Safety data sheet

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

1.1. Product identifier

Product name **U-Bond 307FC**

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

Intended use **One-component polyurethane adhesive for general purpose bonding.**

Identified Uses	Industrial	Professional	Consumer
SEALANTS AND ADHESIVES FORMULATIONS IN INDUSTRY	SU: 10. ERC: 2. PROC: 3, 4, 5, 8a, 8b, 9. PC: 1.	-	-
INDUSTRIAL APPLICATIONS OF SEALANTS AND ADHESIVES	SU: 17, 19. ERC: 5, 8b. PROC: 10, 8a, 8b. PC: 1.	SU: 17, 19. ERC: 5, 8b. PROC: 10, 8a, 8b. PC: 1.	-
CHEMICAL SUBSTANCE USE IN LABORATORY, INDUSTRIAL	PROC: 15. PC: 1, 21.	-	-

1.3. Details of the supplier of the safety data sheet

Name **N.P.T. S.R.L. A SOCIO UNICO**
Full address **via Guido Rossa 2**
District and Country **40053 Valsamoggia - Loc. Crespellano (BO)**
Italy
Tel. +39 051 969109
Fax +39 051 969837

e-mail address of the competent person responsible for the Safety Data Sheet **infoSDS@nptsrl.com**

1.4. Emergency telephone number

For urgent inquiries refer to **Laboratories and manufactory plant - Gropello Cairoli (PV)**
+39 0382 815132 (avaiable from Monday to Friday, only in the following office hours: 8.30-12.30, 13.30-17.00).

SECTION 2. Hazards identification.

2.1. Classification of the substance or mixture.

The product is classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of EC Regulation 1907/2006 and subsequent amendments.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Carcinogenicity, category 2	H351	Suspected of causing cancer.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
Respiratory sensitization, category 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.

SECTION 2. Hazards identification. ... / >>

2.2. Label elements.

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:

Signal words: Danger

Hazard statements:

H351	Suspected of causing cancer.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
EUH204	Contains isocyanates. May produce an allergic reaction.

Precautionary statements:

P201	Obtain special instructions before use.
P284	[In case of inadequate ventilation] wear respiratory protection.
P304+P340	IF INHALED: remove person to fresh air and keep 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.

Contains: 1,6-HEXANEDIYL-BIS-(2-(2-(1-ETHYLPENTYL)-3-OXAZOLIDINYL)ETHYL)CARBAMATE
DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES.
DIPHENYLMETHANE-2,4'-DIISOCYANATE
DIPHENYLMETHANE-4,4'-DIISOCYANATE

2.3. Other hazards.

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

SECTION 3. Composition/information on ingredients.

3.1. Substances.

Information not relevant.

3.2. Mixtures.

Contains:

Identification.		**Conc. %.**	**Classification 1272/2008 (CLP).**
DIPHENYLMETHANE-4,4'-DIISOCYANATE			
CAS.	*101-68-8*	6 - 7	Carc. 2 H351, Acute Tox. 4 H332, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Resp. Sens. 1 H334, Skin Sens. 1 H317, Note 2 C
EC.	*202-966-0*		
INDEX.	*615-005-00-9*		
Reg. no.	*01-2119457014-47-XXXX*		
DIPHENYLMETHANE-2,4'-DIISOCYANATE			
CAS.	*5873-54-1*	5 - 6	Carc. 2 H351, Acute Tox. 4 H332, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Resp. Sens. 1 H334, Skin Sens. 1 H317, Note 2 C
EC.	*227-534-9*		
INDEX.	*615-005-00-9*		
Reg. no.	*01-2119480143-45-XXXX*		
2,2 - DIMORPHOLINODIETHYL ETHER			
CAS.	*6425-39-4*	2 - 2,5	Eye Irrit. 2 H319
EC.	*229-194-7*		
INDEX.			
Reg. no.	*01-2119969278-20-xxxx*		
DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES.			
CAS.	*9016-87-9*	1,5 - 2	Carc. 2 H351, Acute Tox. 4 H332, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Resp. Sens. 1 H334, Skin Sens. 1 H317
EC.			

