# Safety data sheet

acc. to Safe Work Australia - Code of Practice

**2,2,2-Trifluoroethanol >99,8 %, for synthesis**

article number: **CP29**
Version: **GHS 2.0 en**
Replaces version of: 2021-09-28
Version: (GHS 1)

date of compilation: 2021-09-28
Revision: 2024-03-02

## SECTION 1: Identification of the substance/mixture and of the company/ undertaking

### 1.1 Product identifier

| | |
|---|---|
| Identification of the substance | **2,2,2-Trifluoroethanol** >99,8 %, for synthesis |
| Article number | CP29 |
| CAS number | 75-89-8 |

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

| | |
|---|---|
| Relevant identified uses: | Laboratory chemical<br>Laboratory and analytical use |
| Uses advised against: | Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household). Food, drink and animal feeding-stuffs. |

### 1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co. KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany

**Telephone:**+49 (0) 721 - 56 06 0
**Telefax:** +49 (0) 721 - 56 06 149
**e-mail:** sicherheit@carlroth.de
**Website:** www.carlroth.de

| | |
|---|---|
| Competent person responsible for the safety data sheet: | Department Health, Safety and Environment |
| **e-mail (competent person):** | **sicherheit@carlroth.de** |

### 1.4 Emergency telephone number

| Name | Street | Postal code/city | Telephone | Website |
|---|---|---|---|---|
| NSW Poisons Information Centre Childrens Hospital | Hawkesbury Road | 2145 West-mead, NSW | 131126 | |

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Classification acc. to GHS**

| Section | Hazard class | Cat-egory | Hazard class and category | Hazard statement |
|---|---|---|---|---|
| 2.6 | Flammable liquid | 3 | Flam. Liq. 3 | H226 |
| 3.1O | Acute toxicity (oral) | 3 | Acute Tox. 3 | H301 |
| 3.1I | Acute toxicity (inhal.) | 3 | Acute Tox. 3 | H331 |
| 3.3 | Serious eye damage/eye irritation | 1 | Eye Dam. 1 | H318 |

| Section | Hazard class | Cat-egory | Hazard class and category | Hazard statement |
|---|---|---|---|---|
| 3.7 | Reproductive toxicity | 1B | Repr. 1B | H360F |
| 3.9 | Specific target organ toxicity - repeated exposure | 2 | STOT RE 2 | H373 |

For full text of abbreviations: see SECTION 16

**The most important adverse physicochemical, human health and environmental effects**

Delayed or immediate effects can be expected after short or long-term exposure. The product is combustible and can be ignited by potential ignition sources.

## 2.2 Label elements

**Labelling**

**Signal word** **Danger**

**Pictograms**

GHS02, GHS05, GHS06, GHS08

**Hazard statements**

| | |
|---|---|
| H226 | Flammable liquid and vapour |
| H301+H331 | Toxic if swallowed or if inhaled |
| H318 | Causes serious eye damage |
| H360F | May damage fertility |
| H373 | May cause damage to organs (blood) through prolonged or repeated exposure |

**Precautionary statements**

**Precautionary statements - prevention**

| | |
|---|---|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking |
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray |

**Precautionary statements - response**

| | |
|---|---|
| P301+P310 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing |
| P370+P378 | In case of fire: Use sand, carbon dioxide or powder extinguisher for extinction |

**Precautionary statements - storage**

| | |
|---|---|
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed |
| P403+P235 | Store in a well-ventilated place. Keep cool |

For professional users only

### 2.3 Other hazards

**Results of PBT and vPvB assessment**

According to the results of its assessment, this substance is not a PBT or a vPvB.

**Endocrine disrupting properties**

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

| | |
|---|---|
| Name of substance | 2,2,2-Trifluoroethanol |
| Molecular formula | $C_2H_3F_3O$ |
| Molar mass | 100 $^{g}/_{mol}$ |
| CAS No | 75-89-8 |

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**General notes**

Self-protection of the first aider.

