

MATERIAL SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Chemical Nature: Hydrophillic aliphatic polyisocyanate
Trade Name: Poly Shield WB Hardener
Product Use: Hardener component for two-part polyurethane coating.
Product Code: CPPSWBH
Creation Date: December, 2019
This version issued: February 2020 and is valid for 5 years from this date.
Poisons Information Centre: Phone 13 1126 from anywhere in Australia

SUPPLIER CONTACT INFORMATION:

Name : Conpells Pty. Ltd.
Address : Unit 4, 2 Elderslie Road, Yatala. PO Box 4252 Loganholme DC 4129
Telephone : 61.1300 966 11
Website : www.conpell.com
Email : info@conpell.com
Emergency : 0433 400 220 (24 hours, 7 days a week)

SECTION 2 - HAZARDS IDENTIFICATION

Statement of Hazardous Nature

This product is classified as: Xi, irritating. Not a Dangerous Good according to Australian Dangerous Goods (ADG) Code, IATA, or IMDG/IMSBC criteria. This product is classified as hazardous according to the criteria of NOHSC.
Not subject to the ADG Code when transported in Australia by Road or Rail.

SUSMP Classification: None allocated.

ADG Classification: N/A

UN Number: N/A



GHS Signal word: WARNING

Hazard statements:

H317 May cause an allergic skin reaction.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

Precautionary statements:

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P312 Call a POISON CENTER or doctor/ physician if you feel unwell.

P370 Advice for fire-fighters

P378 Suitable extinguishing media: Carbon dioxide (CO2), Foam, extinguishing powder. In cases of larger fires, water spray should be used. Don't use high volume water jet.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P501 Dispose of contents/container in accordance with local regulation.

HAZARDOUS according to the criteria of NOHSC...NON-DANGEROUS GOODS

MATERIAL SAFETY DATA SHEET

Conpell Pty Ltd

Issue Date: December 11, 2019

Poly Shield WB – Hardener

Version 2

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS No	Conc,%	TWA (mg/m ³)	STEL (mg/m ³)
Hexamethylene-1,6-diisocyanate homopolymer	28182-81-2	>60	not set	not set
Hexamethylene diisocyanate, oligomeristaion product	28182-81-2	10-30	not set	not set
Hydrophilic aliphatic polyisocyanate	666723-27-9	1-5	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equaled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

SECTION 4 - FIRST AID MEASURES

General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call.

Inhalation: If symptoms of poisoning become evident, contact a Poisons Information Centre, or call a doctor at once. Remove source of contamination or move victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. DO NOT allow victim to move about unnecessarily. Symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.

Skin Contact: Wash affected areas thoroughly with soap and plenty of water.

Eye Contact: Hold the eyes open and rinse with preferably lukewarm water for a sufficiently long period of time (at least 10 minutes). Contact an ophthalmologist.

Ingestion: If swallowed, do NOT induce vomiting; rinse mouth thoroughly with water and contact a Poisons Information Centre.

SECTION 5 - FIRE FIGHTING MEASURES

Fire and Explosion Hazards: The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is little risk of an explosion from this product if commercial quantities are involved in a fire.

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

Extinguishing Media: In case of fire, use carbon dioxide, dry chemical, foam, dry sand. Water fog or fine spray is the preferred medium for large fires. Try to contain spills, minimise spillage entering drains or water courses.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade. There is little danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is liquid-tight chemical protective clothing and breathing apparatus.

Flash point: No data

Upper Flammability Limit: No data.

Lower Flammability Limit: No data.

Autoignition temperature: No data.

Flammability Class: No data.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Accidental release: In the event of a major spill, prevent spillage from entering drains or water courses. Evacuate the spill area and deny entry to unnecessary and unprotected personnel. Wear full protective chemically resistant clothing including eye/face protection, gauntlets and self contained breathing apparatus. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include butyl rubber, neoprene. Eye/face protective equipment should comprise as a minimum, protective goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. Usually, no respirator is necessary when

MATERIAL SAFETY DATA SHEET

Conpell Pty Ltd

Issue Date: December 11, 2019

Poly Shield WB – Hardener

Version 2

using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8). Otherwise, not normally necessary.

Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Because of the corrosiveness of this product, special personal care should be taken in any cleanup operation. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Contaminated area may be neutralised by washing with weak or dilute acid. Vinegar, citrus juice and most soft drinks may be suitable. This material may be suitable for approved landfill. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

SECTION 7 - HANDLING AND STORAGE

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage: This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Store in a cool, well ventilated area. Check containers periodically for corrosion and leaks. Containers should be kept closed in order to minimise contamination. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. If you keep more than 10000kg or L of Dangerous Goods of Packaging Group III, you may be required to license the premises or notify your Dangerous Goods authority. If you have any doubts, we suggest you contact your Dangerous Goods authority in order to clarify your obligations. Check packaging - there may be further storage instructions on the label.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

Components with workplace control parameters

Substance	CAS-No.	Basis	Type	Value	Ceiling Limit Value	Remarks
hexamethylene-1,6- diisocyanate homopolymer	28182-81-2	AU OEL	TWA	0,02 mg/m3		, measured as NCO
hexamethylene-1,6- diisocyanate homopolymer	28182-81-2	AU OEL	STEL	0,07 mg/m3		, measured as NCO
Hexamethylene diisocyanate, oligomerisation product (uretdione type)	28182-81-2	AU OEL	TWA	0,02 mg/m3		, measured as NCO
Hexamethylene diisocyanate, oligomerisation product (uretdione type)	28182-81-2	AU OEL	STEL	0,07 mg/m3		, measured as NCO

MATERIAL SAFETY DATA SHEET

Conpell Pty Ltd

Issue Date: December 11, 2019

Poly Shield WB – Hardener

Version 2

Hexamethylene-1,6-diisocyanate	822-06-0	AU OEL	TWA	0,02 mg/m3		
Hexamethylene-1,6-diisocyanate	822-06-0	AU OEL	STEL	0,07 mg/m3		

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation: This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

Eye Protection: Your eyes must be completely protected from this product by splash resistant goggles with face shield. All surrounding skin areas must be covered. Emergency eye wash facilities must also be available in an area close to where this product is being used.

Skin Protection: Because of the dangerous nature of this product, make sure that all skin areas are completely covered by impermeable gloves, overalls, hair covering, apron and face shield. See below for suitable material types.

Protective Material Types: We suggest that protective clothing be made from the following materials: butyl rubber, neoprene.

Respirator: Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above. Otherwise, not normally necessary.

Safety deluge showers should, if practical, be provided near to where this product is being handled commercially.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES:

Physical Description & colour:	Clear slightly yellow homogeneous liquid.
Odour:	Almost odourless.
Boiling Point:	>100°C at 100kPa
Freezing/Melting Point:	About 0°C
Volatiles:	No data.
Vapour Pressure:	No data.
Vapour Density:	No data.
Specific Gravity:	0.90 - 1.10
Water Solubility:	Insoluble.
pH:	No data.
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water Distribution:	No data
Viscosity:	1000-2000 cps (temperature not stated)
Autoignition temp:	No data.

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: Exothermic reaction with amines and alcohols; reacts slowly with water forming CO₂, in closed containers risk of bursting owing to increase of pressure.

Conditions to Avoid: This product should be kept in a cool place, preferably below 30°C. Keep containers tightly closed. Containers should be kept dry. Keep containers and surrounding areas well ventilated.

Incompatibilities: strong acids, oxidising agents (e.g. perchlorates, nitrates etc).

Fire Decomposition: Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. May form nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Polymerisation: Polymerisation reactions are unlikely; they are not expected to occur.

MATERIAL SAFETY DATA SHEET

Conpell Pty Ltd

Issue Date: December 11, 2019

Poly Shield WB – Hardener

Version 2

SECTION 11 - TOXICOLOGICAL INFORMATION

Toxicological studies on the product are not yet available.

Please find below the toxicological data available to us for the components.

