DESMODUR N 75 MPA/X

Version 5.13 Revision Date 30.11.2023 Print Date 28.03.2026

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

DESMODUR N 75 MPA/X

Material number: 00832200

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use:
Hardener for coating materials

1.3 Details of the supplier of the safety data sheet

Covestro Pty Ltd.
Level 1, 700 Springvale Road
MULGRAVE, VIC 3170
AUSTRALIA

Phone: (61) 3-9581-9888
e-mail: service.au@cx.covestro.com

1.4 Emergency telephone number

IXOM SH&E Shared Services
In Australia: 1800 033 111, In New Zealand: 0800 734 607

SECTION 2: Hazards identification

NZ importers please refer to the additional HSNO Cover Note provided by Covestro for more information specific to this product. The Cover Note should be read in conjunction with this SDS.

2.1 Classification of the substance or mixture

GHS Classification:
Flammable liquids, Category 3 (H226)
Acute toxicity, Inhalative, Category 4 (H332)
Skin irritation, Category 2 (H315)
Eye irritation, Category 2 (H319)
Sensitization of the skin, Category 1 (H317)
Specific target organ toxicity (single exposure), Category 3 (H335) (Respiratory system)
Specific target organ toxicity (repeated exposure), Category 2 (H373)

2.2 Label elements

GHS-Labelling



Warning
Hazardous components which must be listed on the label
Hexamethylene-1,6-diisocyanate Homopolymer
2-methoxy-1-methylethyl acetate
Reaction mass of ethylbenzene and xylene

Hazard statements:

H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements:
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe mist or vapours.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P403 + P235 Store in a well-ventilated place. Keep cool.

HAZARDOUS according to the criteria of NOHSC DANGEROUS GOODS

2.3 Other hazards

Risk of absorption through the skin of 1-methoxypropylacetate-2, xylene and ethylbenzene.

SECTION 3: Composition/information on ingredients

Type of product: Mixture

3.2 Mixtures

aliphatic polyisocyanate
ca. 75 % in 1-methoxypropylacetate-2 / xylene 1 : 1

Hazardous components

Hexamethylene-1,6-diisocyanate Homopolymer
Concentration [wt.-%]: ca. 75
CAS-No.: 28182-81-2
GHS Classification: Acute Tox. 4 Inhalative H332 Skin Sens. 1 H317 STOT SE 3 H335

2-methoxy-1-methylethyl acetate
Concentration [wt.-%]: ca. 12,5
CAS-No.: 108-65-6
GHS Classification: Flam. Liq. 3 H226 STOT SE 3 H336 (Central nervous system)

Reaction mass of ethylbenzene and xylene
Concentration [wt.-%]: ca. 12,5
GHS Classification: Flam. Liq. 3 H226 Acute Tox. 4 Inhalative H332 Acute Tox. 4 Dermal H312 Skin Irrit. 2 H315 Eye Irrit. 2 H319 STOT SE 3 H335 (Respiratory system) STOT RE 2 H373 (inner ear) Asp. Tox. 1 H304 Aquatic Chronic 3 H412

This contains:
hexamethylene-di-isocyanate
Concentration [wt.-%]: < 0,38
CAS-No.: 822-06-0
GHS Classification: Acute Tox. 1 Inhalative H330 Acute Tox. 4 Oral H302 Skin Irrit. 2 H315 Eye Irrit. 2 H319 Resp. Sens. 1 H334 Skin Sens. 1 H317 STOT SE 3 H335
Specific threshold concentration (GHS):

Resp. Sens. 1	H334	>= 0,5 %
Skin Sens. 1	H317	>= 0,5 %

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice: Take off all contaminated clothing immediately.

If inhaled: Take the person into the fresh air and keep him warm, let him rest; if there is difficulty in breathing, medical advice is required.

In case of skin contact: In case of skin contact wash affected areas thoroughly with soap and plenty of water. Consult a doctor in the event of a skin reaction.

In case of 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.

If swallowed: DO NOT induce vomiting. Wash/clean mouth with water. Medical advice is required.

4.2 Most important symptoms and effects, both acute and delayed

Notes to physician: Basic first aid, decontamination, symptomatic treatment.

4.3 Indication of any immediate medical attention and special treatment needed

Therapeutic measures: No information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Carbon dioxide (CO2), Foam, extinguishing powder, in cases of larger fires, water spray should be used.

Unsuitable extinguishing media: High volume water jet

5.2 Special hazards arising from the substance or mixture

Burning releases carbon monoxide, carbon dioxide, oxides of nitrogen, isocyanate vapors and traces of hydrogen cyanide. In the event of fire and/or explosion do not breathe fumes.

