



DESMODUR N 75 BA/X

Version 3.5

Revision Date 14.09.2015

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

1.1 Product identifier

DESMODUR N 75 BA/X

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

Use:

Hardener for coating materials or adhesives for industrial and trade applications

Uses advised against:

Not suitable for use in homemaker (DIY) applications.

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: productsafetyapac@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

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)
Specific target organ toxicity (repeated exposure), Category 2 (H373)

2.2 Label elements

GHS-Labeling



Warning

Hazardous components which must be listed on the label

Hexamethylene-1,6-diisocyanate Homopolymer
n-Butyl acetate
Xylene isomer mixture (with up to 20 % Ethylbenzene)

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/sparks/open flames/hot surfaces. - No smoking.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/ container to an approved waste disposal plant.

HAZARDOUS according to the criteria of NOHSC DANGEROUS GOODS

2.3 Other hazards

Risk of absorption through the skin of xylene and ethylbenzene.

SECTION 3: Composition/information on ingredients

Type of product: Mixture

3.2 Mixtures

aliphatic polyisocyanate

ca. 75 % in n-butyl acetate / 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

n-Butyl acetate

Concentration [wt.-%]: ca. 12,5

EC-No.: 204-658-1

CAS-No.: 123-86-4

GHS Classification: Flam. Liq. 3 H226 STOT SE 3 H336

Xylene isomer mixture (with up to 20 % Ethylbenzene)

Concentration [wt.-%]: ca. 12,5

Index-No.: 601-022-00-9

EC-No.: 215-535-7

CAS-No.: 1330-20-7

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 STOT RE 2 H373 Asp. Tox. 1 H304

This contains:

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Hexamethylene-1,6-diisocyanate

Concentration [wt.-%]: < 0,5

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 the patient to vomit, 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.

5.3 Advice for fire-fighters

During fire-fighting respirator with independent air-supply and airtight garment is required.

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.

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

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
n-Butyl acetate	123-86-4	AU NOEL	STEL	200 ppm 950 mg/m ³		
n-Butyl acetate	123-86-4	AU NOEL	TWA	150 ppm 713 mg/m ³		

n-Butyl acetate	123-86-4	AU OEL	TWA	150 ppm 713 mg/m3		
n-Butyl acetate	123-86-4	AU OEL	STEL	200 ppm 950 mg/m3		
Xylene isomer mixture (with up to 20 % Ethylbenzene)	1330-20-7	AU NOEL	TWA	80 ppm 350 mg/m3		
Xylene isomer mixture (with up to 20 % Ethylbenzene)	1330-20-7	AU NOEL	STEL	150 ppm 655 mg/m3		
Xylene isomer mixture (with up to 20 % Ethylbenzene)	1330-20-7	AU OEL	TWA	80 ppm 350 mg/m3		
Xylene isomer mixture (with up to 20 % Ethylbenzene)	1330-20-7	AU OEL	STEL	150 ppm 655 mg/m3		
Hexamethylene-1,6-diisocyanate	822-06-0	AU NOEL	STEL	0,07 mg/m3		
Hexamethylene-1,6-diisocyanate	822-06-0	AU NOEL	TWA	0,02 mg/m3		
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		

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 is recommended.

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

Hand protection

Conditionally suitable materials for protective gloves; EN 374:

Nitrile rubber - NBR (≥ 0.35 mm)

Only suitable as splash protection. Breakthrough time not tested; dispose of immediately after contamination.

Eye protection

Wear eye/face protection.