Information on toxicological effects Acute toxicity,

oral:

hexamethylene-1,6-diisocyanate homopolymer LD50 rat, female:

≥ 5.000 mg/kg

Method: OECD Test Guideline 423

Hexamethylene diisocyanate, oligomerisation product (uretdione type) LD50 rat,

male/female: > 5.665 mg/kg

Method: OECD Test Guideline 401

hydrophilic aliphatic polyisocyanate LD50 rat: \geq

5.000 mg/kg

Method: OECD Test Guideline 423 Toxicological studies of a comparable product.

Acute toxicity, dermal:

hexamethylene-1,6-diisocyanate homopolymer LD50 rat,

male/female: > 2.000 mg/kg

Method: OECD Test Guideline 402 Toxicological studies of a comparable product.

LD50 rabbit, male/female: > 2.000 mg/kg Toxicological studies of a comparable product.

Hexamethylene diisocyanate, oligomerisation product (uretdione type) No data available.

Acute toxicity, inhalation:

hexamethylene-1,6-diisocyanate homopolymer LC50 rat,

female: 390 mg/m³, 4 h

Test atmosphere: dust/mist Method: OECD Test Guideline 403

Toxicological studies of a comparable product.

The substance was tested in a form (i.e. specific particle size distribution) that is different from the forms in which the substance is placed on the market and in which it can reasonably be expected to be used. Based on the “split-entry” concept and available data on particle size during end-use of the substance a modified classification for acute inhalation toxicity is justified.

Converted acute toxicity point estimate 1,5 mg/l Test atmosphere: dust/mist

Hexamethylene diisocyanate, oligomerisation product (uretdione type) LC50 rat,

male/female: 158 mg/m³, 4 h

MATERIAL SAFETY DATA SHEET

Conpell Pty Ltd

Issue Date: December 11, 2019

Poly Shield WB – Hardener

Version 2

Test atmosphere: dust/mist Method: OECD Test Guideline 403

The substance was tested in a form (i.e. specific particle size distribution) that is different from the forms in which the substance is placed on the market and in which it can reasonably be expected to be used. Based on the “split-entry” concept and available data on particle size during end-use of the substance a modified classification for acute inhalation toxicity is justified.

Converted acute toxicity point estimate 0,5 mg/l Test atmosphere: dust/mist

hydrophilic aliphatic polyisocyanate LC50 rat, male/female: 158 mg/m³, 4 h Test atmosphere: dust/mist
Method: OECD Test Guideline 403 Studies of a comparable product.

The substance was tested in a form (i.e. specific particle size distribution) that is different from the forms in which the substance is placed on the market and in which it can reasonably be expected to be used. Based on the “split-entry” concept and available data on particle size during end-use of the substance a modified classification for acute inhalation toxicity is justified.

Converted acute toxicity point estimate 0,5 mg/l Test atmosphere: dust/mist

Primary skin irritation:

hexamethylene-1,6-diisocyanate homopolymer rabbit
Result: slight irritant
Method: OECD Test Guideline 404

Hexamethylene diisocyanate, oligomerisation product (uretdione type) rabbit
Result: slight irritant
Method: OECD Test Guideline 404

hydrophilic aliphatic polyisocyanate rabbit
Result: An irritant effect cannot be distinguished from a mechanical load caused by the removal of the test specimen.
Method: OECD Test Guideline 404 Toxicological studies of a comparable product.

Primary mucosae irritation:

hexamethylene-1,6-diisocyanate homopolymer Eye effect:

rabbit
Result: slight irritant
Method: OECD Test Guideline 405

Effect on the respiratory tract: Irritating to respiratory system.

Hexamethylene diisocyanate, oligomerisation product (uretdione type) Eye effect:

MATERIAL SAFETY DATA SHEET

Conpell Pty Ltd

Issue Date: December 11, 2019

Poly Shield WB – Hardener

Version 2

rabbit

Result: slight irritant

Method: OECD Test Guideline 405

Effect on the respiratory tract: Irritating to respiratory system.

hydrophilic aliphatic polyisocyanate Eye effect:

rabbit

Result: slight irritant

Method: OECD Test Guideline 405 Toxicological studies of a comparable product.