Fire in vicinity poses risk of pressure build-up and rupture. Containers at risk from fire should be cooled with water and, if possible, removed from the danger area.

5.3 Advice for fire-fighters

For firefighting, self-contained breathing apparatus is required, plus a gas-tight chemical hazmat suit.

Do not allow contaminated extinguishing water to enter the soil, ground-water or surface waters.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Put on protective equipment (see section 8). Keep away from sources of ignition. Ensure adequate ventilation/exhaust extraction. Keep unauthorized persons away.

6.2 Environment related measures

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

6.3 Methods and material for containment and cleaning up

Remove mechanically; cover the remainder with wet, absorbent material (e.g. sawdust, chemical binder

based on calcium silicate hydrate, sand). After approx. one hour transfer to waste container and do not seal (evolution of CO2!). Keep damp in a safe ventilated area for several days.

Spill area can be decontaminated with the following recommended decontamination solution:

Decontamination solution 1: 8-10% sodium carbonate and 2% of liquid soap in water

Decontamination solution 2: Liquid/yellow soap (potassium soap with ~15% anionic tenside): 20ml; Water:700ml; Polyethylenglycol (PEG 400): 350ml

Decontamination solution 3: 30 % commercial laundry detergent containing monoethanolamine, 70 % water

6.4 Reference to other sections

For further disposal measures see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provide sufficient air exchange and/or exhaust in work rooms. Exhaust ventilation necessary if product is sprayed.

The threshold limit values noted in section 8 must be monitored. In all areas where isocyanate aerosols and/or vapor concentrations are produced in elevated concentrations, exhaust ventilation must be provided in such a way that the workplace exposure limits (WEL) is not exceeded. The air should be drawn away from the personnel handling the product

Products containing solvent: Explosion protection required.

The personal protective measures described in section 8 must be observed. The precautions required in the handling of solvents and isocyanates must be taken. Avoid contact with skin and eyes and the inhalation of vapor.

Keep away from foodstuffs, drinks and tobacco. Wash hands before breaks and at end of work and use skin-protecting ointment. Keep working clothes separately. Take off all contaminated clothing immediately.

7.2 Conditions for safe storage, including any incompatibilities

Keep container dry and tightly closed in a cool and well ventilated place. Further information on the storage conditions which must be observed to preserve quality can be found in our product information sheet.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

Substance	CAS-No.	Basis	Type	Value	Ceiling Limit Value	Remarks
2-methoxy-1-methylethyl acetate	108-65-6	AU NOEL	STEL	100 ppm 548 mg/m3		
2-methoxy-1-methylethyl acetate	108-65-6	AU NOEL				Dermal absorption possible

2-methoxy-1-methylethyl acetate	108-65-6	AU NOEL	TWA	50 ppm 274 mg/m3		
2-methoxy-1-methylethyl acetate	108-65-6	AU OEL	TWA	50 ppm 274 mg/m3		
2-methoxy-1-methylethyl acetate	108-65-6	AU OEL	STEL	100 ppm 548 mg/m3		
2-methoxy-1-methylethyl acetate	108-65-6	AU OEL				Dermal absorption possible
Xylene isomers mixture	1330-20-7	AU OEL	TWA	80 ppm 350 mg/m3		
Xylene isomers mixture	1330-20-7	AU OEL	STEL	150 ppm 655 mg/m3		
Ethylbenzene	100-41-4	AU NOEL	TWA	100 ppm 434 mg/m3		
Ethylbenzene	100-41-4	AU NOEL	STEL	125 ppm 543 mg/m3		
Ethylbenzene	100-41-4	AU OEL	TWA	100 ppm 434 mg/m3		
Ethylbenzene	100-41-4	AU OEL	STEL	125 ppm 543 mg/m3		
hexamethylene-di-isocyanate	822-06-0	AU NOEL	STEL	0,07 mg/m3		
hexamethylene-di-isocyanate	822-06-0	AU NOEL	TWA	0,02 mg/m3		
hexamethylene-di-isocyanate	822-06-0	AU OEL	TWA	0,02 mg/m3		
hexamethylene-di-isocyanate	822-06-0	AU OEL	STEL	0,07 mg/m3		

8.2 Exposure controls

Respiratory protection
Respiratory protection required in insufficiently ventilated working areas and during spraying. An air-fed mask, or for short periods of work, a combination of charcoal filter and particulate filter A2-P2 (EN529) is recommended.

