# SAFETY DATA SHEET
# ISOBORNYL ACRYLATE
# REVISION 5, DATE 21 SEP 22

## 1. IDENTIFICATION

| | |
|---|---|
| **Product Name** | **Isobornyl Acrylate** |
| **Other Names** | EM70; ETERMER 70; IBOA |
| **Uses** | Raw material; UV Coatings; Inks; Adhesives; Paint resins; Photoresists.<br>*Recommended restrictions: Applications where liquid monomer is intended to come into contact with skin or nails. |
| **Chemical Family** | No Data Available |
| **Chemical Formula** | C13H20O2 |
| **Chemical Name** | 2-Propenoic acid, 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, exo- |
| **Product Description** | No Data Available |

### Contact Details of the Supplier of this Safety Data Sheet

| Organisation | Location | Telephone |
|---|---|---|
| Redox Ltd | 2 Swettenham Road<br>Minto NSW 2566<br>Australia | +61-2-97333000 |
| Redox Ltd | 11 Mayo Road<br>Wiri Auckland 2104<br>New Zealand | +64-9-2506222 |
| Redox Inc. | 3960 Paramount Boulevard<br>Suite 107<br>Lakewood CA 90712<br>USA | +1-424-675-3200 |
| Redox Chemicals Sdn Bhd | Level 2, No. 8, Jalan Sapir 33/7<br>Seksyen 33, Shah Alam Premier Industrial Park<br>40400 Shah Alam<br>Sengalor, Malaysia | +60-3-5614-2111 |

### Emergency Contact Details

*For emergencies only; DO NOT contact these companies for general product advice.*

| Organisation | Location | Telephone |
|---|---|---|
| Poisons Information Centre | Westmead NSW | 1800-251525<br>131126 |
| Chemcall | Australia | 1800-127406<br>+64-4-9179888 |
| Chemcall | Malaysia | +64-4-9179888 |
| Chemcall | New Zealand | 0800-243622<br>+64-4-9179888 |
| National Poisons Centre | New Zealand | 0800-764766 |
| CHEMTREC | USA & Canada | 1-800-424-9300 CN723420<br>+1-703-527-3887 |

## 2. HAZARD IDENTIFICATION

| | |
|---|---|
| **Poisons Schedule (Aust)** | Not Scheduled |

## Globally Harmonised System

**Hazard Classification**

Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

**Hazard Categories**

Skin Corrosion/Irritation - Category 2

Serious Eye Damage/Irritation - Category 2A

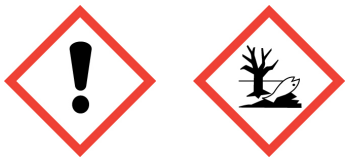
Sensitisation (Skin) - Category 1

Specific Target Organ Toxicity (Single Exposure) - Category 3

Acute Hazard To The Aquatic Environment - Category 1

Long-term Hazard To The Aquatic Environment - Category 1

**Pictograms**



**Signal Word**

Warning

**Hazard Statements**

| | |
|---|---|
| **H315** | Causes skin irritation. |
| **H317** | May cause an allergic skin reaction. |
| **H319** | Causes serious eye irritation. |
| **H335** | May cause respiratory irritation. |
| **H410** | Very toxic to aquatic life with long lasting effects. |

**Precautionary Statements**

| | | |
|---|---|---|
| Prevention | **P280** | Wear protective gloves/eye protection/face protection. |
| | **P261** | Avoid breathing mist/vapours/spray. |
| | **P273** | Avoid release to the environment. |
| | **P272** | Contaminated work clothing should not be allowed out of the workplace. |
| | **P271** | Use only outdoors or in a well-ventilated area. |
| Response | **P302 + P352** | IF ON SKIN: Wash with plenty of water and soap. |
| | **P337 + P313** | If eye irritation persists: Get medical advice. |
| | **P333 + P313** | If skin irritation or rash occurs: Get medical advice. |
| | **P312** | Call a POISON CENTER or doctor if you feel unwell. |
| | **P391** | Collect spillage. |
| | **P362** | Take off contaminated clothing. |
| | **P305 + P351 + P338** | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| | **P304 + P340** | IF INHALED: Remove victim to fresh air and keep comfortable for breathing. |
| Storage | **P403 + P233** | Store in a well-ventilated place. Keep container tightly closed. |
| | **P405** | Store locked up. |
| Disposal | **P501** | Dispose of contents/container in accordance with local / regional / national / international regulations. |