Effect on the respiratory tract: Irritating to respiratory system.

Sensitisation:

hexamethylene-1,6-diisocyanate homopolymer

Skin sensitization (local lymph node assay (LLNA)): mouse Result: positive

Method: OECD Test Guideline 429

Respiratory sensitization

No pulmonary sensitisation observed in animal tests.

No pulmonary sensitisation potential was observed in guinea pigs after either intradermal or inhalative induction with polyisocyanate based on hexamethylene diisocyanate.

Hexamethylene diisocyanate, oligomerisation product (uretdione type)

Skin sensitisation according to Magnusson/Kligmann (maximizing test): guinea pig Result: positive

Method: OECD Test Guideline 406

Respiratory sensitization

No pulmonary sensitisation observed in animal tests.

No pulmonary sensitisation potential was observed in guinea pigs after either intradermal or inhalative induction with polyisocyanate based on hexamethylene diisocyanate.

hydrophilic aliphatic polyisocyanate

Skin sensitization (local lymph node assay (LLNA)): mouse Classification: May cause sensitization by skin contact.

Result: positive

Method: OECD Test Guideline 429 Toxicological studies of a comparable product.

Respiratory sensitization

Classification: No classification according to EC Directives 2006/121/EC or 1999/45/EC as respiratory sensitizer.

No pulmonary sensitisation observed in animal tests.

No pulmonary sensitisation potential was observed in guinea pigs after either intradermal or inhalative induction with polyisocyanate based on hexamethylene diisocyanate.

Subacute, subchronic and prolonged toxicity: hexamethylene-

1,6-diisocyanate homopolymer NOAEL: 3,3 mg/m³ air

Application Route: Inhalative Species: rat,

MATERIAL SAFETY DATA SHEET

Conpell Pty Ltd

Issue Date: December 11, 2019

Poly Shield WB – Hardener

Version 2

male/female

Dose Levels: 0 - 0,5 - 3,3 - 26,4 mg/m³ Exposure duration: 90 d

Frequency of treatment: 6 hours a day, 5 days a week Test substance: as aerosol

Method: OECD Test Guideline 413 Toxicological studies of a comparable product.

Evidence of damage to organs other than the organs of respiration was not found.

Hexamethylene diisocyanate, oligomerisation product (uretdione type) NOAEL: 0,41 mg/m³ air

Application Route: Inhalative Species: rat,

male/female

Dose Levels: 0,41 - 2,2 - 10,15 mg/m³ Exposure duration: 28 d

Frequency of treatment: 6 hours a day, 5 days a week Method: OECD Test Guideline 412

Evidence of damage to organs other than the organs of respiration was not found.

Carcinogenicity:

hexamethylene-1,6-diisocyanate homopolymer No data available.

Hexamethylene diisocyanate, oligomerisation product (uretdione type) No data available.

Reproductive toxicity/Fertility:

hexamethylene-1,6-diisocyanate homopolymer

Available data show no indications for reproductive toxicity.

Hexamethylene diisocyanate, oligomerisation product (uretdione type) Available data show no indications for reproductive toxicity.

Reproductive toxicity/Teratogenicity:

hexamethylene-1,6-diisocyanate homopolymer

Animal experiments on structurally similar compounds showed no indication of specific reproductive toxicity.

Hexamethylene diisocyanate, oligomerisation product (uretdione type)

Animal experiments on structurally similar compounds showed no indication of specific reproductive toxicity.

Genotoxicity in vitro:

hexamethylene-1,6-diisocyanate homopolymer Test type:

Salmonella/microsome test (Ames test) Metabolic activation: with/without

Result: No indication of mutagenic effects. Method: OECD

Test Guideline 471

Test type: Point mutation in mammalian cells (HPRT test) Metabolic activation: with/without

Result: negative

Method: OECD Test Guideline 476 Toxicological studies of a comparable product.

Test type: Chromosome aberration test in vitro Test system:

Chinese hamster V79 cell line Metabolic activation: with/without

MATERIAL SAFETY DATA SHEET

Conpell Pty Ltd

Issue Date: December 11, 2019

Poly Shield WB – Hardener

Version 2

Result: negative

Method: OECD Test Guideline 473 Toxicological studies of a comparable product.

