# SAFETY DATA SHEET

**Revision date:** 08-Apr-2021

**Revision Number** 4

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product identifier**

**Product Name** TOLONATE HDT LV

**Product Code(s)** 000000018943

**Other means of identification**

**CAS No.** 28182-81-2

**Recommended use of the chemical and restrictions on use**

**Recommended use** Manufacture of paints and varnishes. Industrial applications.

**Uses advised against** No information available.

**Details of the supplier of the safety data sheet**

**Supplier**
Ixom Operations Pty Ltd (Incorporated in Australia)
NZBN: 9429041465226 Address: 166 Totara Street
Mt Maunganui South
New Zealand

Telephone Number: +64 9 368 2700
Facimile: +64 9 368 2710

**For further information, please contact**

**Contact Point** Product Safety Department

**Emergency telephone number**

**Emergency Telephone** **0 800 734 607 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

## 2. HAZARDS IDENTIFICATION

Not classified as a Dangerous Good under NZS 5433 Transport of Dangerous Goods on Land.

Classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Notice 2017 and the Hazardous Substances (Classification) Notice 2017.

**GHS Classification**

**SIGNAL WORD**
Danger

Subclass 6.1 Category D - Substances which are acutely toxic.
Subclass 6.5 Category A - Substances that are respiratory sensitisers.
Subclass 6.5 Category B - Substances that are contact sensitisers.

Approval Number: HSR003565

**Label elements**

**Hazard statements**
H317 - May cause an allergic skin reaction
H332 - Harmful if inhaled
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

**Precautionary Statements - Prevention**
Keep out of reach of children.
Do not breathe fume, gas, mist, vapours, spray
Use only outdoors or in a well-ventilated area
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves / protective clothing / eye protection / face protection
In case of inadequate ventilation wear respiratory protection
**Precautionary Statements - Response**
Specific treatment (see First aid on this SDS)
IF ON SKIN: Wash with plenty of soap and water
If skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
Call a POISON CENTER or doctor/physician if you feel unwell
**Precautionary Statements - Storage**
No storage statements
**Precautionary Statements - Disposal**
In the case of a substance that is in compliance with a HSNO approval other than a Part 6A (Group Standards) approval, a label must provide a description of one or more appropriate and achievable methods for the disposal of a substance in accordance with the Hazardous Substances (Disposal) Notice 2017. This may also include any method of disposal that must be avoided.

**Other hazards which do not result in classification**
No information available.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance**

| Chemical name | CAS No. | Weight-% |
|---|---|---|
| Hexamethylene diisocyanate, homopolymer | 28182-81-2 | 100 |
| Hexamethylene diisocyanate | 822-06-0 | <0.2 |

## 4. FIRST AID MEASURES

**Description of first aid measures**

**General advice** Show this safety data sheet to the doctor in attendance.

**Emergency telephone number** Poisons Information Center, New Zealand: 0800 764 766
Poisons Information Center, Australia: 13 11 26

| | |
|---|---|
| **Inhalation** | Remove to fresh air. Call a physician if symptoms occur. |
| **Eye contact** | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| **Skin contact** | Wash skin with soap and water. Call a physician if symptoms occur. |
| **Ingestion** | Do NOT induce vomiting. Give nothing to drink. Get immediate medical advice/attention. |

**Most important symptoms and effects, both acute and delayed**

| | |
|---|---|
| **Symptoms** | Irritation. Redness. Rashes. Hives. May cause allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. |

**Indication of any immediate medical attention and special treatment needed**

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|---|---|
| **Note to physicians** | Treat symptomatically. |

## 5. FIRE FIGHTING MEASURES

**Suitable Extinguishing Media**

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|---|---|
| **Suitable Extinguishing Media** | Foam. Dry chemical or CO2. |
| **Unsuitable extinguishing media** | Water. |

**Specific hazards arising from the chemical**

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|---|---|
| **Specific hazards arising from the chemical** | Combustible material. Thermal decomposition can lead to release of irritating and toxic gases and vapors. Cool drums with water spray. |
| **Hazardous combustion products** | Carbon oxides. Nitrogen oxides. |

**Special protective actions for fire-fighters**

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|---|---|
| **Special protective equipment for fire-fighters** | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

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|---|---|
| **Personal precautions** | Avoid contact with skin, eyes and inhalation of vapors. Stop leak if you can do it without risk. Do not touch or walk through spilled material. Evacuate personnel to safe areas. Remove all sources of ignition. Use personal protective equipment as required. Wash thoroughly after handling. |
| **For emergency responders** | Use personal protection recommended in Section 8. |

**Environmental precautions**

| | |
|---|---|
| **Environmental precautions** | See Section 12 for additional Ecological Information. |

**Methods and material for containment and cleaning up**

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|---|---|
| **Methods for containment** | Prevent further leakage or spillage if safe to do so. |

**Methods for cleaning up** Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. After cleaning, flush away traces with water. Recover the cleaning water for subsequent disposal. For large amounts, pump off product.