Skin and body protection

Wear suitable protective clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:	liquid
Colour:	yellowish
Odour:	solvent-like, like fruit
Odour Threshold:	not established
pH:	not applicable
Pour point:	not established
Boiling point/boiling range:	125 - 127 °C

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Flash point:	ca. 33 °C
Evaporation rate:	not established
Flammability (solid, gas):	not applicable
Burning number:	not applicable
Upper/lower flammability or explosive limits:	
n-Butyl acetate	upper: 7,5 %(V) / lower: 1,2 %(V)
Vapour pressure:	not established
Vapour pressure of ingredients:	
n-Butyl acetate	ca. 12 hPa at 20 °C
Hexamethylene-1,6-diisocyanate	ca. 0,007 hPa at 20 °C
Hexamethylene-1,6-diisocyanate Homopolymer	< 0,0001 hPa at 20 °C (vapor pressure balance/OECD No.104)
Vapour density:	not established
Density:	ca. 1,06 g/cm ³ at 20 °C
Miscibility with water:	immiscible at 15 °C
Surface tension:	not established
Partition coefficient (n-octanol/water):	not established
Auto-ignition temperature:	not applicable
Ignition temperature:	ca. 400 °C
Decomposition temperature:	not established
Viscosity:	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.

11.1 Information on toxicological effects**Acute toxicity, oral**

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

n-Butyl acetate

LD50 rat, female: 10.760 mg/kg
Method: OECD Test Guideline 423

Xylene isomer mixture (with up to 20 % Ethylbenzene)

LD50 rat: > 2.000 - 5.000 mg/kg

Acute toxicity, dermal

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.

n-Butyl acetate

LD50 rat, male/female: 14.112 mg/kg
Method: OECD Test Guideline 402

Xylene isomer mixture (with up to 20 % Ethylbenzene)

Assessment: Harmful in contact with skin.
Suppliers' information

Acute toxicity, inhalation

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.

n-Butyl acetate

LC50 rat, male/female: > 21 mg/l, 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403

Xylene isomer mixture (with up to 20 % Ethylbenzene)
Test atmosphere: vapour
Assessment: Harmful if inhaled.
Suppliers' information

Primary skin irritation

Hexamethylene-1,6-diisocyanate Homopolymer
Species: rabbit
Result: slight irritant
Classification: No skin irritation

n-Butyl acetate
Species: rabbit
Result: non-irritant
Classification: No skin irritation
Method: OECD Test Guideline 404

Species: Human experience
Classification: Repeated exposure may cause skin dryness or cracking.

Xylene isomer mixture (with up to 20 % Ethylbenzene)
Result: irritating
Classification: Causes skin irritation.

Primary mucosae irritation

Hexamethylene-1,6-diisocyanate Homopolymer
Eye effect:

Species: rabbit
Result: slight irritant
Classification: No eye irritation

Effect on the respiratory tract:

Classification: Irritating to respiratory system.

n-Butyl acetate
Species: rabbit
Result: slight irritant
Classification: No eye irritation
Method: OECD Test Guideline 405

Xylene isomer mixture (with up to 20 % Ethylbenzene)
Result: irritating
Classification: Causes serious eye irritation.

Sensitisation

Hexamethylene-1,6-diisocyanate Homopolymer
Skin sensitisation according to Magnusson/Kligmann (maximizing test):
Species: Guinea pig
Result: positive
Classification: May cause sensitization by skin contact.
Method: OECD Test Guideline 406

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.

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n-Butyl 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

Xylene isomer mixture (with up to 20 % Ethylbenzene)
Result: negative
Classification: Does not cause skin sensitization.

Subacute, subchronic and prolonged toxicity

Hexamethylene-1,6-diisocyanate Homopolymer
Application Route: Subacute inhalation toxicity, rat

Method: OECD Test Guideline 412
Test concentration - 3,7 ; 17,5 and 76,6 mg aerosol/m³
exposure time - 3 weeks
(6 hours a day, 5 days a week)
3,7 mg/m³ was tolerated without damage (NOEL),
17,5 mg/m³ and 76,6 mg/m³ caused increase of lung weight,
pronounced concentration-dependent inflammatory changes in the respiratory tract.
All the changes were unspecific and are therefore attributed to the primary irritation potential of the product.
Evidence of damage to organs other than the organs of respiration was not found.
Toxicological studies of a comparable product.

n-Butyl acetate
NOAEL: 500 ppm
Application Route: inhalation (vapour)
Species: rat, male/female
Dose Levels: 500 - 1500 - 3000 ppm
Exposure duration: 90 d
Frequency of treatment: 6 hours a day, 5 days a week

Xylene isomer mixture (with up to 20 % Ethylbenzene)
LOAEL (Lowest observable adverse effect level): 150 mg/kg
Application Route: Oral
Species: rat, male/female
Dose Levels: 0 - 150 - 750 - 1500 mg/kg/day
Method: OECD Test Guideline 408

NOAEL: 250 mg/kg
Application Route: Oral
Species: rat, male/female
Dose Levels: 0 - 250 - 500 mg/kg/day
Method: OECD Test Guideline 453

Carcinogenicity

n-Butyl acetate
No data available.

