

Classified as hazardous in accordance with the criteria of EPA New Zealand

## Section 1 - Identification

### Product Identifier

**Product Name** Formaldehyde (Formalin) solution 37-40% in MeOH

**Recommended Use** Laboratory chemicals.  
**Uses advised against** No Information available

<b>Product Code</b>	PAUFORMALIN
<b>Address</b>	Thermo Fisher Scientific New Zealand Ltd 244 Bush Road, Albany, Auckland, New Zealand
<b>Emergency Tel.</b>	CHEMTREC® 09 980 6780 or +64 9 980 6780
<b>Telephone / Fax Numbers</b>	Tel: 09 980 6700 Fax: 09 980 6788
<b>E-mail address</b>	ANZinfo@thermofisher.com

## Section 2 - Hazard(s) Identification

### Classification under Work Safe New Zealand

Classified as hazardous in accordance with the criteria of EPA New Zealand

**HSNO Approval Number** HSR001162

### GHS Classification

#### Physical hazards

Based on available data, the classification criteria are not met

#### Health hazards

Acute Oral Toxicity	Category 3
Acute Dermal Toxicity	Category 3
Acute Inhalation Toxicity - Vapors	Category 3
Skin Corrosion/Irritation	Category 1 B
Serious Eye Damage/Eye Irritation	Category 1
Skin Sensitization	Category 1
Germ Cell Mutagenicity	Category 2
Carcinogenicity	Category 1B
Reproductive Toxicity	Category 2
Specific target organ toxicity - (single exposure)	Category 1

#### Environmental hazards

Based on available data, the classification criteria are not met

**Label Elements**



**Signal Word**

**Danger**

**Hazard Statements**

H314 - Causes severe skin burns and eye damage  
H317 - May cause an allergic skin reaction  
H341 - Suspected of causing genetic defects if inhaled  
H350 - May cause cancer  
H370 - Causes damage to organs  
H361 - Suspected of damaging fertility or the unborn child  
H301 + H311 + H331 - Toxic if swallowed, in contact with skin or if inhaled

**Precautionary Statements**

**Prevention**

P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P271 - Use only outdoors or in a well-ventilated area  
P272 - Contaminated work clothing should not be allowed out of the workplace  
P280 - Wear protective gloves

**Response**

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
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  
P330 - Rinse mouth  
P331 - Do NOT induce vomiting  
P363 - Wash contaminated clothing before reuse

**Storage**

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

**Disposal**

P501 - Dispose of contents/ container to an approved waste disposal plant

**Other hazards which do not result in classification**

This product does not contain any known or suspected endocrine disruptors

## Section 3 - Composition and Information on Ingredients

Component	CAS No	Weight %
Water	7732-18-5	To balance
Formaldehyde	50-00-0	30-60
Methyl alcohol	67-56-1	0-10

## Section 4 - First Aid Measures

**Description of first aid measures**

<b>General Advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>New Zealand Emergency Tel.</b>	CHEMTREC® 09 980 6780 or +64 9 980 6780
<b>Inhalation</b>	Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Remove to fresh air. Immediate medical attention is required. If not breathing, give artificial respiration.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or poison control center immediately.
<b>Self-Protection of the First Aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.
<b>First Aid Facilities</b>	Eyewash, safety shower and washroom.
<b>Most important symptoms and effects</b>	Causes burns by all exposure routes. May cause allergic skin reaction. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing
<b>Notes to Physician</b>	Treat symptomatically.

## **Section 5 - Fire Fighting Measures**

**Suitable Extinguishing Media**

Water spray, carbon dioxide (CO<sub>2</sub>), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

**Extinguishing media which must not be used for safety reasons**

No information available.

**Specific Hazards Arising from the Chemical**

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes. Combustible material. Containers may explode when heated.

**Hazardous Combustion Products**

None under normal use conditions.

**Special protective equipment and precautions for fire fighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

## **Section 6 - Accidental Release Measures**

**Personal Precautions, Protective Equipment and Emergency Procedures**

**Emergency procedures**

Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Remove all sources of ignition. Take precautionary measures against static discharges.

#### Environmental Precautions

Do not flush into surface water or sanitary sewer system.

#### Methods for Containment and Clean Up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition.

#### Precautions to prevent secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations

#### Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

## Section 7 - Handling and Storage

#### Precautions for Safe Handling

##### Advice on safe handling

Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not breathe mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from open flames, hot surfaces and sources of ignition.

##### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

#### Conditions for Safe Storage, Including any Incompatibilities

##### Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area. Keep away from heat, sparks and flame.