**Precautions to prevent secondary hazards**

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling** Avoid contact with skin and eyes. Avoid breathing vapors or mists. Use personal protection equipment. Wash thoroughly after handling.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Keep/store only in original container. Store away from foodstuffs and sources of heat or ignition. Keep container closed when not in use.

**Packaging materials** Do not store in copper or copper alloy containers. Do not store in tin containers.

**Incompatible materials** Alcohols. Amines. Bases. Water. Protic solvents. Copper. Tin.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Limits** No value assigned for this specific material by the New Zealand Workplace Health & Safety Authority. However, Workplace Exposure Standard(s) for constituent(s):

Isocyanates, all, (as -NCO): WES-TWA 0.02 mg/m$^3$; WES-STEL 0.07 mg/m$^3$, dsen, rsen

As published by the New Zealand Workplace Health & Safety Authority.

WES - TWA (Workplace Exposure Standard - Time Weighted Average) - The eight-hour, time-weighted average exposure standard is designed to protect the worker from the effects of long-term exposure.

WES - STEL (Workplace Exposure Standard - Short Term Exposure Limits) - The 15 minute average exposure standard. Applies to any 15 minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both short-term and eight-hour, time-weighted average exposures should be determined.

(dsen) - Dermal sensitiser.

(rsen) - Respiratory sensitiser.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

**Appropriate engineering controls**

**Engineering controls** Apply technical measures to comply with the occupational exposure limits.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

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

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, SAFETY GLASSES, GLOVES, RESPIRATOR.

**Eye/face protection** Glasses.

**Hand protection** Impervious gloves.

**Skin and body protection** Boots. Wear suitable protective clothing. Overalls.

**Respiratory protection** If determined by a risk assessment an inhalation risk exists, wear an organic vapour/particulate respirator or an air supplied mask meeting the requirements of AS/NZS 1715 and AS/NZS 1716. When using a spray-gun, wear self-contained breathing apparatus.

**Environmental exposure controls** No information available.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

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|---|---|
| **Physical state** | Liquid |
| **Appearance** | No information available. |
| **Color** | Colourless to Slightly Yellow |
| **Odor** | Odourless |
| **Odor threshold** | No information available. |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | Not applicable | None known |
| **Melting point / freezing point** | < -20°C | None known |
| **Boiling point / boiling range** | >220°C (1.33 hPa) | None known |
| **Flash point** | 228°C | EN 22719 |
| **Evaporation rate** | No data available | None known |
| **Flammability (solid, gas)** | No data available | None known |
| **Flammability Limit in Air** | | None known |
| **Upper flammability or explosive limits** | No data available | |
| **Lower flammability or explosive** | No data available | |

| | | |
|---|---|---|
| **limits** | | |
| **Vapor pressure** | No data available | None known |
| **Vapor density** | No data available | None known |
| **Relative density** | 1.16 @25°C | None known |
| **Water solubility** | Reacts with water | None known |
| **Solubility(ies)** | No data available | None known |
| **Partition coefficient** | No data available | None known |
| **Autoignition temperature** | 460°C | None known |
| **Decomposition temperature** | No data available | None known |
| **Kinematic viscosity** | No data available | None known |
| **Dynamic viscosity** | 1200 mPa.s @25°C | None known |

**Other information**

## 10. STABILITY AND REACTIVITY

**Reactivity**

**Reactivity** Reacts with water.

**Chemical stability**

**Stability** Stable under normal conditions.

**Explosion data**

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

**Possibility of hazardous reactions**

**Possibility of hazardous reactions** Reacts with alcohols, amines, bases, water, aqueous solutions, protic solvents with a great release of carbon dioxide, and hence a risk of a pressure build-up in confined areas.