Xylene isomer mixture (with up to 20 % Ethylbenzene)
NOAEL (Toxicity): 500 mg/kg
Species: rat, male/female
Application Route: Oral
Dose Levels: 0 - 250 - 500 mg/kg
Exposure duration: 103 week(s)
Frequency of treatment: 5 times/week
Animal testing did not show any carcinogenic effects.

NOAEL (Toxicity): 1.000 mg/kg
Species: Mouse, male/female
Application Route: Oral
Dose Levels: 0 - 500 - 1000 mg/kg
Exposure duration: 103 week(s)
Frequency of treatment: 5 times/week

Animal testing did not show any carcinogenic effects.

Reproductive toxicity/Fertility

n-Butyl acetate

Test type: Two-generation study

Species: rat, male/female

Application Route: Inhalative

Method: OECD Test Guideline 416

Animal testing did not show any effects on fertility.

Xylene isomer mixture (with up to 20 % Ethylbenzene)

NOAEL - Parents: 500 ppm

NOAEL (parents, generally toxicity): 500

Test type: One-generation study

Species: rat, male/female

Application Route: Inhalative

Dose Levels: 0 - 60 - 250 - 500 ppm

Frequency of treatment: 6 hours/day 7 days/week

No toxicity to reproduction

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

No toxicity to reproduction

Reproductive toxicity/Teratogenicity

n-Butyl acetate

NOAEL (teratogenicity): 1500 ppm

Species: rat, female

Application Route: Inhalative

Method: OECD Test Guideline 414

Did not show teratogenic effects in animal experiments.

Xylene isomer mixture (with up to 20 % Ethylbenzene)

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: Daily from day 6 to day 20 of the gestation

Method: OECD Test Guideline 414

Genotoxicity in vitro

Hexamethylene-1,6-diisocyanate Homopolymer

Test type: Salmonella/microsome test (Ames test)

Result: No indication of mutagenic effects.

n-Butyl acetate

Test type: Ames test

Metabolic activation: with/without

Result: negative

Method: OECD Test Guideline 471

Test type: In vitro mammalian cell gene mutation test

Metabolic activation: with/without

Result: negative

Method: OECD Test Guideline 473

Xylene isomer mixture (with up to 20 % Ethylbenzene)

Test type: Ames test

Metabolic activation: with/without

Result: negative

Method: OECD Test Guideline 471

Test type: Chromosome aberration test in vitro

Metabolic activation: with/without

Result: negative

Test type: In vitro mammalian cell gene mutation test

Metabolic activation: with/without

Result: negative

Genotoxicity in vivo

Hexamethylene-1,6-diisocyanate Homopolymer

Test type: Micronucleus test

Species: Mouse

Result: negative

n-Butyl acetate

Test type: In vivo micronucleus test

Species: Mouse

Application Route: Oral

Result: negative

Method: OECD Test Guideline 474

Studies of a comparable product.

Xylene isomer mixture (with up to 20 % Ethylbenzene)

Test type: Dominant Lethal Assay

Species: rat, male

Application Route: intraperitoneal

Result: negative

Method: OECD Test Guideline 478

STOT evaluation – one-time exposure

Hexamethylene-1,6-diisocyanate Homopolymer

May cause respiratory irritation.

n-Butyl acetate

May cause drowsiness or dizziness.

Xylene isomer mixture (with up to 20 % Ethylbenzene)

May cause respiratory irritation.