**Following inhalation**

Call a physician immediately. If breathing is irregular or stopped, administer artificial respiration.

**Following skin contact**

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

**Following eye contact**

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

**Following ingestion**

Rinse mouth immediately and drink plenty of water. Call a physician immediately. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

### 4.2 Most important symptoms and effects, both acute and delayed

Risk of blindness, Risk of serious damage to eyes

### 4.3 Indication of any immediate medical attention and special treatment needed

none

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media**

co-ordinate firefighting measures to the fire surroundings!
water spray, dry extinguishing powder, BC-powder, carbon dioxide ($CO_2$)

**Unsuitable extinguishing media**

water jet

### 5.2 Special hazards arising from the substance or mixture

Combustible. In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Vapours may form explosive mixtures with air.

**Hazardous combustion products**

In case of fire may be liberated: Carbon monoxide (CO), Carbon dioxide ($CO_2$)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel**

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray. Avoidance of ignition sources.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

### 6.3 Methods and material for containment and cleaning up

**Advice on how to contain a spill**

Covering of drains.

**Advice on how to clean up a spill**

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

**Other information relating to spills and releases**

Place in appropriate containers for disposal. Ventilate affected area.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Provision of sufficient ventilation. Use extractor hood (laboratory). Avoid exposure. Clear contaminated areas thoroughly.

**Measures to prevent fire as well as aerosol and dust generation**

Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharge.

**Advice on general occupational hygiene**

When using do not eat or drink. Thorough skin-cleansing after handling the product. When using do not smoke.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed.

**Incompatible substances or mixtures**

Observe hints for combined storage.

**Consideration of other advice:**

Store locked up. Ground/bond container and receiving equipment.

**Ventilation requirements**

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted. Use local and general ventilation.

**Specific designs for storage rooms or vessels**

Recommended storage temperature: 15 – 25 °C

### 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**National limit values**

**Occupational exposure limit values (Workplace Exposure Limits)**

This information is not available.

### Human health values

| Relevant DNELs and other threshold levels | | | | |
|---|---|---|---|---|
| **Endpoint** | **Threshold level** | **Protection goal, route of exposure** | **Used in** | **Exposure time** |
| DNEL | 0.1 mg/m³ | human, inhalatory | worker (industry) | chronic - local effects |
| DNEL | 0.1 mg/m³ | human, inhalatory | worker (industry) | chronic - systemic effects |
| DNEL | 0.06 mg/kg bw/ day | human, dermal | worker (industry) | chronic - systemic effects |

### Environmental values

| Relevant PNECs and other threshold levels | | | | |
|---|---|---|---|---|
| **End-point** | **Threshold level** | **Organism** | **Environmental com-partment** | **Exposure time** |
| PNEC | 0.119 $^{mg}/_{l}$ | aquatic organisms | freshwater | short-term (single instance) |
| PNEC | 11.9 $^{µg}/_{l}$ | aquatic organisms | marine water | short-term (single instance) |
| PNEC | 100 $^{mg}/_{l}$ | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |
| PNEC | 0.486 $^{mg}/_{kg}$ | aquatic organisms | freshwater sediment | short-term (single instance) |
| PNEC | 48.6 $^{µg}/_{kg}$ | aquatic organisms | marine sediment | short-term (single instance) |
| PNEC | 27.3 $^{µg}/_{kg}$ | terrestrial organisms | soil | short-term (single instance) |

## 8.2 Exposure controls

### Individual protection measures (personal protective equipment)

### Eye/face protection

Use safety goggle with side protection.

### Skin protection

**• hand protection**

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

**• type of material**

NBR (Nitrile rubber)

**• material thickness**

>0,11 mm

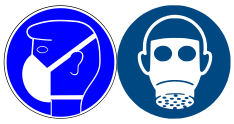
**• breakthrough times of the glove material**

>480 minutes (permeation: level 6)

**• other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

**Respiratory protection**



Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of > 65 °C , colour code: Brown).

