# SAFETY DATA SHEET

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

## Section 1 - Identification

**Product Identifier**

**Product Name** **0.1M Tetra-n-butylammonium hydroxide in toluene/methanol**

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

| | |
|---|---|
| **Product Code** | **J/8750/08, J/8750/15, J/8750/17, J/8750/24** |
| **Address** | Thermo Fisher Scientific New Zealand Ltd<br>244 Bush Road, Albany,<br>Auckland, New Zealand |
| **Emergency Tel.** | **CHEMTREC®**<br>**09 980 6780 or +64 9 980 6780** |
| **Telephone / Fax Numbers** | Tel: 09 980 6700<br>Fax: 09 980 6788 |
| **E-mail address** | 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**

**GHS Classification**

**Physical hazards**

| | |
|---|---|
| Flammable liquids | Category 2 |

**Health hazards**

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

**Environmental hazards**

| | |
|---|---|
| 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
H318 - Causes serious eye damage
H336 - May cause drowsiness or dizziness
H361 - Suspected of damaging fertility or the unborn child
H370 - Causes damage to organs
H373 - May cause damage to organs through prolonged or repeated exposure
H331 - Toxic if inhaled
H412 - Harmful to aquatic life with long lasting effects
H302 + H312 - Harmful if swallowed or in contact with skin

**Precautionary Statements**
**Prevention**
P201 - Obtain special instructions before use
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P202 - Do not handle until all safety precautions have been read and understood
P233 - Keep container tightly closed
P243 - Take action to prevent static discharges
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P240 - Ground and bond container and receiving equipment
P242 - Use non-sparking tools
P271 - Use only outdoors or in a well-ventilated area
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P280 - Wear protective gloves/protective clothing/eye protection/face protection
**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
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish
P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor
P362 + P364 - Take off contaminated clothing and wash it before reuse
**Storage**
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
**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

| Component | CAS No | Weight % |
|---|---|---|

| | | |
|---|---|---|
| Methyl alcohol | 67-56-1 | 17 |
| Toluene | 108-88-3 | 80 |
| 1-Butanaminium, N,N,N-tributyl-, hydroxide | 2052-49-5 | 3 |

# Section 4 - First Aid Measures

**Description of first aid measures**

**General Advice**
Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

**New Zealand Emergency Tel.**
CHEMTREC®
09 980 6780 or +64 9 980 6780

**Inhalation**
Remove to fresh air. If not breathing, give artificial respiration. 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. Immediate medical attention is required. 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. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**Skin Contact**
Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

**Ingestion**
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**
None reasonably foreseeable. Causes severe eye damage. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

**Notes to Physician**
Treat symptomatically. 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 a solid water stream as it may scatter and spread fire.

**Specific Hazards Arising from the Chemical**
Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition. Vapors may form explosive mixtures with air.

**Hazardous Combustion Products**
Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide ($CO_2$).

**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. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. 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. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. 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. Keep away from heat, sparks and flame. Flammables area.

**Incompatible Materials**
Acids. Acid anhydrides. Acid chlorides. Metals. Reducing Agent.

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
**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.
**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