Hexamethylene diisocyanate, oligomerisation product (uretdione type) Test type: Salmonella/microsome test (Ames test)

Metabolic activation: with/without

Result: No indication of mutagenic effects. Method: OECD Test Guideline 471

Test type: Point mutation in mammalian cells (HPRT test) Metabolic activation: with/without

Result: positive

Method: OECD Test Guideline 476

Test type: Chromosome aberration test in vitro Test system:

Chinese hamster V79 cell line Metabolic activation: with/without

Result: positive

Method: OECD Test Guideline 473

hydrophilic aliphatic polyisocyanate

Test type: Salmonella/microsome test (Ames test) Result: No indication of mutagenic effects.

Method: OECD Test Guideline 471 Toxicological studies of a comparable product.

Genotoxicity in vivo:

Hexamethylene diisocyanate, oligomerisation product (uretdione type) Test type: In vivo micronucleus test

Species: mouse, male Application Route:

Inhalative Exposure duration: 6 h Dose: 0

- 7 - 25 - 50 mg/m³ Cell type: Bone marrow

Method: OECD Test Guideline 474 Test

substance: as aerosol

Did not show mutagenic effects in animal experiments.

Test type: Unscheduled DNA synthesis (UDS) Species: rat, male

Application Route: Inhalative Exposure

duration: 3 h Dose: 0 - 50 - 140 mg/m³

Cell type: Liver cells

Method: OECD Test Guideline 486 Test

substance: as aerosol

Did not show mutagenic effects in animal experiments.

STOT evaluation – one-time exposure: hexamethylene-1,6-

diisocyanate homopolymer Route of exposure: Inhalative

May cause respiratory irritation.

Hexamethylene diisocyanate, oligomerisation product (uretdione type) May cause respiratory irritation.

MATERIAL SAFETY DATA SHEET

Conpell Pty Ltd

Issue Date: December 11, 2019

Poly Shield WB – Hardener

Version 2

STOT evaluation – repeated exposure:

hexamethylene-1,6-diisocyanate homopolymer

Based on available data, the classification criteria are not met.

Hexamethylene diisocyanate, oligomerisation product (uretdione type)

Based on available data, the classification criteria are not met.

Aspiration toxicity:

hexamethylene-1,6-diisocyanate homopolymer

Based on available data, the classification criteria are not met.

Hexamethylene diisocyanate, oligomerisation product (uretdione type)

Based on available data, the classification criteria are not met.

CMR Assessment:

hexamethylene-1,6-diisocyanate homopolymer

Carcinogenicity: Based on available data, the classification criteria are not met.

Mutagenicity: In vitro tests did not show mutagenic effects

Teratogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity/Fertility: Based on available data, the classification criteria are not met.

Hexamethylene diisocyanate, oligomerisation product (uretdione type)

Carcinogenicity: Based on available data, the classification criteria are not met.

Mutagenicity: In vitro tests showed inconsistent results. In vivo tests did not show mutagenic effects. On the basis of this data, the substance is not classified as mutagenic.

Teratogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity/Fertility: Based on available data, the classification criteria are not met.

Toxicology Assessment:

hexamethylene-1,6-diisocyanate homopolymer

Acute effects: Harmful if inhaled.

Sensitization: May cause sensitization by skin contact.

Hexamethylene diisocyanate, oligomerisation product (uretdione type)

Acute effects: Toxic if inhaled.

Sensitization: May cause sensitization by skin contact.

Additional information:

Special properties/effects: Over-exposure, especially when spraying coatings containing isocyanate without the necessary precautions, entails the risk of concentration-dependent irritating effects on eyes, nose throat, and respiratory tract. Delayed appearance of the complaints and development of hypersensitivity (difficult breathing, coughing, asthma) are possible. Hypersensitive persons may suffer from these effects even at low isocyanate concentrations, including concentrations below the UK Workplace Exposure Limit (WEL). Prolonged contact with the skin may cause tanning and irritant effects.

