

## SAFETY DATA SHEET

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

### **Section 1 - Identification**

**Product Identifier** 

Product Name <u>Toluene</u>

CAS No 108-88-3

Synonyms Tol; Methylbenzene

Molecular Formula C7 H8 Molecular Weight 92.14

Recommended Use Laboratory chemicals.
Uses advised against No Information available

Product Code C32698

Address Thermo Fisher Scientific New Zealand Ltd

244 Bush Road, Albany, Auckland, New Zealand

Emergency Tel. CHEMTREC®

09 980 6780 or +64 9 980 6780

**Telephone / Fax Numbers** Tel: 09 980 6700

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## **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 HSR001227

**GHS Classification** 

Physical hazards

Flammable liquids Category 2

**Health hazards** 

**Aspiration Toxicity** Category 1 **Acute Oral Toxicity** Category 4 Acute Inhalation Toxicity - Vapors Category 4 Skin Corrosion/Irritation Category 2 Serious Eye Damage/Eye Irritation Category 2 Reproductive Toxicity Category 2 Specific target organ toxicity - (single exposure) Category 3 Specific target organ toxicity - (repeated exposure) Category 2

**Environmental hazards** 

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Chronic aquatic toxicity

Category 3

#### Label Elements



#### Signal Word

**Danger** 

#### **Hazard Statements**

- H225 Highly flammable liquid and vapor
- H304 May be fatal if swallowed and enters airways
- H315 Causes skin irritation
- H336 May cause drowsiness or dizziness
- H361 Suspected of damaging fertility or the unborn child
- H373 May cause damage to organs through prolonged or repeated exposure
- H412 Harmful to aquatic life with long lasting effects
- H319 Causes serious eye irritation
- H302 + H332 Harmful if swallowed or if inhaled

#### **Precautionary Statements**

#### Prevention

- P202 Do not handle until all safety precautions have been read and understood
- P201 Obtain special instructions before use
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
- P233 Keep container tightly closed
- P242 Use non-sparking tools
- P260 Do not breathe dust/fume/gas/mist/vapors/spray
- P240 Ground and bond container and receiving equipment
- P241 Use explosion-proof electrical/ ventilating/ lighting equipment
- P243 Take action to prevent static discharges
- P264 Wash face, hands and any exposed skin thoroughly after handling
- P271 Use only outdoors or in a well-ventilated area
- P280 Wear eye protection/ face protection

#### Response

- P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor
- 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
- P308 + P313 IF exposed or concerned: Get medical advice/attention
- P331 Do NOT induce vomiting
- P332 + P313 If skin irritation occurs: Get medical advice/attention
- P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish
- P362 + P364 Take off contaminated clothing and wash it 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

Toxic to terrestrial vertebrates

## Section 3 - Composition and Information on Ingredients

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 Component
 CAS No
 Weight %

 Toluene
 108-88-3
 <=100</td>

### **Section 4 - First Aid Measures**

Description of first aid measures

**General Advice** If symptoms persist, call a physician.

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**Inhalation** Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if

symptoms occur. Risk of serious damage to the lungs (by aspiration).

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get

medical attention.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists,

call a physician.

Ingestion Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Call

a physician or poison control center immediately. If vomiting occurs naturally, have victim

lean forward.

Self-Protection of the First Aider Ensure that medical personnel are aware of the material(s) involved, take precautions to

protect themselves and prevent spread of contamination.

First Aid Facilities Eyewash, safety shower and washroom.

Most important symptoms and

effects

Difficulty in breathing. Causes central nervous system depression: Inhalation of high vapor

concentrations may cause symptoms like headache, dizziness, tiredness, nausea and

vomiting

Notes to Physician Treat symptomatically. Smallest quantities reaching the lungs through swallowing or

subsequent vomiting may result in lung edema or pneumonia. Symptoms may be delayed.

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

#### Suitable Extinguishing Media

Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

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

Do not use water jetstream.

#### Specific Hazards Arising from the Chemical

Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

#### **Hazardous Combustion Products**

Carbon monoxide (CO), Carbon dioxide (CO2).

#### 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.

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

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

#### **Emergency procedures**

Use personal protective equipment as required. Ensure adequate ventilation. 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. Use spark-proof tools and explosion-proof equipment.

#### 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

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

#### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

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

#### **Storage Conditions**

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

#### **Incompatible Materials**

Strong oxidizing agents. Strong acids. Strong bases. Halogenated compounds.

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.