SECTION 3. Composition/information on ingredients. ... / >>

INDEX.
1,6-HEXANEDIYL-BIS-(2-(2-(1-ETHYLPENTYL)-3-OXAZOLIDINYL)ETHYL)CARBAMATE
CAS. *140921-24-0* 0,89 - 1 Skin Sens. 1 H317
EC. *411-700-4*
INDEX. *616-079-00-5*
Reg. no. *01-0000015906-63-XXXX*
PHOSPHORIC ACID
CAS. *7664-38-2* 0 - 0,05 Skin Corr. 1B H314, Note B
EC. *231-633-2*
INDEX. *015-011-00-6*
Reg. no. *01-2119485924-24*

Note: Upper limit is not included into the range.
The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures.

4.1. Description of first aid measures.
EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.
SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.
INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.
INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

4.2. Most important symptoms and effects, both acute and delayed.
For symptoms and effects caused by the contained substances, see chap. 11.

4.3. Indication of any immediate medical attention and special treatment needed.
Information not available.

SECTION 5. Firefighting measures.

5.1. Extinguishing media.
SUITABLE EXTINGUISHING EQUIPMENT
The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.
UNSUITABLE EXTINGUISHING EQUIPMENT
None in particular.

5.2. Special hazards arising from the substance or mixture.
HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
Do not breathe combustion products.

5.3. Advice for firefighters.
GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health.
Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures.

6.1. Personal precautions, protective equipment and emergency procedures.
Block the leakage if there is no hazard.
Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions.
The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up.
Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.
Make sure the leakage site is well aired. Check incompatibility for container material in section 7. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

SECTION 6. Accidental release measures. ... / >>

6.4. Reference to other sections.
Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage.

7.1. Precautions for safe handling.
Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

7.2. Conditions for safe storage, including any incompatibilities.
Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, see section 10 for details.

Storage class TRGS 510 (Germany): 10

7.3. Specific end use(s).
Information not available.

SECTION 8. Exposure controls/personal protection.

8.1. Control parameters.

Regulatory References:

DEU	Deutschland	MAK-und BAT-Werte-Liste 2012
ESP	España	INSHT - Límites de exposición profesional para agentes químicos en España 2015
FRA	France	JORF n°0109 du 10 mai 2012 page 8773 texte n° 102
GBR	United Kingdom	EH40/2005 Workplace exposure limits
GRC	Ελλάδα	ΕΦΗΜΕΡΙΣ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ -ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 19 - 9 Φεβρουαρίου 2012
HRV	Hrvatska	NN13/09 - Ministarstvo gospodarstva, rada i poduzetništva
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
NLD	Nederland	Databank of the social and Economic Concil of Netherlands (SER) Values, AF 2011:18
POL	Polska	ROZPORZĄDZENIE MINISTRA PRACY I POLITYKI SPOŁECZNEJ z dnia 16 grudnia 2011r
SWE	Sverige	Occupational Exposure Limit Values, AF 2011:18
EU	OEL EU	Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC.
	TLV-ACGIH	ACGIH 2014

DIPHENYLMETHANE-4,4'-DIISOCYANATE

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	0,05		0,05		
MAK	DEU	0,05		0,05		SKIN.
MAK	DEU	0,05		0,05		INHAL.
VLA	ESP	0,052	0,005			
VLEP	FRA	0,1	0,01	0,2	0,02	
TLV	GRC	0,2		0,2		
NDS	POL	0,05		0,2		
MAK	SWE	0,03	0,002	0,05 (C)	0,005 (C)	
TLV-ACGIH		0,051	0,005			

Predicted no-effect concentration - PNEC.

Normal value in fresh water	1,01	mg/l
Normal value in marine water	0,11	mg/l
Normal value of STP microorganisms	1,01	mg/l
Normal value for the terrestrial compartment	1,01	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers.				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral.	VND	20 mg/kg bw/d						
Inhalation.	0,05 mg/m3	0,05 mg/m3	0,025 mg/m3	0,025 mg/m3	0,1 mg/m3	0,1 mg/m3	0,05 mg/m3	0,05 mg/m3
Skin.	17,2 mg/cm2	25 mg/kg bw/d			28,7 mg/cm2	50 mg/kg/d		

SECTION 8. Exposure controls/personal protection. ... / >>

DIPHENYLMETHANE-2,4'-DIISOCYANATE

Predicted no-effect concentration - PNEC.

Normal value in fresh water	1,01	mg/l
Normal value in marine water	0,11	mg/l
Normal value of STP microorganisms	1,01	mg/l
Normal value for the terrestrial compartment	1,01	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers.				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral.	VND	20 mg/kg bw/d						
Inhalation.	0,05 mg/m3	0,05 mg/m3	0,025 mg/m3	0,025 mg/m3	0,1 mg/m3	0,1 mg/m3	0,05 mg/m3	0,05 mg/m3
Skin.	17,2 mg/cm2	25 mg/kg bw/d			28,7 mg/cm2	50 mg/kg/d		

2,2 - DIMORPHOLINODIETHYL ETHER

Predicted no-effect concentration - PNEC.