In case of hypersensitivity of the respiratory tract (e.g. asthmatics and those who suffer from chronic bronchitis) it is inadvisable to work with the product.

Hand protection
Conditionally suitable materials for protective gloves; EN 374:
Fluorinated rubber - FKM (>= 0,4 mm)
Breakthrough time not tested; dispose of immediately after contamination.

Eye protection
Wear eye/face protection.

Skin and body protection
Wear suitable protective clothing.
In case of hypersensitivity of the skin it is inadvisable to work with the product.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	liquid at 20 °C at 1.013 hPa
Appearance:	liquid

Colour:	yellowish	
Odour:	solvent-like	
Odour Threshold:	not established	
pH:	substance/mixture reacts with water	
Pour point:	ca. -48 °C	
Boiling point/boiling range:	ca. 145 °C at 1.013 hPa	
Flash point:	ca. 38 °C	DIN 53213
Evaporation rate:	not established	
Flammability (solid, gas):	not applicable	
Burning number:	not applicable	
Upper/lower flammability or explosive limits:		
2-methoxy-1-methylethyl acetate	upper: 10,8 %(V) / lower: 1,5 %(V)	
Vapour pressure:	37 hPa at 55 °C	EG A4
	30 hPa at 50 °C	EG A4
	10 hPa at 20 °C	EG A4
Vapour pressure of ingredients:		
Xylene isomers mixture	ca. 7 - 9 hPa at 20 °C	
2-methoxy-1-methylethyl acetate	ca. 5 hPa at 20 °C	
hexamethylene-di-isocyanate	ca. 0,007 hPa at 20 °C	
Hexamethylene-1,6-diisocyanate Homopolymer	< 0,0001 hPa at 20 °C (vapor pressure balance/OECD No.104)	
Relative vapour density:	not established	
Density:	ca. 1,07 g/cm³ at 20 °C	DIN EN ISO 2811
Miscibility with water:	immiscible at 15 °C	
Water solubility:	not established	
Water solubility of ingredients:		
2-methoxy-1-methylethyl acetate	ca. 200 g/l at 20 °C	
Surface tension:	not established	
Partition coefficient (n−octanol/water):	not established	
Auto-ignition temperature:	not applicable	
Ignition temperature:	ca. 460 °C	DIN 51794
Decomposition temperature:	not established	
Heat of combustion:	not established	
Viscosity, dynamic:	ca. 175 mPa.s at 23 °C	DIN EN ISO 3219/A.3
Viscosity, kinematic:	not established	
Explosive properties:	not established	
Dust explosion class:	not applicable	
Oxidising properties:	not established	

9.2 Other information

The indicated values do not necessarily correspond to the product specification. Please refer to the technical information sheet for specification data.

SECTION 10: Stability and reactivity

10.1 Reactivity

This information is not available.

10.2 Chemical stability

This information is not available.

10.3 Possibility of hazardous reactions

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

10.4 Conditions to avoid

This information is not available.

10.5 Incompatible materials

This information is not available.

10.6 Hazardous decomposition products

No hazardous decomposition products when stored and handled correctly.

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 (hazardous components).

11.1 Information on toxicological effects

Acute toxicity, oral
Hexamethylene-1,6-diisocyanate Homopolymer
LD50 rat: > 5.000 mg/kg

2-methoxy-1-methylethyl acetate
LD50 rat, male/female: 6.190 mg/kg
Method: OECD Test Guideline 401

Reaction mass of ethylbenzene and xylene
LD50 rat, male: 3.523 mg/kg
Method: Directive 67/548/EEC, Annex V, B.1.

Acute toxicity, dermal
ATEmix (dermal):> 2.000 mg/kg
Method: Calculation method

Hexamethylene-1,6-diisocyanate Homopolymer
LD50 rabbit, male/female: > 2.000 mg/kg
Studies of a comparable product.

LD50 rat, male/female: > 2.000 mg/kg
Method: OECD Test Guideline 402
Studies of a comparable product.

2-methoxy-1-methylethyl acetate
LD50 rat: > 5.000 mg/kg
Method: OECD Test Guideline 402

Reaction mass of ethylbenzene and xylene
Assessment: Harmful in contact with skin.
Classification (1272/2008/CE)

Acute toxicity, inhalation
ATEmix (inhal.): 1,72 mg/l, 4 h
Test atmosphere: dust/mist
Method: Calculation method

Hexamethylene-1,6-diisocyanate Homopolymer
LC50 rat: 0,554 mg/l, 4 h
Test atmosphere: dust/mist

The test atmosphere generated in the animal study is not representative of workplace environments, how the substance is placed on the market, and how it can reasonably be expected to be used. Therefore the test result cannot be directly applied for the purpose of assessing hazard. Based on expert judgment and the weight of the evidence, a modified classification for acute inhalation toxicity is justified.

