioxide (dry ice). Dry ice does not meet any of the hazard categories of the GHS, and therefore cannot be assigned any label elements. However there are health and safety issues associated with the handling, use and storage of dry ice and information on these hazards should be included on labels.

1. The following label meets road transport labelling requirements. It also meets workplace labelling requirements as it includes other health and safety information that are applicable to its workplace storage, handling and use.

|  |
| --- |
| **CARBON DIOXIDE, SOLID (dry ice)**  |
| **UN 1845****2.5 kg net** | Image of miscellaneous dangerous goods class label |
| Asphyxiation hazard:  |
| Use only in well ventilated area |
| Wear gloves and eye protection |
| Madeup Chemical Company, 999 Chemical Street, Chemical Town, My State. Telephone: 1300 000 000 |

1. The following label meets workplace labelling requirements and road transport inner packaging requirements. No hazard pictograms or class labels are present. However, health and safety information relating to storage, handling and use in the workplace is included.

|  |
| --- |
| **Dry Ice (solid CO2)**  |
| **2 kg net** |
| Asphyxiation hazard:  |  |
| Use only in well ventilated area |
| Wear gloves and eye protection |
| Madeup Chemical Company, 999 Chemical Street, Chemical Town, My State. Telephone: 1300 000 000 |

#

# APPENDIX I – OTHER RELEVANT INFORMATION

* [ADG Code, class labels and publication](http://www.ntc.gov.au/heavy-vehicles/safety/australian-dangerous-goods-code/) information

www.ntc.gov.au/heavy-vehicles/safety/australian-dangerous-goods-code/

* [Model Code of Practice: *Preparation of Safety Data Sheets*](http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/safety-data-sheets-hazardous-chemicals-cop)

www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/safety-data-sheets-hazardous-chemicals-cop

* [GHS hazard pictograms](http://www.unece.org/trans/danger/publi/ghs/pictograms.html) for download

www.unece.org/trans/danger/publi/ghs/pictograms.html

* [GHS revision 3 – Official text and corrigenda](http://www.unece.org/trans/danger/publi/ghs/ghs_welcome_e.html):

www.unece.org/trans/danger/publi/ghs/ghs\_welcome\_e.html

* [Labelling codes for Agricultural and Veterinary chemicals](http://apvma.gov.au/registrations-and-permits/labelling-codes)

apvma.gov.au/registrations-and-permits/labelling-codes

* [SUSMP](http://www.tga.gov.au/industry/scheduling-poisons-standard.htm) publication information

www.tga.gov.au/industry/scheduling-poisons-standard.htm

* [UN Model Regulations for the Transport of Dangerous Goods](http://www.unece.org/trans/danger/danger.html)

www.unece.org/trans/danger/danger.html

1. GHS pictograms can be downloaded from the [GHS website](http://www.unece.org/trans/danger/publi/ghs/pictograms.html) at www.unece.org/trans/danger/publi/ghs/pictograms.html or *via* the [GHS homepage](http://www.unece.org/trans/danger/publi/ghs/ghs_welcome_e.html) at www.unece.org/trans/danger/publi/ghs/ghs\_welcome\_e.html.
Transport of Dangerous Goods class labels can be downloaded from the
 [National Transport Commission](http://www.ntc.gov.au/heavy-vehicles/safety/australian-dangerous-goods-code/) website at
http://www.ntc.gov.au/heavy-vehicles/safety/australian-dangerous-goods-code/ [↑](#footnote-ref-1)
2. Dangerous goods that are labelled to comply with transport requirements and are stored in
a workplace may also need to comply with requirements as specified in *the Australian Code
for the Transport of Dangerous Goods by Road and Rail* (ADG Code). [↑](#footnote-ref-2)
3. *ISO TS 80004-1:2010 Nanotechnologies- Vocabulary-Part 1: Core Terms* provides the following definitions:

	* Nanomaterial – material with any external dimension in the nanoscale or having internal structure or surface structure in the nanoscale
	* Engineered nanomaterial – nanomaterial designed for a specific purpose or function
	* Manufactured nanomaterial – nanomaterial intentionally produced for commercial purposes to have specific properties or specific composition
	* Nanoscale – size range from approximately 1nm to 100 nm. [↑](#footnote-ref-3)