**Conditions to avoid**

**Conditions to avoid** Heat, flames and sparks. Moisture.

**Incompatible materials**

**Incompatible materials** Alcohols. Amines. Bases. Water. Protic solvents. Copper. Tin.

**Hazardous decomposition products**

**Hazardous decomposition products** Carbon oxides. Nitrogen oxides.

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

**Information on likely routes of exposure**

**Product Information** No adverse health effects expected if the chemical is handled in accordance with this Safety Data Sheet and the chemical label. Symptoms or effects that may arise if the chemical is mishandled and overexposure occurs are:

**Inhalation** May cause irritation. Harmful if inhaled. May cause sensitization by inhalation.

**Eye contact** May cause irritation.

**Skin contact** May cause irritation. May cause sensitization by skin contact.

**Ingestion** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

**Symptoms** Irritation. Redness. Rashes. Hives. May cause allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Acute toxicity**

**Numerical measures of toxicity**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Hexamethylene diisocyanate, homopolymer | = >2500 mg/kg ( Female Rat ) | = >2000 mg/kg ( Rat ) | = 18500 mg/m³ ( Rat ) 1 h |
| Hexamethylene diisocyanate | = 738 mg/kg ( Rat ) | = 593 mg/kg ( Rabbit ) | = 0.06 mg/L ( Rat ) 4 h |

*See section 16 for terms and abbreviations*

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** Not classified.

**Serious eye damage/eye irritation** Not classified.

**Respiratory or skin sensitization** May cause sensitization by inhalation. May cause sensitization by skin contact.

**Germ cell mutagenicity** Not classified.

**Carcinogenicity** Not classified.

**Reproductive toxicity** Not classified.

**STOT - single exposure** May cause respiratory irritation.

**STOT - repeated exposure** Not classified.

**Aspiration hazard** Not classified.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Ecotoxicity** Keep out of waterways.

**Terrestrial ecotoxicity** There is no data for this product.

| Chemical name | Algae/aquatic plants | Fish | Crustacea |
|---|---|---|---|
| Hexamethylene diisocyanate | - | LC50: =26.1mg/L (96h, Brachydanio rerio) | - |

**Persistence and degradability**

**Persistence and degradability** Not readily biodegradable.

**Bioaccumulative potential**

**Bioaccumulation** Material does not bioaccumulate.

**Mobility**

**Mobility in soil** No information available.

**Other adverse effects**

**Other adverse effects** No information available.

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Waste from residues/unused products** Dispose of product in packaging in a way that is consistent with the Hazardous Substances (Disposal) Notice 2017 and the Act. Treat the substance using a method that changes the characteristics or composition of the substance so that the substance is no longer a hazardous substance; or export the substance from New Zealand as waste.

**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. TRANSPORT INFORMATION

**ROAD AND RAIL TRANSPORT** Not classified as a Dangerous Good under NZS 5433 Transport of Dangerous Goods on Land.

**IATA** Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; NON-DANGEROUS GOODS.

**IMDG** Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; NON-DANGEROUS GOODS.

## 15. REGULATORY INFORMATION

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

**New Zealand**

**National regulations** See section 8 for national exposure control parameters

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| Chemical name | New Zealand HSNO Chemical Classification |
|---|---|
| Hexamethylene diisocyanate, homopolymer - 28182-81-2 | 6.1D (All),6.1D (I),6.5A,6.5B |
| Hexamethylene diisocyanate - 822-06-0 | 6.1A (All),6.1A (I),6.1C (D),6.1D (O),6.3A,6.4A,6.5A,6.5B,6.9A (All),6.9A (I),9.3B |

**International Inventories**

| | |
|---|---|
| **NZIoC** | This material is listed on the New Zealand Inventory of Chemicals. |
| **TSCA** | Contact supplier for inventory compliance status. |
| **DSL/NDSL** | Contact supplier for inventory compliance status. |
| **EINECS/ELINCS** | Contact supplier for inventory compliance status. |
| **ENCS** | Contact supplier for inventory compliance status. |
| **IECSC** | Contact supplier for inventory compliance status. |
| **KECL** | Contact supplier for inventory compliance status. |
| **PICCS** | Contact supplier for inventory compliance status. |
| **AICS** | This material is listed on the Australian Inventory of Industrial Chemicals. |

**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
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**- Australian Inventory of Industrial Chemicals**

**International Regulations**

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

## 16. OTHER INFORMATION

Supplier Safety Data Sheet 01/ 2020
Tolonate is a trademark.

| | |
|---|---|
| **Prepared By** | This Safety Data Sheet has been prepared by Ixom Operations Pty Ltd (Toxicology and SDS Services). |
| **Issuing Date:** | 08-Apr-2021 |
| **Reason(s) For Issue:** | 5 Yearly Revised Primary SDS |

**Revision Note:**
The symbol (*) in the margin of this SDS indicates that this line has been revised.

**Key or legend to abbreviations and acronyms used in the safety data sheet**
Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | | | |
|---|---|---|---|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |
| C | Carcinogen | | |

**Key literature references and sources for data used to compile the SDS**
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australian Industrial Chemicals Introduction Scheme (AICIS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

**Disclaimer**

**This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.**

**If clarification or further information is needed, the user should contact their Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.**

**Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.**

**End of Safety Data Sheet**