**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.

**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

Component	New Zealand WEL	Australia	ACGIH TLV	The United Kingdom
Toluene	TWA: 20 ppm	STEL: 150 ppm	TWA: 20 ppm	STEL: 100 ppm 15 min
	TWA: 75 mg/m <sup>3</sup>	STEL: 574 mg/m <sup>3</sup>		STEL: 384 mg/m <sup>3</sup> 15 min

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STEL: 100 pp STEL: 377 mg	 TWA: 50 ppm 8 hr TWA: 191 mg/m³ 8 hr
Skin	Skin

#### **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
Toluene	0.03 mg/L (urine) end of exposure or end of shift (Toluene) 0.3 mg/g creatinine (urine) end of exposure or end of shift (O-Cresol)		0.02 mg/L Medium: blood Time: prior to last shift of workweek Determinant: Toluene 0.03 mg/L Medium: urine Time: end of shift Determinant: Toluene 0.3 mg/g creatinine Medium: urine	
			Time: end of shift Determinant: o-Cresol with hydrolysis	

#### Appropriate engineering controls

#### **Engineering Measures**

Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting equipment. 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 Wear safety glasses with side shields (or goggles) (Australian/New Zealand Standard

AS/NZS 1337 - Eye protectors for Industrial applications)

Hand Protection Protective gloves

ſ	Glove material	Breakthrough time	Glove thickness	AUS/NZ Standard	Glove comments
-	Viton (R).	< 240 minutes	0.30 mm	AS/NZS 2161	Permeation rate 68 µg/cm2/min As tested
1					under EN374-3 Determination of
1					Resistance to Permeation by Chemicals
-	Viton (R)	> 480 minutes	0.70 mm		-

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

**Repiratory 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 repiratory protective devices

Recommended Filter type: Organic gases and vapours filter Type A Brown conforming to EN14387 (or AUS/NZ

equivalent)

Recommended half mask:- Valve filtering: EN405 or Half mask: EN140 plus filter, EN 141 (or AUS/NZ equivalent)

When RPE is used a face piece Fit Test should be conducted

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**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

### **Section 9 - Physical and Chemical Properties**

#### Information on basic physical and chemical properties

**Physical State** Liquid

Colorless **Appearance** Odor aromatic **Odor Threshold** 1.74 ppm

No information available -95 °C / -139 °F **Melting Point/Range Softening Point** No data available

**Boiling Point/Range** 111 °C / 231.8 °F @ 760 mmHg Flammability (liquid) Highly flammable On basis of test data

Flammability (solid,gas) Not applicable Liquid

Lower 1.2 vol% **Explosion Limits** Upper 7 vol%

**Flash Point** 4 °C / 39.2 °F

Method - No information available

535 °C / 995 °F **Autoignition Temperature Decomposition Temperature** No data available **Viscosity** 0.6 mPa.s @ 20 °C

**Water Solubility** practically insoluble 0.5 g/L @ 20°C

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Component log Pow Toluene 2.73

**Vapor Pressure** 29 mbar @ 20 °C

**Density / Specific Gravity** 0.866

**Bulk Density** Not applicable Liquid (Air = 1.0)**Vapor Density** 3.1

**Particle characteristics** Not applicable (liquid)

Other information

**Molecular Formula** C7 H8 **Molecular Weight** 92.14

**Explosive Properties** Not explosive Vapors may form explosive mixtures with air

**Oxidizing Properties** Not oxidising

**Evaporation Rate** 2.4 (Butyl acetate = 1.0)

## Section 10 - Stability and Reactivity

Reactivity None known, based on information available

Stable under normal conditions. Stability

**Sensitivity to Mechanical Impact** No information available

Sensitivity to Static Discharge No information available

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Hazardous Reactions** None under normal processing.

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**Conditions to Avoid** Incompatible products, Excess heat, Keep away from open flames, hot surfaces and

sources of ignition.

Strong oxidizing agents, Strong acids, Strong bases, Halogenated compounds. **Incompatible Materials** 

Hazardous Decomposition Products Carbon monoxide (CO). Carbon dioxide (CO2).

## **Section 11 - Toxicological Information**

#### **Acute Effects**

#### Information on likely routes of exposure

#### **Product Information**

Inhalation Irritating to respiratory system. May be harmful if inhaled. May cause drowsiness and

dizziness.

**Eyes** Irritating to eyes.

Skin Irritating to skin. Can be absorbed through skin. May be harmful in contact with skin. Ingestion

Aspiration hazard if swallowed - can enter lungs and cause damage. May be harmful if

swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Harmful if swallowed. Potential for aspiration if swallowed.