| Component | New Zealand WEL | Australia | ACGIH TLV | The United Kingdom |
|---|---|---|---|---|
| Methyl alcohol | TWA: 200 ppm<br>TWA: 262 mg/m³<br>STEL: 250 ppm<br>STEL: 328 mg/m³<br>Skin | STEL: 250 ppm<br>STEL: 328 mg/m³<br>TWA: 200 ppm<br>TWA: 262 mg/m³ | TWA: 200 ppm<br>STEL: 250 ppm<br>Skin | WEL - TWA: 200 ppm TWA; 266 mg/m³ TWA<br>WEL - STEL: 250 ppm STEL; 333 mg/m³ STEL |
| Toluene | TWA: 20 ppm<br>TWA: 75 mg/m³<br>STEL: 100 ppm<br>STEL: 377 mg/m³<br>Skin | STEL: 150 ppm<br>STEL: 574 mg/m³<br>TWA: 50 ppm<br>TWA: 191 mg/m³ | TWA: 20 ppm | STEL: 100 ppm 15 min<br>STEL: 384 mg/m³ 15 min<br>TWA: 50 ppm 8 hr<br>TWA: 191 mg/m³ 8 hr<br>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 |
|---|---|---|---|---|
| Methyl alcohol | 15 mg/L (urine) end of shift (Methyl alcohol) | | 15 mg/L<br>Medium: urine<br>Time: end of shift<br>Determinant: Methanol | |
| Toluene | 0.03 mg/L (urine) end of exposure or end of shift (Toluene)<br>0.3 mg/g creatinine (urine) end of exposure or end of shift (O-Cresol) | | 0.02 mg/L<br>Medium: blood<br>Time: prior to last shift of workweek<br>Determinant: Toluene<br>0.03 mg/L<br>Medium: urine<br>Time: end of shift<br>Determinant: Toluene<br>0.3 mg/g creatinine<br>Medium: urine<br>Time: end of shift<br>Determinant: o-Cresol with hydrolysis | |

**Appropriate engineering controls**

**Engineering Measures**

Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting equipment. 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 |
|---|---|---|---|---|
| Viton (R). | 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 |
| **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:** | low boiling organic solvent Type AX Brown conforming to EN371 or 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 |
| **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**

| | | |
|---|---|---|
| **Physical State** | Liquid | |
| **Appearance** | Colorless | |
| **Odor** | aromatic | |
| **Odor Threshold** | No data available | |
| **pH** | Not applicable | |
| **Melting Point/Range** | No data available | |
| **Softening Point** | No data available | |
| **Boiling Point/Range** | No information available | |
| **Flammability (liquid)** | Highly flammable | On basis of test data |
| **Flammability (solid,gas)** | Not applicable | Liquid |
| **Explosion Limits** | **Lower** 1.2 vol% | |
| | **Upper** 44 vol% | |
| **Flash Point** | 4 °C / 39.2 °F | **Method -** No information available |
| **Autoignition Temperature** | 455 °C / 851 °F | |
| **Decomposition Temperature** | No data available | |
| **Viscosity** | No data available | |
| **Water Solubility** | Immiscible | |
| **Solubility in other solvents** | No information available | |

**Partition Coefficient (n-octanol/water)**

| **Component** | **log Pow** |
|---|---|
| Methyl alcohol | -0.74 |
| Toluene | 2.73 |
| 1-Butanaminium, N,N,N-tributyl-, hydroxide | 1.518 |

| | | |
|---|---|---|
| **Vapor Pressure** | 128 hPa @ 20°C1 | |
| **Density / Specific Gravity** | 0.850 | |
| **Bulk Density** | Not applicable | Liquid |
| **Vapor Density** | No information available | (Air = 1.0) |
| **Particle characteristics** | Not applicable (liquid) | |

**Other information**

| | |
|---|---|
| **Explosive Properties** | Vapors may form explosive mixtures with air |

# Section 10 - Stability and Reactivity

| | |
|---|---|
| **Reactivity** | None known, based on information available |

| | |
|---|---|
| **Stability** | Stable under normal conditions. |
| **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. |
| **Conditions to Avoid** | Keep away from open flames, hot surfaces and sources of ignition, Incompatible products. |
| **Incompatible Materials** | Acids, Acid anhydrides, Acid chlorides, Metals, Reducing Agent. |
| **Hazardous Decomposition Products** | Nitrogen oxides (NOx). Carbon monoxide (CO). Carbon dioxide ($CO_2$). |

# Section 11 - Toxicological Information

**Acute Effects**

**Information on likely routes of exposure**

**Product Information**

| | |
|---|---|
| **Inhalation** | Not an expected route of exposure. |
| **Eyes** | Avoid contact with eyes. Corrosive to the eyes and may cause severe damage including blindness. May cause irritation. |
| **Skin** | Avoid contact with skin. Skin Corrosion/Irritation. May cause irritation. Harmful in contact with skin. |
| **Ingestion** | May be harmful if swallowed. Harmful if swallowed. Potential for aspiration if swallowed. |