## National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

**Dangerous Goods Classification**

NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

***Ingredients***

| Chemical Entity | Formula | CAS Number | Proportion |
|---|---|---|---|
| Isobornyl acrylate | C13H20O2 | 5888-33-5 | <=100 % |

## 4. FIRST AID MEASURES

***Description of necessary measures according to routes of exposure***

**Swallowed** IF SWALLOWED: Rinse mouth, then drink a glass of (lukewarm) water. Do not induce vomiting. Get immediate medical advice/attention. Never give anything by mouth to an unconscious person.

**Eye** IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention.

**Skin** IF ON SKIN: Remove and isolate contaminated clothing and shoes. Immediately flush skin with (lukewarm) running water for at least 15 minutes (if sticky, wash with mild soap). If skin irritation or rash occurs, get medical advice/attention. Wash contaminated clothing and shoes before reuse.

**Inhaled** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a Poison Centre or doctor/physician for advice. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.

**Advice to Doctor** Treat symptomatically. Medical treatment is necessary if symptoms occur which are obviously caused by skin or eye contact with the product or by inhalation of its vapours. Ensure that attending medical personnel are aware of the identity and nature of the product(s) involved, and take precautions to protect themselves.
*Most important symptoms and effects, both acute and delayed: Skin sensitisation hazard.

**Medical Conditions Aggravated by Exposure** No information available.

## 5. FIRE FIGHTING MEASURES

**General Measures** If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out. Dike fire-control water for later disposal.

**Flammability Conditions** May burn but does not ignite readily.

**Extinguishing Media** Use dry chemical, Carbon dioxide (CO2), foam or water spray for extinction. Do not scatter spilled material with high-pressure water streams.

**Fire and Explosion Hazard** Vapours are heavier than air and may spread along floors. When heated above the flash point and/or during spraying (atomising), ignitable mixtures may form in air.
*High temperatures, inhibitor depletion, accidental impurities or exposure to radiation or oxidisers may cause spontaneous polymerising reaction, generating heat/pressure. Closed containers may rupture or explode during runaway polymerisation.

**Hazardous Products of Combustion** Fire may produce irritating and/or toxic smoke/fumes, including carbon monoxide, carbon dioxide, organic products of decomposition.

**Special Fire Fighting Instructions** Contain runoff from fire control or dilution water - Runoff may cause pollution.

**Personal Protective Equipment** Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**Flash Point** 97 °C [Closed cup]

**Lower Explosion Limit** No Data Available

**Upper Explosion Limit** No Data Available

**Auto Ignition Temperature** 375 °C

**Hazchem Code** No Data Available

## 6. ACCIDENTAL RELEASE MEASURES

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|---|---|
| **General Response Procedure** | Ensure adequate ventilation. ELIMINATE all ignition sources. Do not touch or walk through spilled material. Avoid breathing vapours and contact with eyes, skin and clothing. |
| **Clean Up Procedures** | Absorb with earth, sand or other non-combustible material and transfer to a suitable, vented container for disposal (see SECTION 13).<br>*Remove larger quantities mechanically (by pumping). Use explosion-proof equipment! |
| **Containment** | Stop leak if safe to do so - Prevent entry into waterways, drains or confined areas. Dike far ahead of large spill for later disposal. |
| **Decontamination** | No information available. |
| **Environmental Precautionary Measures** | Spillages and decontamination runoff should be prevented from entering drains and watercourses. |
| **Evacuation Criteria** | Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground. |
| **Personal Precautionary Measures** | Use personal protective equipment as required (see SECTION 8). |