**Environmental exposure controls**

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| Physical state | liquid |
| Colour | colourless |
| Odour | characteristic |
| Melting point/freezing point | -45 – -43.5 °C |
| Boiling point or initial boiling point and boiling range | 73 – 77 °C |
| Flammability | flammable liquid in accordance with GHS criteria |
| Lower and upper explosion limit | 8.4 vol% (LEL) - 28.8 vol% (UEL) |
| Flash point | 29 °C |
| Auto-ignition temperature | 450 °C (ECHA) |
| Decomposition temperature | not relevant |
| pH (value) | 5 – 7.5 (20 °C) |
| Kinematic viscosity | 1.245 $^{mm^2}/_{s}$ at 25 °C |
| Dynamic viscosity | 1.722 mPa s at 25 °C |
| Solubility(ies) | |
| Water solubility | (soluble) |
| Partition coefficient | |
| Partition coefficient n-octanol/water (log value): | 0.3 (25 °C) (ECHA) (OECD Prüfrichtlinie 117) |

| | |
|---|---|
| Vapour pressure | 72 hPa at 20 °C<br>93 hPa at 25 °C |
| Density and/or relative density | |
| Density | 1.383 $^{g}/_{cm^3}$ at 25 °C (ECHA) |
| Relative vapour density | 3.46 (air = 1) |
| Particle characteristics | not relevant (liquid) |
| Other safety parameters | |
| Oxidising properties | none |

**9.2 Other information**

| | |
|---|---|
| Information with regard to physical hazard classes: | There is no additional information. |
| Other safety characteristics: | |
| Surface tension | 69.3 $^{mN}/_{m}$ (20 °C) (ECHA) |

## SECTION 10: Stability and reactivity

**10.1 Reactivity**

It's a reactive substance. Risk of ignition.

**If heated**

Risk of ignition. Vapours may form explosive mixtures with air.

**10.2 Chemical stability**

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**10.3 Possibility of hazardous reactions**

**Violent reaction with:** strong oxidiser

**10.4 Conditions to avoid**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**10.5 Incompatible materials**

There is no additional information.

**10.6 Hazardous decomposition products**

Hazardous combustion products: see section 5.

# SECTION 11: Toxicological information

## 11.1 Information on toxicological effects

### Classification acc. to GHS

### Acute toxicity

Toxic if swallowed. Toxic if inhaled.
GHS of the United Nations, annex 4. May be harmful in contact with skin.

**Acute toxicity**

| Exposure route | Endpoint | Value | Species | Method | Source |
|---|---|---|---|---|---|
| inhalation: vapour | LC50 | 2.9 $^{mg}/_{l}$/4h | rat | | |
| oral | LD50 | 153 $^{mg}/_{kg}$ | rat | | ECHA |
| dermal | LD50 | >2,000 $^{mg}/_{kg}$ | rat | | ECHA |

### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

### Serious eye damage/eye irritation

Causes serious eye damage.

### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

### Carcinogenicity

Shall not be classified as carcinogenic.

### Reproductive toxicity

May damage fertility.

### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

### Specific target organ toxicity - repeated exposure

May cause damage to organs (blood) through prolonged or repeated exposure.

| Hazard category | Target organ | Exposure route |
|---|---|---|
| 2 | blood | if exposed |

### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

### Symptoms related to the physical, chemical and toxicological characteristics

**• If swallowed**

Data are not available.

**• If in eyes**

Causes serious eye damage, risk of blindness

**• If inhaled**

Data are not available.

**• If on skin**

Data are not available.

**• Other information**

none

### 11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

## SECTION 12: Ecological information

### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

**Aquatic toxicity (acute)**

| Endpoint | Value | Species | Source | Exposure time |
|---|---|---|---|---|
| LC50 | 119 $^{mg}/_{l}$ | fish | ECHA | 96 h |
| EC50 | 119 $^{mg}/_{l}$ | fish | ECHA | 96 h |
| ErC50 | >974 $^{mg}/_{l}$ | algae | ECHA | 72 h |

**Aquatic toxicity (chronic)**

| Endpoint | Value | Species | Source | Exposure time |
|---|---|---|---|---|
| EC50 | >1,000 $^{mg}/_{l}$ | microorganisms | ECHA | 3 h |

### 12.2 Persistence and degradability

Theoretical Oxygen Demand: 0.7197 $^{mg}/_{mg}$
Theoretical Carbon Dioxide: 0.8798 $^{mg}/_{mg}$

**Biodegradation**

Not readily biodegradable.