**Numerical measures of toxicity**

**(a) acute toxicity;**

| | |
|---|---|
| **Oral** | Category 4 |
| **Dermal** | Category 4 |
| **Inhalation** | Category 4 |

**Toxicology data for the components**

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Methyl alcohol | LD50 = 1187 – 2769 mg/kg (Rat) | LD50 = 17100 mg/kg ( Rabbit ) | LC50 = 128.2 mg/L ( Rat ) 4 h |
| Toluene | > 5000 mg/kg ( Rat ) | 12000 mg/kg ( Rabbit ) | 26700 ppm ( Rat ) 1 h |
| 1-Butanaminium, N,N,N-tributyl-, hydroxide | 500 mg/kg (Rat) | | |

**(b) skin corrosion/irritation;** Category 2

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

**(d) respiratory or skin sensitization;**

| | |
|---|---|
| **Respiratory** | No data available |
| **Skin** | No data available |

| Component | Test method | Test species | Study result |
|---|---|---|---|
| Methyl alcohol<br>67-56-1 ( 17 ) | OECD Test Guideline 406 Guinea Pig Maximisation Test (GPMT) | guinea pig | non-sensitising |

**(e) germ cell mutagenicity;** No data available

**(f) carcinogenicity;** No data available

There are no known carcinogenic chemicals in this product

**(g) reproductive toxicity;** Category 2

| Component | Test method | Test species / Duration | Study result |
|---|---|---|---|
| Methyl alcohol 67-56-1 ( 17 ) | OECD Test Guideline 416 | Rat / Inhalation 2 Generation | NOAEC = 1.3 mg/l (air) |

**Developmental Effects** Possible risk of harm to the unborn child

**Teratogenicity** Teratogenic effects have occurred in experimental animals.

**(h) STOT-single exposure;** Category 1
Category 3

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

**(i) STOT-repeated exposure;** Category 2

**Target Organs** Neuropsychological effects, Eyes, Ears.

**(j) aspiration hazard;** Category 1

**Symptoms / effects,both acute and delayed**
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:. Harmful to aquatic organisms.

| Component | Freshwater Fish | Water Flea | Freshwater Algae | Microtox |
|---|---|---|---|---|
| Methyl alcohol | Pimephales promelas: LC50 > 10000 mg/L 96h | EC50 > 10000 mg/L 24h | | EC50 = 39000 mg/L 25 min<br>EC50 = 40000 mg/L 15 min<br>EC50 = 43000 mg/L 5 min |
| Toluene | 50-70 mg/L LC50 96 h<br>5-7 mg/L LC50 96 h<br>15-19 mg/L LC50 96 h<br>28 mg/L LC50 96 h<br>12 mg/L LC50 96 h | EC50: = 11.5 mg/L, 48h (Daphnia magna)<br>EC50: 5.46 - 9.83 mg/L, 48h Static (Daphnia magna) | EC50: = 12.5 mg/L, 72h static (Pseudokirchneriella subcapitata)<br>EC50: > 433 mg/L, 96h (Pseudokirchneriella subcapitata) | EC50 = 19.7 mg/L 30 min |

**Terrestrial ecotoxicity**

| Component | Earthworm | Avian | Honeybees |
|---|---|---|---|
| Methyl alcohol | Acute toxicity: LC50 > 1 mg/cm2 (Eisenia foetida, 48 h, filter paper) | | |

**Persistence and Degradability**

**Persistence** Persistence is unlikely, Immiscible with water.

| Component | Degradability |
|---|---|

| | |
|---|---|
| Methyl alcohol<br>67-56-1 ( 17 ) | DT50 ~ 17.2d<br>>94% after 20d |
| Toluene<br>108-88-3 ( 80 ) | 86% (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** May have some potential to bioaccumulate

| Component | log Pow | Bioconcentration factor (BCF) |
|---|---|---|
| Methyl alcohol | -0.74 | <10 dimensionless |
| Toluene | 2.73 | 90 |
| 1-Butanaminium, N,N,N-tributyl-, hydroxide | 1.518 | No data available |

**Mobility** The product is insoluble and floats on water. Spillage unlikely to penetrate soil. Is not likely mobile in the environment due its low water solubility.