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

Assessment: Harmful if inhaled.

2-methoxy-1-methylethyl acetate
LC50 rat, male:
> 2000 ppm, 3 h
Test atmosphere: gas
Assessment: The substance or mixture has no acute inhalation toxicity

Reaction mass of ethylbenzene and xylene
Assessment: Harmful if inhaled.
Classification (1272/2008/CE)

Primary skin irritation
Hexamethylene-1,6-diisocyanate Homopolymer
Species: rabbit
Result: slight irritant
Classification: No skin irritation
Method: OECD Test Guideline 404
Studies of a comparable product.

2-methoxy-1-methylethyl acetate
Species: rabbit
Result: non-irritant
Classification: No skin irritation
Method: OECD Test Guideline 404

Reaction mass of ethylbenzene and xylene
Classification: Causes skin irritation.
Regulation (EC) No 1272/2008

Primary mucosae irritation
Hexamethylene-1,6-diisocyanate Homopolymer
Species: rabbit
Result: slight irritant
Classification: No eye irritation
Method: OECD Test Guideline 405
Studies of a comparable product.

2-methoxy-1-methylethyl acetate
Species: rabbit
Result: slight irritant
Classification: No eye irritation
Method: OECD Test Guideline 405

Reaction mass of ethylbenzene and xylene
Classification: Causes serious eye irritation.
Regulation (EC) No 1272/2008

Sensitisation
Hexamethylene-1,6-diisocyanate Homopolymer
Skin sensitization (local lymph node assay (LLNA)):
Species: Mouse
Result: positive
Classification: May cause sensitization by skin contact.
Method: OECD Test Guideline 429
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.

2-methoxy-1-methylethyl acetate
Skin sensitisation according to Magnusson/Kligmann (maximizing test):
Species: Guinea pig
Result: negative
Classification: Does not cause skin sensitization.
Method: OECD Test Guideline 406

Respiratory sensitization
No data available.

Reaction mass of ethylbenzene and xylene
Skin sensitization (local lymph node assay (LLNA)):
Species: Mouse
Result: negative
Classification: Does not cause skin sensitization.
Method: OECD Test Guideline 429

Respiratory sensitization
No data available.

Subacute, subchronic and prolonged toxicity
Hexamethylene-1,6-diisocyanate Homopolymer
NOAEL: 3,7 mg/m³ air
LOAEL (Lowest observable adverse effect level): 17,5 mg/m³
Application Route: inhalation (dust/mist/fume)
Species: rat, male/female
Dose Levels: 3 - 15 - 75 mg/m³
Exposure duration: 21 d
Frequency of treatment: (6 hours a day, 5 days a week)
Test substance: (as aerosol)
Method: OECD Test Guideline 412
Evidence of damage to organs other than the organs of respiration was not found.
Studies of a comparable product.

NOAEL: 3,4 mg/m³ air
LOAEL (Lowest observable adverse effect level): 21 mg/m³
Application Route: inhalation (dust/mist/fume)
Species: rat
Dose Levels: 0,3 - 4 - 25 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
Evidence of damage to organs other than the organs of respiration was not found.
Studies of a comparable product.

2-methoxy-1-methylethyl acetate
NOAEL: 1.000 mg/kg
Application Route: Oral
Species: rat, male/female
Dose Levels: 100 - 300 - 1000 mg/kg/day
Method: OECD Test Guideline 422

Reaction mass of ethylbenzene and xylene
NOAEL: 250 mg/kg
Application Route: Oral
Species: rat, male/female
Dose Levels: 0 - 150 - 750 - 1500 mg/kg bw/day
Exposure duration: 90 Days
Method: OECD Test Guideline 408

Carcinogenicity
Hexamethylene-1,6-diisocyanate Homopolymer
No data available.

2-methoxy-1-methylethyl acetate
NOAEL (Toxicity): >= 11,07 mg/l
Species: rat, male/female
Application Route: Inhalative
Exposure duration: 24 month(s)
Frequency of treatment: 6 hours/day, 5 days/week
Studies of a comparable product.