Animal tests and other research indicate that skin contact with diisocyanates can play a role in causing isocyanate sensitization and respiratory reaction.

SECTION 12 - ECOLOGICAL INFORMATION

Do not allow to escape into waterways, wastewater or soil. Please findelov

MATERIAL SAFETY DATA SHEET

Conpell Pty Ltd

Issue Date: December 11, 2019

Poly Shield WB – Hardener

Version 2

the data available to us:

Toxicity

Acute Fish toxicity:

. Ecotoxicological studies of the product are not available.

Acute toxicity for daphnia:

. Ecotoxicological studies of the product are not available.

Acute toxicity for algae:

.

Ecotoxicological studies of the product are not available.

Acute bacterial toxicity:

hexamethylene-1,6-diisocyanate homopolymer EC50 > 10.000 mg/l

Test type: Respiration inhibition Species:

activated sludge Exposure duration: 3 h

Method: EG-RL 88/302/EEC

Hexamethylene diisocyanate, oligomerisation product (uretdione type) EC50 5.560 mg/l

Test type: Respiration inhibition Species:

activated sludge

Method: OECD Test Guideline 209

hydrophilic aliphatic polyisocyanate EC50 > 10.000 mg/l

Species: activated sludge

Method: OECD Test Guideline 209 Ecotoxicological reports on a comparable product

Ecotoxicology Assessment:

Acute aquatic toxicity: The substance is graded as non-critical to water organisms. Chronic aquatic toxicity:

A chronic aquatic toxicity is not expected.

Persistence and degradability Biodegradability:

hexamethylene-1,6-diisocyanate homopolymer Test type:

aerobic

Biodegradation: 2 %, 28 d, i.e. not readily degradable Method: Directive

67/548/EEC Annex V, C.4.E. Ecotoxicological studies of the product

Test type: aerobic

Biodegradation: 0 %, 28 Days, i.e. not inherently degradable Method: OECD

Test Guideline 302 C

Ecotoxicological studies of the product

Hexamethylene diisocyanate, oligomerisation product (uretdione type) Test type: aerobic

Inokulum: activated sludge

Biodegradation: 1 %, 21 d, i.e. not readily degradable Method: Directive

67/548/EEC Annex V, C.4.E.

Test type: aerobic Inokulum: activated

sludge

MATERIAL SAFETY DATA SHEET

Conpell Pty Ltd

Issue Date: December 11, 2019

Poly Shield WB – Hardener

Version 2

Biodegradation: 18 %, 28 d, i.e. not inherently degradable Method: OECD Test Guideline 302 C

hydrophilic aliphatic polyisocyanate Biodegradation: 0 %, i.e. not readily degradable Method: OECD Test Guideline 301 F Ecotoxicological reports on a comparable product

Stability in water:

hexamethylene-1,6-diisocyanate homopolymer Test type:

Hydrolysis

Half life: 7,7 h at 23 °C

Method: OECD Test Guideline 111

The substance hydrolyzes rapidly in water. Studies of a comparable product.

Hexamethylene diisocyanate, oligomerisation product (uretdione type) Test type:

Hydrolysis

Half life: 6,1 h at 23 °C

The substance hydrolyzes rapidly in water.

Photodegradation:

hexamethylene-1,6-diisocyanate homopolymer Test type:

Phototransformation in air Temperature: 25 °C

sensitizer: OH-radicals

Half-life indirect photolysis: 11,7 h Method: SRC -

AOP (calculation)

After evaporation or exposure to the air, the product will be rapidly degraded by photochemical processes.

Test type: Phototransformation in air Temperature: 25 °C

sensitizer: OH-radicals

Half-life indirect photolysis: 3,1 h Method: SRC -

AOP (calculation)

After evaporation or exposure to the air, the product will be rapidly degraded by photochemical processes.

Studies of hydrolysis products.

Hexamethylene diisocyanate, oligomerisation product (uretdione type) Test type:

Phototransformation in air

Temperature: 25 °C sensitizer: OH-

radicals

Concentration sensibilisator: 500.000 1/cm³ Half-life

indirect photolysis: 0,64 h

Method: SRC - AOP (calculation)

After evaporation or exposure to the air, the product will be rapidly degraded by photochemical processes.