## 7. HANDLING AND STORAGE

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|---|---|
| **Handling** | Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation - Use only outdoors or in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Avoid breathing mist/vapours and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). Avoid high temperatures and sources of ignition - No smoking. Take precautionary measures against static discharges. Avoid release to the environment - Collect spillage (see SECTION 6).<br>*If material freezes, heat and mix to redistribute the inhibitor; Product may also be heated to facilitate handling. Heat product container slowly to 40 °C for not more than 24 hours. Convection ovens or warm water bath (preferred due to more efficient heat transfer) are recommended for heating - Do not use localised heat sources (e.g. drum or band heaters). An air space, preferably an air bubble flow, should be provided for at all times during heating. |
| **Storage** | Store above 10 °C and below 32 °C, in a dry and well-ventilated place. Protect from direct sunlight/UV radiation. Prevent material from freezing (inhibitor can separate from product as a solid). Keep away from heat and sources of ignition - No smoking. Keep away from incompatible materials and other initiators (see SECTION 10). Store locked up. Use product within six months of receipt for optimum results.<br>*Bulk storage temperature range: 15 - 27 °C |
| **Container** | Keep only in the original container.<br>*This product is inhibited to prevent uncontrolled polymerisation. A polymerisation reaction can generate heat and pressure and may cause product container to rupture. Check inhibitor content often and add inhibitor to bulk liquid if needed. Maintain head space in storage containers to support oxygen requirements of the inhibitor(s). Do not blanket or mix with oxygen free (inert) gas. |

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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|---|---|
| **General** | No value assigned for this specific material by Safe Work Australia. |
| **Exposure Limits** | No Data Available |
| **Biological Limits** | No information available. |
| **Engineering Measures** | A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.<br>*Using local exhaust ventilation and closed processing system for mass production. Use explosion-proof electrical/ventilating/lighting equipment. |

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| **Personal Protection Equipment** | - Respiratory protection: Wear respiratory protection if handling this material at elevated temperatures or under mist forming conditions. Recommended: Organic vapour/particulate respirator (refer to AS/NZS 1715 & 1716).<br>- Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Chemical splash googles; Face-shield in case of possible splashing or spraying, airborne particles/vapours. Contact lenses should NOT be worn.<br>- Hand protection: Wear protective gloves. Recommended: Nitrile gloves (suitable for product without solvents added). Thick (>0.5 mm) nitrile gloves (suitable for product used with solvents). Do NOT use natural rubber gloves.<br>- Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Apron, boots, head and face protection, depending on the conditions of use. |
| **Special Hazards Precaustions** | No information available. |
| **Work Hygienic Practices** | Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Remove contaminated clothing and shoes immediately and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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|---|---|
| **Physical State** | Liquid |
| **Appearance** | Liquid |
| **Odour** | Mild, musty |
| **Colour** | Clear |
| **pH** | Approx. 6.8 - 7.2 |
| **Vapour Pressure** | No Data Available |
| **Relative Vapour Density** | No Data Available |
| **Boiling Point** | >200 °C |
| **Melting Point** | No Data Available |
| **Freezing Point** | <-35 °C |
| **Solubility** | No Data Available |
| **Specific Gravity** | 0.98 - 1.00 g/cm3 |
| **Flash Point** | 97 °C [Closed cup] |
| **Auto Ignition Temp** | 375 °C |
| **Evaporation Rate** | No Data Available |
| **Bulk Density** | No Data Available |
| **Corrosion Rate** | No Data Available |
| **Decomposition Temperature** | No Data Available |
| **Density** | No Data Available |
| **Specific Heat** | No Data Available |
| **Molecular Weight** | No Data Available |
| **Net Propellant Weight** | No Data Available |
| **Octanol Water Coefficient** | No Data Available |
| **Particle Size** | No Data Available |
| **Partition Coefficient** | No Data Available |
| **Saturated Vapour Concentration** | No Data Available |
| **Vapour Temperature** | No Data Available |
| **Viscosity** | No Data Available |
| **Volatile Percent** | No Data Available |
| **VOC Volume** | No Data Available |
| **Additional Characteristics** | No information available. |
| **Potential for Dust Explosion** | Not applicable. |

| | |
|---|---|
| **Fast or Intensely Burning Characteristics** | No information available. |
| **Flame Propagation or Burning Rate of Solid Materials** | No information available. |
| **Non-Flammables That Could Contribute Unusual Hazards to a Fire** | High temperatures, inhibitor depletion, accidental impurities or exposure to radiation or oxidisers may cause spontaneous polymerising reaction, generating heat/pressure. |
| **Properties That May Initiate or Contribute to Fire Intensity** | May burn but does not ignite readily. |
| **Reactions That Release Gases or Vapours** | Fire/decomposition may produce irritating and/or toxic smoke/fumes, including carbon monoxide, carbon dioxide, organic products of decomposition. |
| **Release of Invisible Flammable Vapours and Gases** | When heated above the flash point and/or during spraying (atomising), ignitable mixtures may form in air. |