Reaction mass of ethylbenzene and xylene
NOAEL (Toxicity): 500 mg/kg body weight/day
Species: rat, male/female
Application Route: Oral
Dose Levels: 0 - 250 - 500 mg/kg body weight/day
Exposure duration: 103 week(s)
Frequency of treatment: 5 times/week
Method: Regulation (EC) No. 440/2008, Annex, B.32

NOAEL (Toxicity): 1.000 mg/kg body weight/day
Species: Mouse, male/female
Application Route: Oral
Dose Levels: 0 - 500 - 1000 mg/kg body weight/day
Exposure duration: 103 week(s)
Frequency of treatment: 5 times/week
Method: Regulation (EC) No. 440/2008, Annex, B.32

Reproductive toxicity/Fertility
Hexamethylene-1,6-diisocyanate Homopolymer
Available data show no indications for reproductive toxicity.

2-methoxy-1-methylethyl acetate
NOAEL - Parents: 300 ppm
NOAEL – F1: 1000 ppm
NOAEL – F2: 1000 ppm
Test type: Two-generation study
Species: rat, male/female
Application Route: Inhalative
Frequency of treatment: 6 hours/day 7 days/week
Method: OECD Test Guideline 416
Studies of a comparable product.

Reaction mass of ethylbenzene and xylene
NOAEL - Parents: 500 ppm
NOAEL – F1: 500 ppm
NOAEL (parents, generelly toxicity): 500 ppm
Test type: One-generation study
Species: rat, male/female
Application Route: Inhalative
Dose Levels: 0 - 60 - 250 - 500 ppm
Test substance: (as vapour)

NOAEL - Parents: >= 500 ppm
NOAEL – F1: >= 500 ppm
NOAEL – F2: >= 500 ppm
Test type: Two-generation study
Species: rat, male/female
Application Route: Inhalative
Dose Levels: 0 - 25 - 100 - 500 ppm
Test substance: (as vapour)

Reproductive toxicity/Developmental Toxicity/Teratogenicity
Hexamethylene-1,6-diisocyanate Homopolymer
Animal experiments on structurally similar compounds showed no indication of specific reproductive toxicity.

2-methoxy-1-methylethyl acetate
NOAEL (teratogenicity): 1500 ppm
NOAEL (maternal): 1500 ppm
Species: rat, female
Application Route: Inhalative
Dose Levels: 0 - 500 - 1500 - 3000 ppm
Frequency of treatment: 6 hours/day (Exposure duration: 10 days (day 6 - 15 p.c.))
Method: OECD Test Guideline 414

Reaction mass of ethylbenzene and xylene
NOAEL (teratogenicity): >= 2000 ppm
NOAEL (maternal): 500 ppm
NOAEL (developmental toxicity): 100 ppm
Species: rat, female
Application Route: Inhalative
Dose Levels: 0, 100, 500, 1000, 2000 ppm
Frequency of treatment: 6 hours/day 7 days/week
Test substance: (as vapour)
Method: OECD Test Guideline 414

NOAEL (teratogenicity): >= 2000 ppm
NOAEL (maternal): 500 ppm
NOAEL (developmental toxicity): 500 ppm
Species: rat, female
Application Route: Inhalative
Dose Levels: 0, 100, 500, 1000, 2000 ppm
Frequency of treatment: 6 hours/day 7 days/week
Test substance: (as vapour)
Method: OECD Test Guideline 414
Studies of a comparable product.

NOAEL (developmental toxicity): >= 500 ppm
Species: rat, female
Application Route: Inhalative
Dose Levels: 0, 100, 500, 1000 ppm
Frequency of treatment: 6 hours/day 7 days/week
Test substance: (as vapour)
Studies of a comparable product.

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
Studies of a comparable product.

Test type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary (CHO) cells
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 473
Studies of a comparable product.

Test type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster ovary (CHO) cells
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 476
Studies of a comparable product.

2-methoxy-1-methylethyl acetate
Test type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with/without
Result: No indication of mutagenic effects.
Method: OECD Test Guideline 471

Test type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary (CHO) cells
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 473

Test type: Unscheduled DNA synthesis (UDS)
Result: negative
Method: OECD Test Guideline 482

Reaction mass of ethylbenzene and xylene
Test type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with/without
Result: negative
Method: OECD Test Guideline 471

Test type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary (CHO) cells
Metabolic activation: with/without
Result: negative
Method: Directive 67/548/EEC, Annex V, B.10.

Test type: In vitro mammalian cell gene mutation test
Test system: Mouse lymphoma cells
Metabolic activation: with/without
Result: negative
Method: Regulation (EC) No. 440/2008, Annex, B.17

Test type: DNA damage and repair (SCE test)
Test system: Chinese hamster ovary (CHO) cells
Metabolic activation: with/without
Result: negative
Method: Regulation (EC) No. 440/2008, Annex, B.19

Genotoxicity in vivo
Hexamethylene-1,6-diisocyanate Homopolymer
No data available.