Normal value in fresh water	0,1	mg/l
Normal value in marine water	0,01	mg/l
Normal value for fresh water sediment	8,2	mg/kg
Normal value for marine water sediment	0,82	mg/kg
Normal value for water, intermittent release	1	mg/l
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	1,58	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers.				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral.			VND	0,5 mg/kg/d				
Inhalation.			VND	1,8 mg/m3			VND	7,28 mg/m3
Skin.			VND	0,5 mg/kg/d			VND	1 mg/kg/d

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES.

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
OEL	ITA		0,005		
TLV-ACGIH			0,005		

DIPHENYLMETHANE-2,2'-DIISOCYANATE

Predicted no-effect concentration - PNEC.

Normal value in fresh water	1,01	mg/l
Normal value in marine water	0,11	mg/l
Normal value of STP microorganisms	1,01	mg/l
Normal value for the terrestrial compartment	1,01	mg/kg

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers.				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral.	VND	20 mg/kg bw/d						
Inhalation.	0,05 mg/m3	0,05 mg/m3	0,025 mg/m3	0,025 mg/m3	0,1 mg/m3	0,1 mg/m3	0,05 mg/m3	0,05 mg/m3
Skin.	17,2 mg/cm2	25 mg/kg bw/d			28,7 mg/cm2	50 mg/kg/d		

SECTION 8. Exposure controls/personal protection. ... / >>

2,6-DI-TERT-BUTYL-p-CRESOL								
Predicted no-effect concentration - PNEC.								
Normal value of STP microorganisms						100	mg/l	
Normal value for the terrestrial compartment						1,23	mg/kg	
Health - Derived no-effect level - DNEL / DMEL								
	Effects on consumers.				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation.			VND	1.74 mg/m3			VND	5,8 mg/m3
Skin.			VND	5 mg/kg/d			VND	8,3 mg/kg/d

PHOSPHORIC ACID						
Threshold Limit Value.						
Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	2		4		INHAL.
MAK	DEU	2		4		INHAL.
VLA	ESP	1		2		
VLEP	FRA	1	0,2	2	0,5	
WEL	GBR	1		2		
TLV	GRC	1		3		
GVI	HRV	1		2		
TLV	ITA	1		2		
OEL	NLD	1		2		
NDS	POL	1		2		
MAK	SWE	1		3		
OEL	EU	1		2		
TLV-ACGIH		1		3		

Legend:
(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls.

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration. Personal protective equipment must be CE marked, showing that it complies with applicable standards.
Provide an emergency shower with face and eye wash station.
HAND PROTECTION
Protect your hands with work gloves, category III (ref. standard EN 374). For the final choice of material you need to assess the type of use. In case of contact for the short term or as protection against splashes, use gloves made of nitrile (0.3mm thickness, permeation time >480 min.).
In the event of continued exposure use butyl rubber gloves (0.4mm thickness, permeation time> 480 min.). Contaminated gloves should be removed.
SKIN PROTECTION
Wear category II professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.
EYE PROTECTION
Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION
In case of exceeding the threshold value (eg, TLV-TWA) of the substance or one or more of the substances present in the product, it is advisable to wear a mask with filter type A for organic vapors, the class (1, 2 or 3) must be chosen according to the limit concentration of use (1000, 5000 or 10000 ppm) (ref. standard EN 14387).
ENVIRONMENTAL EXPOSURE CONTROLS.
The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

SECTION 9. Physical and chemical properties.

9.1. Information on basic physical and chemical properties.

Appearance	paste
Colour	beige
Odour	typical
Odour threshold.	Not available.
pH.	Not available.
Melting point / freezing point.	Not available.

SECTION 9. Physical and chemical properties. ... / >>

Initial boiling point.	Not available.
Boiling range.	Not available.
Flash point.	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	not flammable
Lower inflammability limit.	Not available.
Upper inflammability limit.	Not available.
Lower explosive limit.	Not available.
Upper explosive limit.	Not available.
Vapour pressure.	Not available.
Vapour density	Not available.
Relative density.	1,45 Kg/l
Solubility	Not available.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature.	Not available.
Decomposition temperature.	Not available.
Viscosity	40000 - 70000 cps
Explosive properties	Not available.
Oxidising properties	Not available.

