

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

Pure substance/mixture Substance

Recommended use of the chemical and restrictions on use

Recommended use Manufacture of paints and varnishes. Industrial applications.

Uses advised against No information available.

Supplier

Ixom Operations Pty Ltd
ABN: 51 600 546 512
Level 8, 1 Nicholson Street
Melbourne 3000
Australia

Telephone Number: +61 3 9906 3000

Emergency telephone number

Emergency telephone number **1 800 033 111 (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

GHS Classification

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin sensitization	Category 1
Specific target organ toxicity (single exposure)	Category 3

SIGNAL WORD

Warning

Label elements

Exclamation mark

**Hazard statements**

H317 - May cause an allergic skin reaction

H332 - Harmful if inhaled

H335 - May cause respiratory irritation

Precautionary Statements - Prevention

Avoid breathing dust / 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

Precautionary Statements - Response

Specific treatment (see First aid on this SDS)

IF ON SKIN: Wash with plenty of soap and water

Contaminated work clothing should not be allowed out of the workplace.

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

Call a POISON CENTER or doctor if you feel unwell

Precautionary Statements - Storage

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

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Other hazards which do not result in classification**Poisons Schedule (SUSMP)** 6**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, Australia: 13 11 26

Poisons Information Center, New Zealand: 0800 764 766

Inhalation

Remove to fresh air. If breathing is difficult, (trained personnel should) give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately.

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. Get medical attention if symptoms occur.
Ingestion	Do NOT induce vomiting. Give nothing to drink. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.

Most important symptoms and effects, both acute and delayed

Symptoms	Irritation. Redness. Rashes. Hives. May cause allergic skin reaction.
-----------------	---

Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically. May cause sensitization by skin contact.
---------------------------	---

5. FIRE FIGHTING MEASURES**Suitable Extinguishing Media**

Suitable Extinguishing Media	Foam. Dry chemical or CO2.
-------------------------------------	----------------------------

Unsuitable extinguishing media	Water.
---------------------------------------	--------

Specific hazards arising from the chemical

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

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**

Personal precautions	Avoid contact with skin, eyes and inhalation of vapors. Ensure adequate ventilation. 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

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. Following product recovery, flush area with water. Recover the cleaning water for subsequent disposal. For large amounts, pump off product.
--------------------------------	--

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Avoid contact with skin and eyes. Avoid breathing vapors or mists. Remove all sources of ignition. 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.

Classified as a C2 (COMBUSTIBLE LIQUID) for the purpose of storage and handling, in accordance with the requirements of AS 1940. Refer to State Regulations for storage and transport requirements.

This material is a Scheduled Poison and must be stored, maintained and used in accordance with the relevant regulations.

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.

Poisons Schedule (SUSMP)

6

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for constituent(s):

Isocyanates, all (as -NCO): 8hr TWA = 0.02 mg/m³, 15 min STEL = 0.07 mg/m³, Sen

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

STEL (Short Term Exposure Limit) - the airborne concentration of a particular substance calculated as a time-weighted average over 15 minutes, which should not be exceeded at any time during a normal eight hour work day. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.

'Sen' Notice - sensitiser. The substance can cause a specific immune response in some people. An affected individual may subsequently react to exposure to minute levels of that substance and should not be further exposed to the substance.

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

Tight sealing safety goggles.

Skin and body protection

Overalls. Wear suitable protective clothing. Boots.

Hand protection

Impervious gloves.

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

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

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
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 limits	No data available	
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 INFORMATIONAcute toxicityInformation 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 Irritating to respiratory system. Harmful if inhaled.

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.

Numerical measures of toxicity - Product Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Hexamethylene diisocyanate, homopolymer	= >2500 mg/kg (Female Rat)	= >2000 mg/kg (Rat)	= 18500 mg/m ³ (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	Not a respiratory sensitizer. (guinea pig). May cause sensitization by skin contact. (mouse).
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.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	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**13. DISPOSAL CONSIDERATIONS**Waste treatment methods

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION**ADG**

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

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 INFORMATIONSafety, health and environmental regulations/legislation specific for the substance or mixtureNational regulationsAustralia

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

See section 8 for national exposure control parameters

Poisons Schedule (SUSMP) 6

International Inventories**AICS**

This material is listed on the Australian Inventory of Industrial Chemicals.

NZIoC

This material is listed on the New Zealand Inventory of Chemicals.

Legend:

- 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.

Reason(s) For Issue: 5 Yearly Revised Primary SDS

Issuing Date: 08-Apr-2021

This Safety Data Sheet has been prepared by Ixom Operations Pty Ltd (Toxicology and SDS Services).

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

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