##### Incompatible Materials

None known.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

AS 1940-2004 - The storage and handling of flammable and combustible liquids

## Section 8 - Exposure Controls and Personal Protection

#### Control parameters

##### Exposure limits

**NZ** - Workplace Exposure Standards and Biological Exposure Indices (6th edition). New Zealand Department of Labor

**UK** - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020.

**AUS** - Exposure Standards for Atmospheric Contaminants in the Occupational Environment - Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:3008(1995)]

Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)] updated in August, 2005. Safe Work Australia

**ACGIH** - Threshold Limit Values - Ceiling (TLV-C) guidelines by the American Conference of Governmental Industrial Hygienists (ACGIH) for controlling worker exposure to airborne chemical concentrations in the workplace.

Component	New Zealand WEL	Australia	ACGIH TLV	The United Kingdom
Formaldehyde	TWA: 0.3 ppm STEL: 0.6 ppm	STEL: 2 ppm STEL: 2.5 mg/m <sup>3</sup> TWA: 1 ppm TWA: 1.2 mg/m <sup>3</sup>	TWA: 0.1 ppm STEL: 0.3 ppm	STEL: 2 ppm 15 min STEL: 2.5 mg/m <sup>3</sup> 15 min TWA: 2 ppm 8 hr TWA: 2.5 mg/m <sup>3</sup> 8 hr Carc.
Methyl alcohol	TWA: 200 ppm TWA: 262 mg/m <sup>3</sup> STEL: 250 ppm STEL: 328 mg/m <sup>3</sup> Skin	STEL: 250 ppm STEL: 328 mg/m <sup>3</sup> TWA: 200 ppm TWA: 262 mg/m <sup>3</sup>	TWA: 200 ppm STEL: 250 ppm Skin	WEL - TWA: 200 ppm TWA; 266 mg/m <sup>3</sup> TWA WEL - STEL: 250 ppm STEL; 333 mg/m <sup>3</sup> STEL

### Biological limit values

**NZ** - Substances assigned Biological Exposure Indices in the New Zealand Workplace Exposure Standards and Biological Exposure Indices (6th edition). New Zealand Department of Labor

**ACGIH** - American Conference of Governmental Industrial Hygienists (ACGIH) TLVs® and BEIs®- Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices. 2022 Edition

Component	New Zealand	Australia	ACGIH - Biological Exposure Indices	United Kingdom
Methyl alcohol	15 mg/L (urine) end of shift (Methyl alcohol)		15 mg/L Medium: urine Time: end of shift Determinant: Methanol	

### Appropriate engineering controls

#### Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Individual protection measures, such as personal protective equipment

**Eye Protection** Goggles (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

**Hand Protection** Protective gloves

Glove material	Breakthrough time	Glove thickness	AUS/NZ Standard	Glove comments
Disposable gloves.	See manufacturers recommendations	-	AS/NZS 2161	(minimum requirement)

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

**Skin and body protection** Long sleeved clothing

**Respiratory Protection** Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of respiratory protective devices (or AUS/NZ equivalent)  
When RPE is used a face piece Fit Test should be conducted

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** Prevent product from entering drains. Do not allow material to contaminate ground water system.

## Section 9 - Physical and Chemical Properties

### Information on basic physical and chemical properties

<b>Physical State</b>	Liquid
<b>Appearance</b>	Clear, colorless solution
<b>Odor</b>	No information available
<b>Odor Threshold</b>	No data available
<b>pH</b>	2.4
<b>Melting Point/Range</b>	No data available

<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	No data available	
<b>Flammability (liquid)</b>	No data available	On basis of test data
<b>Flammability (solid,gas)</b>	Not applicable	Liquid
<b>Explosion Limits</b>	No data available	
<b>Flash Point</b>	85 °C / 185 °F	<b>Method -</b> No information available
<b>Autoignition Temperature</b>	No data available	
<b>Decomposition Temperature</b>	No data available	
<b>Viscosity</b>	No data available	
<b>Water Solubility</b>	Miscible	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Component</b>	<b>log Pow</b>	
Formaldehyde	-0.35	
Methyl alcohol	-0.74	
<b>Vapor Pressure</b>	No data available	
<b>Density / Specific Gravity</b>	No data available	
<b>Bulk Density</b>	Not applicable	Liquid
<b>Vapor Density</b>	No data available	(Air = 1.0)
<b>Particle characteristics</b>	Not applicable (liquid)	

#### Other information

**Explosive Properties** explosive air/vapour mixtures possible

## Section 10 - Stability and Reactivity

<b>Reactivity</b>	None known, based on information available
<b>Stability</b>	Stable under normal conditions.
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing.
<b>Conditions to Avoid</b>	Incompatible products, Excess heat, Keep away from open flames, hot surfaces and sources of ignition.
<b>Incompatible Materials</b>	None known.
<b>Hazardous Decomposition Products</b>	None under normal use conditions.

## Section 11 - Toxicological Information

#### Acute Effects

#### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	Not an expected route of exposure.
<b>Eyes</b>	Not an expected route of exposure.
<b>Skin</b>	No known effect based on information supplied.
<b>Ingestion</b>	Not an expected route of exposure.