STOT evaluation – repeated exposure

n-Butyl acetate

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

Xylene isomer mixture (with up to 20 % Ethylbenzene)

Target Organs: auditory system

May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity

n-Butyl acetate

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

Xylene isomer mixture (with up to 20 % Ethylbenzene)

May be fatal if swallowed and enters airways.

CMR Assessment

n-Butyl 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.

Xylene isomer mixture (with up to 20 % Ethylbenzene)

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.

Additional information

Special properties/effects: Over-exposure 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.

Risk of absorption through the skin of xylene and ethylbenzene. Aromatic hydrocarbons irritate the skin and mucous membranes and are narcotic if inhaled in high concentrations.

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.

n-Butyl acetate

LC50 18 mg/l

Species: Pimephales promelas (fathead minnow)

Exposure duration: 96 h

Xylene isomer mixture (with up to 20 % Ethylbenzene)

LC50 2,6 mg/l

Species: Oncorhynchus mykiss (rainbow trout)

Exposure duration: 96 h

Chronic Fish toxicity

n-Butyl acetate

No data available.

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.

Ecotoxicological reports on a comparable product

n-Butyl acetate

EC50 44 mg/l

Species: *Daphnia* (water flea)

Exposure duration: 48 h

Xylene isomer mixture (with up to 20 % Ethylbenzene)

EC50 > 1 - 10 mg/l

Species: *Daphnia magna* (Water flea)

Exposure duration: 48 h

Chronic toxicity to daphnia

n-Butyl acetate

NOEC 23 mg/l

Species: *Daphnia magna* (Water flea)

Exposure duration: 21 d

Method: OECD Test Guideline 211

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.

n-Butyl acetate

EC50 675 mg/l

Species: *Scenedesmus quadricauda* (Green algae)

Exposure duration: 72 h

Xylene isomer mixture (with up to 20 % Ethylbenzene)

IC50 2,2 mg/l

Species: algae

Exposure duration: 72 h

Acute bacterial toxicity

Hexamethylene-1,6-diisocyanate Homopolymer

EC50 > 100 mg/l

Species: activated sludge

Exposure duration: 3 h

Method: OECD Test Guideline 209

Ecotoxicological reports on a comparable product

n-Butyl acetate

EC50 356 mg/l

Species: activated sludge

Exposure duration: 40 h

Xylene isomer mixture (with up to 20 % Ethylbenzene)

EC50 96 mg/l

Species: Bacteria

Exposure duration: 24 h

Studies of a comparable product.

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.

n-Butyl acetate

Biodegradation: > 80 %, 5 d, i.e. readily biodegradable
Method: OECD Test Guideline 301 D

Xylene isomer mixture (with up to 20 % Ethylbenzene)

Biodegradation: > 60 %, 28 d, i.e. readily biodegradable
Method: OECD Test Guideline 301 F

12.3 Bioaccumulative potential**Bioaccumulation**

Xylene isomer mixture (with up to 20 % Ethylbenzene)
Bioconcentration factor (BCF): 25,9

Partition coefficient (n-octanol/water)

Xylene isomer mixture (with up to 20 % Ethylbenzene)

log Pow: 3,15

12.4 Mobility in soil**Distribution among environmental compartments**

Xylene isomer mixture (with up to 20 % Ethylbenzene)
The product evaporates readily.

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). Once the product residues adhering to the walls of the containers have been rendered harmless, the product and hazard labels must be invalidated. These containers can be returned for recycling to the appropriate centres set up within the framework of the existing take-back scheme of the chemical industry. Containers must be recycled in compliance with national legislation and environmental regulations.

None disposal into waste water.

SECTION 14: Transport information**ADG7 - Australia**

14.1 UN number : 1866
14.2 UN proper shipping name : RESIN SOLUTION
14.3 Transport hazard class(es) : 3
Hazchem Code : 3Y
14.4 Packing group : III

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14.5 Environmental hazards : no

IATA

14.1 UN number : 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 : 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

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 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

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)

SECTION 16: Other information**Full text of hazardous (H) warnings referred to under sections 2, 3 and 10 of the CLP classification (1272/2008/CE).**

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.

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 homemaker (DIY) applications.

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

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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.