#### Numerical measures of toxicity

(a) acute toxicity;

Based on available data, the classification criteria are not met Oral **Dermal** Based on available data, the classification criteria are not met Inhalation Based on available data, the classification criteria are not met

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Toluene	> 5000 mg/kg (Rat)	12000 mg/kg (Rabbit)	26700 ppm (Rat) 1 h

(b) skin corrosion/irritation; Category 2 **OECD 404** Test method rabbit **Test species** 

Observational endpoint Irritating to skin

(c) serious eye damage/irritation; Based on available data, the classification criteria are not met

(d) respiratory or skin sensitization;

Respiratory Based on available data, the classification criteria are not met Skin Based on available data, the classification criteria are not met

Based on available data, the classification criteria are not met (e) germ cell mutagenicity;

Not mutagenic in AMES Test

(f) carcinogenicity; Based on available data, the classification criteria are not met

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; Category 2

Experiments have shown reproductive toxicity effects on laboratory animals **Reproductive Effects** 

**Developmental Effects** Developmental effects have occurred in experimental animals

**Teratogenicity** Possible risk of harm to the unborn child

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(h) STOT-single exposure; Category 3

Results / Target organs Central nervous system (CNS)

(i) STOT-repeated exposure; Category 2

Target Organs Liver, Kidney, Central nervous system (CNS), Blood, spleen, Neuropsychological effects,

Eyes, Ears.

(j) aspiration hazard; Category 1

#### Symptoms / effects, both acute and delayed

Causes central nervous system depression. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

### **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
Toluene	50-70 mg/L LC50 96 h	EC50: = 11.5 mg/L, 48h	EC50: = 12.5 mg/L, 72h	EC50 = 19.7  mg/L  30
	5-7 mg/L LC50 96 h	(Daphnia magna)	static	min
	15-19 mg/L LC50 96 h	EC50: 5.46 - 9.83 mg/L,	(Pseudokirchneriella	
	28 mg/L LC50 96 h	48h Static (Daphnia	subcapitata)	
	12 mg/L LC50 96 h	magna)	EC50: > 433 mg/L, 96h	
			(Pseudokirchneriella	
			subcapitata)	

Terrestrial ecotoxicity There is no data for this product

Persistence and Degradability Readily biodegradable

Persistence Persistence is unlikely.

Component	Degradability
Toluene	86% (20d)
108-88-3 ( <=100 )	

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)
Toluene	2.73	90

Mobility The product contains volatile organic compounds (VOC) which will evaporate easily from all

surfaces. Spillage unlikely to penetrate soil. The product is insoluble and floats on water. Is

not likely mobile in the environment due its low water solubility.

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

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## **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. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

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. Can be landfilled or incinerated, when in compliance with local regulations. Do not let this chemical enter the environment. Do not empty into drains.

## **Section 14 - Transport Information**

Component	Hazchem Code	
Toluene	3YE	
108-88-3 ( <=100 )		

#### NZS 5433:2020

**UN-No** UN1294 **Proper Shipping Name** TOLUENE

Hazard Class 3
Packing Group ||

<u>IATA</u>

UN-No UN1294 Proper Shipping Name TOLUENE

Hazard Class 3
Packing Group ||

IMDG/IMO

UN-No UN1294 Proper Shipping Name TOLUENE

Hazard Class 3
Packing Group

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**

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

HSNO Approval Number	HSR001227

#### **National Regulations**

Any applicable tolerable exposure limits and environmental exposure limits according to the EPA Controls for Hazardous Substances are listed below

Compone	nt	Tolerable Exposure Limit (TEL) Air	Tolerable Exposure Limit (TEL) Water	Tolerable Exposure Limit (TEL) Surface	Environmental Exposure Limits (EEL)
Toluene		400 μg/m³	0.8 mg/L		330 µg/L (Water)

#### 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.

#### **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

## Authorisation/Restrictions according to EU REACH

Component	. ,	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	• • •
Toluene	-	Use restricted. See item 48. (see link for restriction details) Use restricted. See item 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 (ISHL), Canada (DSL/NDSL), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

L	Component	CAS No	NZIOC	AICS	EINECS	ELINCS	NLP	KECL	IECSC	TCSI
	Toluene	108-88-3	X	Х	203-625-9	-	ı	KE-33936	Χ	Х
	Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive		DSL	NDSL	PICCS	ISHL	ENCS
t	Toluene	108-88-3	X		TIVF	Υ	_	X	Y	Y

Legend: X - Listed '-' - Not Listed KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

### **Section 16 - Other Information**

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# 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 Shins

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

 $\ensuremath{\mathbf{ADG}}$  - 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, Chemadvisor - LOLI, Merck index, RTECS

EPA Guide to classifying hazardous substances in New Zealand

EPA - Assigning a product to an existing HSNO approval guide

#### **Training Advice**

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

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Fire prevention and fighting, identifying hazards and risks, static electricity, explosive atmospheres posed by vapours and dusts. Chemical incident response training.

Revision Date 22-Mar-2023 Revision Summary Initial Release

#### **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 materials or in any process, unless specified in the text

### **End of Safety Data Sheet**

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