**Process of degradability**

| Process | Degradation rate | Time |
|---|---|---|
| carbon dioxide generation | -0.5 % | 28 d |

### 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

| | |
|---|---|
| n-octanol/water (log KOW) | 0.3 (25 °C) (ECHA) (OECD Prüfrichtlinie 117) |

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Sewage disposal-relevant information**

Do not empty into drains.

**Waste treatment of containers/packagings**

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

**Relevant provisions relating to waste(Basel Convention)**

**Properties of waste which render it hazardous**

| | |
|---|---|
| **H3** | Flammable liquids |
| **H11** | Toxic (Delayed or chronic) |

### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

## SECTION 14: Transport information

### 14.1 UN number

| | |
|---|---|
| **UN RTDG** | UN 1992 |
| IMDG-Code | UN 1992 |
| ICAO-TI | UN 1992 |

### 14.2 UN proper shipping name

| | |
|---|---|
| **UN RTDG** | FLAMMABLE LIQUID, TOXIC, N.O.S. |
| IMDG-Code | FLAMMABLE LIQUID, TOXIC, N.O.S. |
| ICAO-TI | Flammable liquid, toxic, n.o.s. |
| Technical name | 2,2,2-Trifluoroethanol |

### 14.3 Transport hazard class(es)

| | |
|---|---|
| **UN RTDG** | 3<br>(6.1) |

| | | |
|---|---|---|
| | IMDG-Code | 3 (6.1) |
| | ICAO-TI | 3 (6.1) |
| **14.4** | **Packing group** | |
| | **UN RTDG** | III |
| | IMDG-Code | III |
| | ICAO-TI | III |
| **14.5** | **Environmental hazards** | non-environmentally hazardous acc. to the dangerous goods regulations |

**14.6 Special precautions for user**

There is no additional information.

**14.7 Transport in bulk according to IMO instruments**

The cargo is not intended to be carried in bulk.

**14.8 Information for each of the UN Model Regulations**

**Transport informationNational regulationsAdditional information(UN RTDG)**

| | |
|---|---|
| **UN number** | 1992 |
| **Class** | 3 |
| **Subsidiary risk(s)** | 6.1 |
| **Packing group** | III |
| **Danger label(s)** | 3+6.1 |

| | |
|---|---|
| **Special provisions (SP)** | 223, 274<br>UN RTDG |
| **Excepted quantities (EQ)** | E1<br>UN RTDG |
| **Limited quantities (LQ)** | 5 L<br>UN RTDG |
| **Emergency Action Code** | 3W |

**International Maritime Dangerous Goods Code (IMDG) - Additional information**

| | |
|---|---|
| Proper shipping name | FLAMMABLE LIQUID, TOXIC, N.O.S. |
| Particulars in the shipper's declaration | UN1992, FLAMMABLE LIQUID, TOXIC, N.O.S., (2,2,2-Trifluoroethanol), 3 (6.1), III, 29°C c.c. |
| Marine pollutant | - |
| Danger label(s) | 3+6.1 |

| | |
|---|---|
| Special provisions (SP) | 223, 274 |
| Excepted quantities (EQ) | E1 |

| | |
|---|---|
| Limited quantities (LQ) | 5 L |
| EmS | F-E, S-D |
| Stowage category | A |

**International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information**

| | |
|---|---|
| Proper shipping name | Flammable liquid, toxic, n.o.s. |
| Particulars in the shipper's declaration | UN1992, Flammable liquid, toxic, n.o.s., (2,2,2-Trifluoroethanol), 3 (6.1), III |
| Danger label(s) | 3+6.1 |

| | |
|---|---|
| Special provisions (SP) | A3 |
| Excepted quantities (EQ) | E1 |
| Limited quantities (LQ) | 2 L |

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

There is no additional information.