## 10. STABILITY AND REACTIVITY

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|---|---|
| **General Information** | This product is inhibited to prevent uncontrolled polymerisation. If the permissible storage period and/or storage temperature is exceeded, the product may polymerise with heat evolution. |
| **Chemical Stability** | Stable under normal conditions. |
| **Conditions to Avoid** | Avoid high temperatures, localised heating and sources of ignition. Protect from direct sunlight/UV radiation. Prevent material from freezing. Avoid oxidising conditions and inert gas blanketing. |
| **Materials to Avoid** | Incompatible/reactive with strong oxidisers, strong reducers, free radical initiators, inert gases, oxygen scavengers. |
| **Hazardous Decomposition Products** | Fire/decomposition may produce irritating and/or toxic smoke/fumes, including carbon monoxide, carbon dioxide, organic products of decomposition. |
| **Hazardous Polymerisation** | High temperatures, inhibitor depletion, accidental impurities, or exposure to radiation or oxidisers may cause spontaneous (runaway) polymerising reaction, generating heat/pressure. |

## 11. TOXICOLOGICAL INFORMATION

**General Information**

Information on toxicological effects:
- Acute toxicity: Not classified. May be harmful if swallowed.
- Skin corrosion/irritation: Causes skin irritation.
- Eye damage/irritation: Causes serious eye irritation.
- Respiratory/skin sensitisation: May cause an allergic skin reaction.
- Germ cell mutagenicity: Not classified; not mutagenic in bacteria and mammalian cells in vitro.
- Carcinogenicity: No classification is necessary based on present knowledge [Expert Judgement].
- Reproductive toxicity: No classification is necessary based on present knowledge [Expert Judgement].
- STOT (single exposure): May cause respiratory irritation.
- STOT (repeated exposure): Not classified.
- Aspiration toxicity: Not classified.

Information on likely routes of exposure:
- Ingestion: Although no appropriate human or animal health effects data are known to exist, this material is expected to be a slight ingestion hazard. Ingestion may cause nausea, headache, dizziness and intoxication.
- Eye contact: Although no appropriate human or animal health effects data are known to exist, this material is expected to cause slight eye irritation. Symptoms may include excessive tearing, blinking and redness.
- Skin contact: Causes skin irritation. Skin sensitisation hazard. Although no appropriate human or animal health effects data are known to exist, this material is not expected to be a health hazard by skin absorption.
- Inhalation: No significant signs or symptoms indicative of any adverse health hazard are expected to occur at standard conditions due to the low volatility of this material; However, aerosols or vapours which may be generated at elevated processing temperatures, may cause respiratory tract irritation. Symptoms of irritation may include coughing, mucous production and shortness of breath. May also have potential to cause headaches, nausea and dizziness.

Chronic effects: No information available.

***Acute***

| | |
|---|---|
| **Ingestion** | Acute toxicity (Oral):<br>- LD50, Rat: 2,300 ~ 4,000 mg/kg [Supplier's SDS]. |
| **Carcinogen Category** | None |

## 12. ECOLOGICAL INFORMATION

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|---|---|
| **Ecotoxicity** | Aquatic toxicity:<br>- LC50, Fish (Danio rerio): 0.704 mg/l (96 h).<br>- EC50, Algae/aquatic plants (Pseudokirchneriella subcapitata): 1.98 mg/l (72 h) [OECD 201].<br>- NOEC, Fish (Danio rerio): 0.431 mg/l (21 d).<br>- NOEC, Crustacea (Daphnia magna): 0.092 mg/l (21 d) [OECD 211].<br>- NOEC, Algae/aquatic plants (Pseudokirchneriella subcapitata): 0.405 mg/l (72 h) [OECD 211]. |
| **Persistence/Degradability** | The product is not biodegradable.<br>- Biodegradation: 57 % (28 d) [OECD 310]. |
| **Mobility** | Substance may bind to solid soil phase, sediment or clarification sludge due to its adsorptive behaviour. The substance evaporates rapidly into the atmosphere from the surface of the water. If the substance does get into the environment, it tends to remain in the compartment it was discharged into. |
| **Environmental Fate** | Very toxic to aquatic life with long lasting effects. Prevent substance from entering soil, natural bodies of water and sewer systems. |
| **Bioaccumulation Potential** | Significant bioaccumulation is not expected.<br>- Bioconcentration Factor (BCF): 37 [OECD 305].<br>- Log Kow: 4.52 [OECD 117]. |
| **Environmental Impact** | No Data Available |