**Numerical measures of toxicity**

- (a) acute toxicity;  
 Oral Category 3  
 Dermal Category 3  
 Inhalation Category 3

**Toxicology data for the components**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	-	-	-
Formaldehyde	500 mg/kg (Rat)	LD50 = 270 mg/kg (Rabbit)	0.578 mg/L (Rat) 4 h
Methyl alcohol	LD50 = 1187 – 2769 mg/kg (Rat)	LD50 = 17100 mg/kg (Rabbit)	LC50 = 128.2 mg/L (Rat) 4 h

- (b) skin corrosion/irritation; Category 1 B

- (c) serious eye damage/irritation; Category 1

- (d) respiratory or skin sensitization;  
 Respiratory No data available  
 Skin Category 1

Component	Test method	Test species	Study result
Formaldehyde 50-00-0 ( 30-60 )	Skin sensitization Test method Patch Test Respiratory sensitization in vitro	Man guinea pig	Sensitizer Sensitization
Methyl alcohol 67-56-1 ( 0-10 )	OECD Test Guideline 406 Guinea Pig Maximisation Test (GPMT)	guinea pig	non-sensitising

**Sensitization** No information available

- (e) germ cell mutagenicity; Category 2

- (f) carcinogenicity; Category 1B

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	New Zealand	Australia	New South Wales	Western Australia	IARC	EU	UK	Germany
Formaldehyde	Confirmed carcinogen	Cat 1B			Group 1	Carc Cat. 1B	Cat 3	

- (g) reproductive toxicity; No data available

Component	Test method	Test species / Duration	Study result
Methyl alcohol 67-56-1 ( 0-10 )	OECD Test Guideline 416	Rat / Inhalation 2 Generation	NOAEC = 1.3 mg/l (air)

- (h) STOT-single exposure; Category 1

**Results / Target organs** Optic nerve  
Central nervous system (CNS)

- (i) STOT-repeated exposure; No data available

**Target Organs** No information available.

- (j) aspiration hazard; No data available

### Symptoms / effects, both acute and delayed

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

## Section 12 - Ecological Information

### Ecotoxicity

#### Aquatic ecotoxicity

The product contains following substances which are hazardous for the environment. Contains a substance which is: Toxic to aquatic organisms.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Formaldehyde	Leuciscus idus: LC50 = 15 mg/L 96h	EC50 = 20 mg/L 96h EC50 = 2 mg/L 48h	EC50 (72h) = 4.89 mg/L (Desmodesmus subspicatus)	
Methyl alcohol	Pimephales promelas: LC50 > 10000 mg/L 96h	EC50 > 10000 mg/L 24h		EC50 = 39000 mg/L 25 min EC50 = 40000 mg/L 15 min EC50 = 43000 mg/L 5 min

#### Terrestrial ecotoxicity

Component	Earthworm	Avian	Honeybees
Methyl alcohol	Acute toxicity: LC50 > 1 mg/cm <sup>2</sup> (Eisenia foetida, 48 h, filter paper)		

### Persistence and Degradability

#### Persistence

Miscible with water, Persistence is unlikely, based on information available.

Component	Degradability
Formaldehyde 50-00-0 ( 30-60 )	Readily biodegradable (OECD guideline 301A, 301C and 301D) under aerobic and anaerobic conditions.
Methyl alcohol 67-56-1 ( 0-10 )	DT50 ~ 17.2d >94% after 20d

#### Degradation in sewage treatment plant

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

#### Bioaccumulative Potential

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Formaldehyde	-0.35	No data available
Methyl alcohol	-0.74	<10 dimensionless

#### Mobility

The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

### Other adverse effects

#### Endocrine Disruptor Information Persistent Organic Pollutant Ozone Depletion Potential

This product does not contain any known or suspected endocrine disruptors  
This product does not contain any known or suspected substance  
This product does not contain any known or suspected substance

## Section 13 - Disposal Considerations



**Waste treatment methods**

**Waste from Residues/Unused Products**

Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.

**Contaminated Packaging**

Dispose of this container to hazardous or special waste collection point.

**Other Information**

Disposal agencies or waste contractors must comply with the New Zealand Hazardous Substances (Disposal) Regulations . Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Large amounts will affect pH and harm aquatic organisms.