2-methoxy-1-methylethyl acetate
No data available.

Reaction mass of ethylbenzene and xylene
Test type: dominant lethal test
Species: rat, male/female
Application Route: intraperitoneal
Dose: 1 ml/kg
Result: negative
Method: OECD Test Guideline 478

Test type: dominant lethal test
Species: Mouse, male/female
Application Route: intraperitoneal
Dose: 1 ml/kg
Result: negative
Method: OECD Test Guideline 478

STOT evaluation – one-time exposure
Hexamethylene-1,6-diisocyanate Homopolymer
May cause respiratory irritation.

2-methoxy-1-methylethyl acetate
Target Organs: Central nervous system
May cause drowsiness or dizziness.

Reaction mass of ethylbenzene and xylene
May cause respiratory irritation.

STOT evaluation – repeated exposure
Hexamethylene-1,6-diisocyanate Homopolymer
Based on available data, the classification criteria are not met.

2-methoxy-1-methylethyl acetate
Based on available data, the classification criteria are not met.

Reaction mass of ethylbenzene and xylene
Target Organs: inner ear
May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity

Hexamethylene-1,6-diisocyanate Homopolymer
Based on available data, the classification criteria are not met.

2-methoxy-1-methylethyl acetate
Based on available data, the classification criteria are not met.

Reaction mass of ethylbenzene and xylene
May be fatal if swallowed and enters airways.

CMR Assessment
Hexamethylene-1,6-diisocyanate Homopolymer
Carcinogenicity: No data available.
Mutagenicity: Based on available data, the classification criteria are not met.
Teratogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity/Fertility: Based on available data, the classification criteria are not met.

2-methoxy-1-methylethyl acetate
Carcinogenicity: No data available.
Mutagenicity: Based on available data, the classification criteria are not met.
Teratogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity/Fertility: Based on available data, the classification criteria are not met.

Reaction mass of ethylbenzene and xylene
Carcinogenicity: Based on available data, the classification criteria are not met.
Mutagenicity: Based on available data, the classification criteria are not met.
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.

2-methoxy-1-methylethyl acetate
Acute effects: Based on available data, the classification criteria are not met.
Sensitization: Based on available data, the classification criteria are not met.

Reaction mass of ethylbenzene and xylene
Acute effects: Harmful in contact with skin or if inhaled Causes skin irritation. Causes serious eye irritation.
Sensitization: Based on available data, the classification criteria are not met.

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 occupational exposure limit. 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.

Risk of cutaneous absorption. Aromatic hydrocarbons irritate the skin and mucous membranes and are narcotic if inhaled in high concentrations. repeated or prolonged contact may cause irritation and dermatitis.

SECTION 12: Ecological information

Ecotoxicological studies of the product are not available.

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

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

12.1 Toxicity

Acute Fish toxicity
Hexamethylene-1,6-diisocyanate Homopolymer
LC50 > 100 mg/l
Species: Danio rerio (zebra fish)
Exposure duration: 96 h
Method: Directive 67/548/EEC, Annex V, C.1.
Sample preparation on account of the reactivity of the substance with water:
Ultra turrax: 60 sec. 8000 rpm; 24h magnetic stirrer; Filtration.

2-methoxy-1-methylethyl acetate
LC50 > 100 mg/l
Species: Oryzias latipes (Orange-red killifish)
Exposure duration: 96 h
Method: OECD Test Guideline 203

Reaction mass of ethylbenzene and xylene
LC50 2,6 mg/l
Species: Oncorhynchus mykiss (rainbow trout)
Exposure duration: 96 h
Method: OECD Test Guideline 203
Studies of a comparable product.

Chronic Fish toxicity
Hexamethylene-1,6-diisocyanate Homopolymer
No data available.

2-methoxy-1-methylethyl acetate
NOEC 47,5 mg/l
Species: Oryzias latipes (Orange-red killifish)
Exposure duration: 14 d

Reaction mass of ethylbenzene and xylene
NOEC > 1,3 mg/l
Species: Oncorhynchus mykiss (rainbow trout)
Exposure duration: 56 d

Acute toxicity for daphnia
Hexamethylene-1,6-diisocyanate Homopolymer
EC50 > 100 mg/l
Species: Daphnia magna (Water flea)
Exposure duration: 48 h
Method: Directive 67/548/EEC, Annex V, C.2.
Sample preparation on account of the reactivity of the substance with water:
Ultra turrax: 60 sec. 8000 rpm; 24h magnetic stirrer; Filtration.
Studies of a comparable product.