## 13. DISPOSAL CONSIDERATIONS

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|---|---|
| **General Information** | Dispose of residues and spilled material as hazardous waste (due to potential for internal heat generation) and in accordance with local/regional/national regulations. |
| **Special Precautions for Land Fill** | Contaminated packaging: Since the emptied containers retain product residue, follow label warnings even after container is emptied. The container can present explosion or fire hazards, even when emptied. To avoid risk of injury, do not cut, puncture or weld on or near this container. |

## 14. TRANSPORT INFORMATION

**Land Transport (Australia)**

ADG Code

| | |
|---|---|
| **Proper Shipping Name** | Isobornyl Acrylate |
| **Class** | C2 Combustible Liquids - Flash Point >93°C, Closed Cup, Not Excluded Flammable |
| **Subsidiary Risk(s)** | No Data Available |
| **EPG** | 47 Low To Moderate Hazard Substances |
| **UN Number** | No Data Available |
| **Hazchem** | No Data Available |
| **Pack Group** | No Data Available |
| **Special Provision** | AU01 |

| | |
|---|---|
| **Comments** | Not regulated as DG when transported by road or rail in packagings that do not incorporate a receptacle exceeding 500 kg(L) or IBCs. |

### Land Transport (Malaysia)
ADR Code

| | |
|---|---|
| **Proper Shipping Name** | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Isobornyl acrylate) |
| **Class** | 9 Miscellaneous Dangerous Goods and Articles |
| **Subsidiary Risk(s)** | No Data Available |
| **EPG** | 47 Low To Moderate Hazard Substances |
| **UN Number** | 3082 |
| **Hazchem** | 3Z |
| **Pack Group** | III |
| **Special Provision** | No Data Available |

### Land Transport (New Zealand)
NZS5433

| | |
|---|---|
| **Proper Shipping Name** | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Isobornyl acrylate) |
| **Class** | 9 Miscellaneous Dangerous Goods and Articles |
| **Subsidiary Risk(s)** | No Data Available |
| **EPG** | 47 Low To Moderate Hazard Substances |
| **UN Number** | 3082 |
| **Hazchem** | 3Z |
| **Pack Group** | III |
| **Special Provision** | No Data Available |

### Land Transport (United States of America)
US DOT

| | |
|---|---|
| **Proper Shipping Name** | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Isobornyl acrylate) |
| **Class** | 9 Miscellaneous Dangerous Goods and Articles |
| **Subsidiary Risk(s)** | No Data Available |
| **ERG** | 171 Substances (Low to Moderate Hazard) |
| **UN Number** | 3082 |
| **Hazchem** | 3Z |
| **Pack Group** | III |
| **Special Provision** | No Data Available |

### Sea Transport
IMDG Code

| | |
|---|---|
| **Proper Shipping Name** | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Isobornyl acrylate) |
| **Class** | 9 Miscellaneous Dangerous Goods and Articles |
| **Subsidiary Risk(s)** | No Data Available |
| **UN Number** | 3082 |
| **Hazchem** | 3Z |
| **Pack Group** | III |
| **Special Provision** | No Data Available |
| **EMS** | F-A, S-B |
| **Marine Pollutant** | Yes |

### Air Transport
IATA DGR

| | |
|---|---|
| **Proper Shipping Name** | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Isobornyl acrylate) |
| **Class** | 9 Miscellaneous Dangerous Goods and Articles |
| **Subsidiary Risk(s)** | No Data Available |
| **UN Number** | 3082 |
| **Hazchem** | 3Z |
| **Pack Group** | III |
| **Special Provision** | No Data Available |