Test type: Phototransformation in air Temperature: 25 °C

sensitizer: OH-radicals

Concentration sensibilisator: 500.000 1/cm³ Half-life

indirect photolysis: 0,19 h

Method: SRC - AOP (calculation)

After evaporation or exposure to the air, the product will be rapidly degraded by photochemical processes.

Studies of hydrolysis products.

Volatility (Henry's Law constant): hexamethylene-1,6-diisocyanate

homopolymer Calculated value = < 0,000001 Pa*m³/mol at 25 °C

MATERIAL SAFETY DATA SHEET

Conpell Pty Ltd

Issue Date: December 11, 2019

Poly Shield WB – Hardener

Version 2

Method: Bond-method

The substance has to be scored as non-volatile from water.

Calculated value = $< 0,000001 \text{ Pa} \cdot \text{m}^3/\text{mol}$ at 25 °C Method: Bond-method

The substance has to be scored as non-volatile from water. Studies of hydrolysis products.

Hexamethylene diisocyanate, oligomerisation product (uretdione type) Calculated value = $< 0,000002 \text{ Pa} \cdot \text{m}^3/\text{mol}$ at 25 °C

Method: Bond-method

The substance has to be scored as non-volatile from water.

Bioaccumulative potential Bioaccumulation:

hexamethylene-1,6-diisocyanate homopolymer

Bioconcentration factor (BCF): 706,2

Method: (calculated)

The substance hydrolyzes rapidly in water.

An accumulation in aquatic organisms is not to be expected.

Bioconcentration factor (BCF): 10,11 Method: (calculated)

An accumulation in aquatic organisms is not to be expected. Studies of hydrolysis products.

Hexamethylene diisocyanate, oligomerisation product (uretdione type) Bioconcentration factor (BCF): 788

Method: (calculated)

An accumulation in aquatic organisms is not to be expected.

Bioconcentration factor (BCF): 159 Method: (calculated)

An accumulation in aquatic organisms is not to be expected. Studies of hydrolysis products.

Mobility in soil

Distribution among environmental compartments: hexamethylene-1,6-diisocyanate homopolymer Adsorption/Soil not applicable

Hexamethylene diisocyanate, oligomerisation product (uretdione type) Adsorption/Soil not applicable

Environmental distribution:

hexamethylene-1,6-diisocyanate homopolymer not applicable

Hexamethylene diisocyanate, oligomerisation product (uretdione type) not applicable

Results of PBT and vPvB assessment

hexamethylene-1,6-diisocyanate homopolymer

This substance does not meet the criteria for classification as PBT or vPvB.

MATERIAL SAFETY DATA SHEET

Conpell Pty Ltd

Issue Date: December 11, 2019

Poly Shield WB – Hardener

Version 2

Hexamethylene diisocyanate, oligomerisation product (uretdione type) This substance does not meet the criteria for classification as PBT or vPvB.

Additional information on ecotoxicology:

Isocyanate reacts with water at the interface forming CO₂ and a solid insoluble product with high melting point (polyurea). This reaction is accelerated by surfactants (e.g. detergents) or by watersoluble solvents. Previous experience shows that polyurea is inert and non-degradable.

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal: You should not attempt to reclaim or recycle this product. We suggest that, subject to the regulations in your area, this product should be disposed by controlled incineration, or in landfill.

SECTION 14 - TRANSPORT INFORMATION

HAZARDOUS according to the criteria of NOHSC...NON-DANGEROUS GOODS

SECTION 15 - REGULATORY INFORMATION

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations.

SECTION 16 - OTHER INFORMATION

This SDS contains only safety-related information. For other data see product literature.

Acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail (7 th edition)
AICS	Australian Inventory of Chemical Substances
SWA	Safe Work Australia, formerly ASCC and NOHSC
CAS number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number

THIS SDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS SDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS

OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

This SDS is prepared in accord with the SWA document "Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice" (December 2011)