**Other adverse effects**

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors
**Persistent Organic Pollutant** This product does not contain any known or suspected substance
**Ozone Depletion Potential** 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. 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 empty into drains. Do not let this chemical enter the environment.

# Section 14 - Transport Information

| Component | Hazchem Code |
|---|---|
| Methyl alcohol<br>67-56-1 ( 17 ) | 2WE |
| Toluene<br>108-88-3 ( 80 ) | 3YE |

**NZS 5433:2020**

**UN-No** UN1993
**Proper Shipping Name** Flammable liquid, n.o.s.
**Technical Shipping Name** Contains toluene and methanol
**Hazard Class** 3
**Packing Group** II

**IATA**

| | |
|---|---|
| **UN-No** | UN1993 |
| **Proper Shipping Name** | Flammable liquid, n.o.s. |
| **Technical Shipping Name** | Contains toluene and methanol |
| **Hazard Class** | 3 |
| **Packing Group** | II |

**IMDG/IMO**

| | |
|---|---|
| **UN-No** | UN1993 |
| **Proper Shipping Name** | Flammable liquid, n.o.s. |
| **Technical Shipping Name** | Contains toluene and methanol |
| **Hazard Class** | 3 |
| **Packing Group** | II |

| | |
|---|---|
| **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**

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

| Component | 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 |

| 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 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| 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) |
|---|---|---|---|
| Methyl alcohol | - | Use restricted. See item 69. (see link for restriction details) Use restricted. See item 75. (see link for restriction details) | - |
| 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 (ENCS), Japan (ISHL), Canada (DSL/NDSL), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

| Component | CAS No | NZIoC | AICS | EINECS | ELINCS | NLP | KECL | IECSC | TCSI |
|---|---|---|---|---|---|---|---|---|---|
| Methyl alcohol | 67-56-1 | X | X | - | - | - | KE-23193 | X | X |
| Toluene | 108-88-3 | X | X | 203-625-9 | - | - | KE-33936 | X | X |
| 1-Butanaminium, N,N,N-tributyl-, hydroxide | 2052-49-5 | X | X | 218-147-6 | - | - | KE-34029 | X | X |

| Component | CAS No | TSCA | TSCA Inventory notification - Active-Inactive | DSL | NDSL | PICCS | ISHL | ENCS |
|---|---|---|---|---|---|---|---|---|
| Methyl alcohol | 67-56-1 | X | ACTIVE | X | - | X | X | X |
| Toluene | 108-88-3 | X | ACTIVE | X | - | X | X | X |
| 1-Butanaminium, N,N,N-tributyl-, hydroxide | 2052-49-5 | 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
**AICS** - Australian Inventory of Chemical Substances
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**ENCS** - Japanese Existing and New Chemical Substances
**IECSC** - Chinese Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**CAS** - Chemical Abstracts Service
**TWA** - Time Weighted Average
**ACGIH** - American Conference of Governmental Industrial Hygienists
**IARC** - International Agency for Research on Cancer
**PNEC** - Predicted No Effect Concentration
**NZS 5433:2020** - Transport of Dangerous Goods on Land
**OECD** - Organisation for Economic Co-operation and Development
**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association
**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code
**MARPOL** - International Convention for the Prevention of Pollution from Ships
**LD50** - Lethal Dose 50%
**LC50** - Lethal Concentration 50%
**EC50** - Effective Concentration 50%
**ATE** - Acute Toxicity Estimate
**WEL** - Workplace Exposure Limit
**RPE** - Respiratory Protective Equipment

**DNEL** - Derived No Effect Level
**POW** - Partition coefficient Octanol:Water
**vPvB** - very Persistent, very Bioaccumulative
**VOC** - (Volatile Organic Compound)
**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

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

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|---|---|
| **Revision Date** | 13-Mar-2023 |
| **Revision Summary** | Not applicable |

**Disclaimer**

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## End of Safety Data Sheet