### National Transport Commission (Australia)
Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

| | |
|---|---|
| **Dangerous Goods Classification** | NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code) |

## 15. REGULATORY INFORMATION

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|---|---|
| **General Information** | No Data Available |
| **Poisons Schedule (Aust)** | Not Scheduled |

### Environmental Protection Authority (New Zealand)
Hazardous Substances and New Organisms Amendment Act 2015

| | |
|---|---|
| **Approval Code** | HSR002670 - Surface Coatings and Colourants (Subsidiary Hazard) Group Standard 2020 |

### National/Regional Inventories

| | |
|---|---|
| **Australia (AIIC)** | Listed |
| **Canada (DSL)** | Not Determined |
| **Canada (NDSL)** | Not Determined |
| **China (IECSC)** | Not Determined |
| **Europe (EINECS)** | 227-561-6 |
| **Europe (REACh)** | Not Determined |
| **Japan (ENCS/METI)** | Not Determined |
| **Korea (KECI)** | Not Determined |
| **Malaysia (EHS Register)** | Not Determined |
| **New Zealand (NZIoC)** | Listed |
| **Philippines (PICCS)** | Not Determined |

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|---|---|
| **Switzerland (Giftliste 1)** | Not Determined |
| **Switzerland (Inventory of Notified Substances)** | Not Determined |
| **Taiwan (NCSR)** | Not Determined |
| **USA (TSCA)** | Not Determined |

## 16. OTHER INFORMATION

| | |
|---|---|
| **Related Product Codes** | MONOMV1000, MONOMV1001, MONOMV1010, MONOMV5000, MONOMV6000 |
| **Revision** | 5 |
| **Revision Date** | 21 Sep 2022 |
| **Key/Legend** | < Less Than<br>> Greater Than<br>**AICS** Australian Inventory of Chemical Substances<br>**atm** Atmosphere<br>**CAS** Chemical Abstracts Service (Registry Number)<br>**$cm^2$** Square Centimetres<br>**CO2** Carbon Dioxide<br>**COD** Chemical Oxygen Demand<br>**deg C (°C)** Degrees Celcius<br>**EPA (New Zealand)** Environmental Protection Authority of New Zealand<br>**deg F (°F)** Degrees Farenheit<br>**g** Grams<br>**$g/cm^3$** Grams per Cubic Centimetre<br>**g/l** Grams per Litre<br>**HSNO** Hazardous Substance and New Organism<br>**IDLH** Immediately Dangerous to Life and Health<br>**immiscible** Liquids are insoluable in each other.<br>**inHg** Inch of Mercury<br>**inH2O** Inch of Water<br>**K** Kelvin<br>**kg** Kilogram<br>**$kg/m^3$** Kilograms per Cubic Metre<br>**lb** Pound<br>**LC50** LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.<br>**LD50** LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.<br>**ltr** or **L** Litre<br>**$m^3$** Cubic Metre<br>**mbar** Millibar<br>**mg** Milligram<br>**mg/24H** Milligrams per 24 Hours<br>**mg/kg** Milligrams per Kilogram<br>**$mg/m^3$** Milligrams per Cubic Metre<br>**Misc** or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.<br>**mm** Millimetre<br>**mmH2O** Millimetres of Water<br>**mPa.s** Millipascals per Second<br>**N/A** Not Applicable<br>**NIOSH** National Institute for Occupational Safety and Health<br>**NOHSC** National Occupational Heath and Safety Commission<br>**OECD** Organisation for Economic Co-operation and Development<br>**Oz** Ounce<br>**PEL** Permissible Exposure Limit<br>**Pa** Pascal<br>**ppb** Parts per Billion |

**ppm** Parts per Million
**ppm/2h** Parts per Million per 2 Hours
**ppm/6h** Parts per Million per 6 Hours
**psi** Pounds per Square Inch
**R** Rankine
**RCP** Reciprocal Calculation Procedure
**STEL** Short Term Exposure Limit
**TLV** Threshold Limit Value
**tne** Tonne
**TWA** Time Weighted Average
**ug/24H** Micrograms per 24 Hours
**UN** United Nations
**wt** Weight