2-methoxy-1-methylethyl acetate
EC50 > 500 mg/l
Species: Daphnia magna (Water flea)
Exposure duration: 48 h
Method: Directive 67/548/EEC, Annex V, C.2.

Reaction mass of ethylbenzene and xylene

EC50 1 mg/l
Species: Daphnia magna (Water flea)
Exposure duration: 24 h
Method: OECD Test Guideline 202
Studies of a comparable product.

Chronic toxicity to daphnia
Hexamethylene-1,6-diisocyanate Homopolymer
No data available.

2-methoxy-1-methylethyl acetate
NOEC > 100 mg/l
Species: Daphnia magna (Water flea)
Exposure duration: 21 d
Method: OECD Test Guideline 211

Reaction mass of ethylbenzene and xylene
NOEC 1,17 mg/l
Species: Ceriodaphnia dubia
Exposure duration: 7 d
Studies of a comparable product.

NOEC 0,96 mg/l
Species: Ceriodaphnia dubia
Exposure duration: 7 d
Studies of a comparable product.

Acute toxicity for algae
Hexamethylene-1,6-diisocyanate Homopolymer
ErC50 > 100 mg/l
Species: scenedesmus subspicatus
Exposure duration: 72 h
Method: Directive 67/548/EEC, Annex V, C.3.
Sample preparation on account of the reactivity of the substance with water:
Ultra turrax: 60 sec. 8000 rpm; 24h magnetic stirrer; Filtration.

2-methoxy-1-methylethyl acetate
ErC50 > 1.000 mg/l
Species: Pseudokirchneriella subcapitata (green algae)
Exposure duration: 72 h
Method: OECD Test Guideline 201

Reaction mass of ethylbenzene and xylene
EC50 2,2 mg/l
Species: Pseudokirchneriella subcapitata (green algae)
Exposure duration: 73 h
Method: OECD Test Guideline 201
Studies of a comparable product.

NOEC 0,44 mg/l
Species: Pseudokirchneriella subcapitata (green algae)
Exposure duration: 73 h
Method: OECD Test Guideline 201
Studies of a comparable product.

Acute bacterial toxicity
Hexamethylene-1,6-diisocyanate Homopolymer
EC50 645,7 mg/l
Species: activated sludge
Exposure duration: 3 h
Method: OECD Test Guideline 209
Studies of a comparable product.

2-methoxy-1-methylethyl acetate
EC20 > 1.000 mg/l
Species: activated sludge
Exposure duration: 0,5 h
Method: OECD Test Guideline 209

Reaction mass of ethylbenzene and xylene
EC50 > 157 mg/l
endpoint: Growth rate
Species: activated sludge
Exposure duration: 3 h
Method: OECD Test Guideline 209
Studies of a comparable product.

EC50 96 mg/l
endpoint: nitrification inhibition
Species: activated sludge
Exposure duration: 24 h
Studies of a comparable product.

Toxicity to terrestrial plants
Reaction mass of ethylbenzene and xylene
EC50 (Growth inhibition) > 1 mg/kg
Species: Lactuca sativa (lettuce)
Test period: 14 d
Method: OECD Test Guideline 208
Studies of a comparable product.

Ecotoxicology Assessment
Hexamethylene-1,6-diisocyanate Homopolymer
Acute aquatic toxicity: Based on available data, the classification criteria are not met.
Chronic aquatic toxicity: Based on available data, the classification criteria are not met.

2-methoxy-1-methylethyl acetate
Acute aquatic toxicity: Based on available data, the classification criteria are not met.
Chronic aquatic toxicity: Based on available data, the classification criteria are not met.

Reaction mass of ethylbenzene and xylene
Acute aquatic toxicity: Based on available data, the classification criteria are not met.
Chronic aquatic toxicity: Harmful to aquatic life with long lasting effects.
Impact on Sewage Treatment: Because of the low bacterial toxicity, there is no risk of an adverse effect on the performance of biological waste water treatment plants.

12.2 Persistence and degradability

Biodegradability
Hexamethylene-1,6-diisocyanate Homopolymer
Biodegradation: 1 %, 28 d, i.e. not readily degradable
Method: Directive 67/548/EEC Annex V, C.4.E.