**National regulations(Australia)**

**Australian Inventory of Chemical Substances(AICS)**

Substance is listed.

**Other information**

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

**National inventories**

| Country | Inventory | Status |
|---|---|---|
| AU | AIIC | substance is listed |
| CA | DSL | substance is listed |
| CN | IECSC | substance is listed |
| EU | ECSI | substance is listed |
| EU | REACH Reg. | substance is listed |
| JP | CSCL-ENCS | substance is listed |
| JP | ISHA-ENCS | substance is listed |
| KR | KECI | substance is listed |
| MX | INSQ | substance is listed |
| NZ | NZIoC | substance is listed |
| PH | PICCS | substance is listed |
| TW | TCSI | substance is listed |

| Country | Inventory | Status |
|---|---|---|
| US | TSCA | substance is listed (ACTIVE) |
| VN | NCI | substance is listed |

**Legend**

| | |
|---|---|
| AIIC | Australian Inventory of Industrial Chemicals |
| CSCL-ENCS | List of Existing and New Chemical Substances (CSCL-ENCS) |
| DSL | Domestic Substances List (DSL) |
| ECSI | EC Substance Inventory (EINECS, ELINCS, NLP) |
| IECSC | Inventory of Existing Chemical Substances Produced or Imported in China |
| INSQ | National Inventory of Chemical Substances |
| ISHA-ENCS | Inventory of Existing and New Chemical Substances (ISHA-ENCS) |
| KECI | Korea Existing Chemicals Inventory |
| NCI | National Chemical Inventory |
| NZIoC | New Zealand Inventory of Chemicals |
| PICCS | Philippine Inventory of Chemicals and Chemical Substances (PICCS) |
| REACH Reg. | REACH registered substances |
| TCSI | Taiwan Chemical Substance Inventory |
| TSCA | Toxic Substance Control Act |

### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

## SECTION 16: Other information

### Indication of changes (revised safety data sheet)

| Section | Former entry (text/value) | Actual entry (text/value) | Safety-relev-ant |
|---|---|---|---|
| 2.2 | | Hazard statements:<br>change in the listing (table) | yes |
| 2.3 | | Endocrine disrupting properties:<br>Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%. | yes |
| 14.8 | | Emergency Action Code:<br>3W | yes |
| 15.1 | | National inventories:<br>change in the listing (table) | yes |

### Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
|---|---|
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| DNEL | Derived No-Effect Level |
| EC50 | Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval |
| ED | Endocrine disruptor |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| EmS | Emergency Schedule |
| ErC50 | ≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control |

| Abbr. | Descriptions of used abbreviations |
|---|---|
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| IATA | International Air Transport Association |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA) |
| ICAO | International Civil Aviation Organization |
| ICAO-TI | Technical instructions for the safe transport of dangerous goods by air |
| IMDG | International Maritime Dangerous Goods Code |
| IMDG-Code | International Maritime Dangerous Goods Code |
| LC50 | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval |
| LD50 | Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval |
| LEL | Lower explosion limit (LEL) |
| NLP | No-Longer Polymer |
| PBT | Persistent, Bioaccumulative and Toxic |
| PNEC | Predicted No-Effect Concentration |
| UEL | Upper explosion limit (UEL) |
| UN RTDG | UN Recommendations on the Transport of Dangerous Good |
| vPvB | Very Persistent and very Bioaccumulative |

### Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### List of relevant phrases (code and full text as stated in section 2 and 3)

| Code | Text |
|---|---|
| H226 | Flammable liquid and vapour. |
| H301 | Toxic if swallowed. |
| H318 | Causes serious eye damage. |
| H331 | Toxic if inhaled. |
| H360F | May damage fertility. |
| H373 | May cause damage to organs (blood) through prolonged or repeated exposure. |

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.