## **Section 14 - Transport Information**

Component	Hazchem Code
Formaldehyde 50-00-0 ( 30-60 )	2W 2X
Methyl alcohol 67-56-1 ( 0-10 )	2WE

**NZS 5433:2020**

**UN-No** UN1198  
**Proper Shipping Name** FORMALDEHYDE SOLUTION, FLAMMABLE  
**Hazard Class** 3  
**Subsidiary Hazard Class** 3, 8  
**Packing Group** III

**IATA**

**UN-No** UN1198  
**Proper Shipping Name** FORMALDEHYDE SOLUTION, FLAMMABLE  
**Hazard Class** 3  
**Subsidiary Hazard Class** 8  
**Packing Group** III

**IMDG/IMO**

**UN-No** UN1198  
**Proper Shipping Name** FORMALDEHYDE SOLUTION, FLAMMABLE  
**Hazard Class** 3  
**Subsidiary Hazard Class** 8  
**Packing Group** III

**Environmental hazards** No hazards identified

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable, packaged goods

**Special Precautions** No special precautions required. Please refer to the applicable dangerous goods regulations for additional information.

**Additional information** None known

## **Section 15 - Regulatory Information**

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

<b>HSNO Approval Number</b>	HSR001162
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### National Regulations

There are no applicable tolerable exposure limits or environmental exposure limits according to the EPA Controls for Hazardous Substances

### Certified handlers, tracking and controlled substance license requirements

Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information. Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information.

### Prohibition or notification/licensing requirements

Shown below are details of specific prohibition/notifications or licencing requirements when they apply.

Component	New Zealand
Formaldehyde	Confirmed carcinogen

### International Regulations

**Ozone Depletion Potential** This product does not contain any known or suspected substance

**Persistent Organic Pollutant** This product does not contain any known or suspected substance

**Rotterdam Convention (PIC)** Not applicable

Component	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	IMDG Marine Pollutant
Formaldehyde	5 tonne	50 tonne	
Methyl alcohol	500 tonne	5000 tonne	

### Authorisation/Restrictions according to EU REACH

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Formaldehyde	-	Use restricted. See entry 72. (see link for restriction details) Use restricted. See entry 77. (see link for restriction details) Use restricted. See entry 28. (see link for restriction details) Use restricted. See entry 75. (see link for restriction details)	-
Methyl alcohol	-	Use restricted. See entry 69. (see link for restriction details) Use restricted. See entry 75. (see link for restriction details)	-

<https://echa.europa.eu/substances-restricted-under-reach>

### International Inventories

New Zealand (NZIoC), Australia (AICS), Europe (EINECS/ELINCS/NLP), Korea (KECL), China (IECSC), Taiwan (TCSI), Japan (ENCS), Japan (ISHL), Canada (DSL/NDL), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Component	CAS No	NZIoC	AICS	EINECS	ELINCS	NLP	KECL	IECSC	TCSI
Water	7732-18-5	X	X	231-791-2	-	-	KE-35400	X	X
Formaldehyde	50-00-0	X	X	200-001-8	-	-	KE-17074	X	X
Methyl alcohol	67-56-1	X	X	200-659-6	-	-	KE-23193	X	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	PICCS	ISHL	ENCS
Water	7732-18-5	X	ACTIVE	X	-	X	-	X
Formaldehyde	50-00-0	X	ACTIVE	X	-	X	X	X
Methyl alcohol	67-56-1	X	ACTIVE	X	-	X	X	X

Legend: X - Listed '-' - Not Listed

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

## Section 16 - Other Information

This safety data sheet complies with the requirements of the EPA Hazardous Substances (Hazard Classification) Notice 2020 and WorkSafe New Zealand Regulations

### Legend

**NZIoC** - New Zealand Inventory of Chemicals

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**IECSC** - Chinese Inventory of Existing Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**NZS 5433:2020** - Transport of Dangerous Goods on Land

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**WEL** - Workplace Exposure Limit

**DNEL** - Derived No Effect Level

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**VOC** - (Volatile Organic Compound)

**AICS** - Australian Inventory of Chemical Substances

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**ENCS** - Japanese Existing and New Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**CAS** - Chemical Abstracts Service

**ACGIH** - American Conference of Governmental Industrial Hygienists

**PNEC** - Predicted No Effect Concentration

**OECD** - Organisation for Economic Co-operation and Development

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**ADG** - Australian Code for the Transport of Dangerous Goods by Road and Rail

**LC50** - Lethal Concentration 50%

**ATE** - Acute Toxicity Estimate

**RPE** - Respiratory Protective Equipment

**NOEC** - No Observed Effect Concentration

**BCF** - Bioconcentration factor

**PBT** - Persistent, Bioaccumulative, Toxic

### Key literature references and sources for data

HSNO classifications provided in the New Zealand Chemical Classification Information Database (CCID).

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadviser - LOLI, Merck index, RTECS

EPA Guide to classifying hazardous substances in New Zealand

EPA - Assigning a product to an existing HSNO approval guide

### Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

**Physical hazards** On basis of test data

**Health Hazards** Calculation method

**Environmental hazards** Calculation method

### Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

**Revision Date** 12-Mar-2025

**Revision Summary** Update to GHS format

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other

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materials or in any process, unless specified in the text

**End of Safety Data Sheet**