2-methoxy-1-methylethyl acetate
Biodegradation: 100 %, 8 d, i.e. inherently degradable
Method: OECD Test Guideline 302 B

Biodegradation: > 90 %, 28 d, i.e. readily biodegradable
Method: OECD Test Guideline 301 F

Reaction mass of ethylbenzene and xylene
Test type: aerobic
Inoculum: activated sludge
Biodegradation: 87,8 %, 28 d, i.e. readily biodegradable
Method: OECD Test Guideline 301 F

Photodegradation
Reaction mass of ethylbenzene and xylene
Test type: Phototransformation in air
sensitizer: OH-radicals
Half-life indirect photolysis: 1 - 2 d
After evaporation or exposure to the air, the product will be moderately degraded by photochemical processes.

Volatility (Henry's Law constant)
Reaction mass of ethylbenzene and xylene

Calculated value = 623 Pa*m3/mol at 25 °C
The substance has to be scored as being highly volatile from water.

Adsorbed organic bound halogens (AOX)
2-methoxy-1-methylethyl acetate

Product does not contain any organic halogens.

12.3 Bioaccumulative potential

Bioaccumulation
2-methoxy-1-methylethyl acetate
Accumulation in aquatic organisms is unlikely.

Reaction mass of ethylbenzene and xylene
Bioconcentration factor (BCF): 25,9
Species: Oncorhynchus mykiss (rainbow trout)
Exposure duration: 56 d
Concentration: 0,74 mg/l
Accumulation in aquatic organisms is unlikely.

12.4 Mobility in soil

Distribution among environmental compartments
Reaction mass of ethylbenzene and xylene
Adsorption/Soil
Koc value: 537
log Koc value: 2,73
Method: OECD Test Guideline 121
Moderately mobile in soils

12.5 Results of PBT and vPvB assessment

No data available.

12.6 Other adverse effects

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

Dispose in accordance with applicable international, national and local laws, ordinances and statutes. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.

13.1 Waste treatment methods

After final product withdrawal, all residues must be removed from containers (drip-free, powder-free or paste-free). Packaging empty of usable product can be handed to a professional waste management company; in the EU, this is done per packaging type at collection points run by the existing take-back systems for the chemicals industry. The product and hazardous substance labelling must be left intact on the packaging.

Alternatively, the product and hazardous substance labelling can be removed if the product residues adhering to the sides are rendered non-hazardous. This packaging can also be handed to the collection points run by the existing take-back systems for the chemicals industry for packaging type-specific recycling.
Containers must be recycled in compliance with national legislation and environmental regulations.

No disposal into waste water.

SECTION 14: Transport information

ADG7 - Australia

14.1 UN number or ID number	:	UN 1866
14.2 UN proper shipping name	:	RESIN SOLUTION
14.3 Transport hazard class(es)	:	3
Hazchem Code	:	3Y
14.4 Packing group	:	III
14.5 Environmental hazards	:	no

IATA

14.1 UN number or ID number	:	UN 1866
14.2 UN proper shipping name	:	RESIN SOLUTION
14.3 Transport hazard class(es)	:	3
14.4 Packing group	:	III
14.5 Environmental hazards	:	no

IMDG

14.1 UN number or ID number	:	UN 1866
14.2 UN proper shipping name	:	RESIN SOLUTION
14.3 Transport hazard class(es)	:	3
14.4 Packing group	:	III
14.5 Marine pollutant	:	no
EmS Code	:	F-E - S-E
Segregation Group IMDG	:	not applicable

14.6 Special precautions for user

See section 6 - 8.

Additional information	:	Combustible. Keep dry. Avoid heat above +40 °C. Keep away from foodstuffs, acids and alkalis.

14.7 Maritime transport in bulk according to IMO instruments

Product is not transported by us in bulk.

SECTION 15: Regulatory information

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

Schedule 6 (Standard for the Uniform Scheduling of Medicines and Poisons)

Any existing national regulations on the handling of isocyanates must be observed.

SECTION 16: Other information

Full text of the hazard statements of the GHS classification referred to under sections 2, 3 and 10.

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

The product is used mainly as a hardener in coating materials or adhesives. The handling of coating materials or adhesives containing reactive polyisocyanates and residual monomeric HDI requires appropriate protective measures referred to in this safety data sheet. These products may therefore be used only in

industrial or trade applications. They are not suitable for use in homeworker (DIY) applications.

Further details for safe handling of aliphatic isocyanates you find on the web page of ALIPA: ALIPA Safeguard – We care that your care (www.alipa.org).

Relevant changes since the last version are highlighted in the margin. This version replaces all previous versions.

Further information
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.