9.2. Other information.

VOC (Directive 2010/75/EC) :	2,00 % - 29,00 g/litre.
VOC (volatile carbon) :	Not available.

SECTION 10. Stability and reactivity.

10.1. Reactivity.

There are no particular risks of reaction with other substances in normal conditions of use.

PHOSPHORIC ACID: decomposes at temperatures over 200°C/392°F.

10.2. Chemical stability.

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions.

No hazardous reactions are foreseeable in normal conditions of use and storage.

PHOSPHORIC ACID: risk of explosion on contact with nitromethane. May react dangerously with alkalis and sodium borohydride.

10.4. Conditions to avoid.

None in particular. However the usual precautions used for chemical products should be respected.

10.5. Incompatible materials.

PHOSPHORIC ACID: Metals, strong alkalis, aldehydes, sulphides and peroxides.

10.6. Hazardous decomposition products.

PHOSPHORIC ACID: phosphorus oxide.

SECTION 11. Toxicological information.

11.1. Information on toxicological effects.

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.
It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

This product must be handled carefully because of its possible carcinogenic effects. Anyway, currently available data do not allow us to comprehensively assess this product.
Acute effects: stinging eyes. Symptoms may include: rubescence, edema, pain and lachrymation. Ingestion may cause health problems, including stomach pain and sting, nausea and sickness.
Acute effects: contact with skin may cause: irritation, erythema, edema, dryness and chapped skin. Ingestion may cause health disorders, including stomach pain and sting, nausea and sickness.
Acute effects: inhalation of this product may irritate the lower and upper respiratory tract and cause cough and respiratory disorders; at higher concentrations it can also cause pulmonary edema. Ingestion may cause health problems, including stomach pain and sting, nausea and sickness.
Inhalation of this product causes sensitization, which may then give rise to a series of inflammatory episodes, most of all characterized by obstruction and affecting the respiratory system. Sometimes, sensitization phenomena arise together with evident rhinitis and asthma.
Damages to the respiratory system depend on the inhaled quantity, on the product concentration in the working environment and on the exposure time.
Upon contact with skin, this product causes sensitization (dermatitis). Dermatitis derives from skin irritation on the areas which repeatedly come into contact with the sensitizing agent. Cutaneous lesions may include: erythemas, edemas, papules, vesicles, pustules, scurvies,

SECTION 11. Toxicological information. ... / >>

ulcerations and exudative phenomena, whose intensity varies according to illness seriousness and affected areas. Erythemas, edemas and exudative phenomena prevail during the acute phase. Scurfy skin, dryness, ulcerations and skin thickening prevail during the chronic phase.
This product contains isocyanates. Producer's specifications are as follows: Ready-to-use products containing isocyanates may irritate mucosas, particularly those of the respiratory system, and may give rise to hypersensitivity reactions. Vapour or aerosol inhalation may lead to sensitization. Please take all the measures used for all solvent-containing products while manipulating isocyanate-containing products. Avoid vapour and aerosol inhalation. People with allergic or asthmatic precedents or subject to respiratory disorders should not handle products containing isocyanates.

1,6-HEXANEDIYL-BIS-(2-(2-(1-ETHYLPENTYL)-3-OXAZOLIDINYL)ETHYL)CARBAMATE
LD50 (Oral). > 2000 mg/kg Rattus sp.
LD50 (Dermal). > 2000 mg/kg Rattus sp.

2,2 - DIMORPHOLINODIETHYL ETHER
LD50 (Oral). 2025 mg/kg Rattus sp.
LD50 (Dermal). 3038 mg/kg Oryctolagus sp.

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES.
LD50 (Oral). > 10000 mg/kg Rattus sp.
LD50 (Dermal). > 9400 mg/kg Oryctolagus sp.
LC50 (Inhalation). 0,31 mg/l/4h Rattus sp.

DIPHENYLMETHANE-2,4'-DIISOCYANATE
LD50 (Oral). > 2000 mg/kg Rattus sp.
LD50 (Dermal). > 9400 mg/kg Oryctolagus sp.
LC50 (Inhalation). 1,5 mg/l Rattus sp.

DIPHENYLMETHANE-4,4'-DIISOCYANATE
LD50 (Oral). > 2000 mg/kg Rattus sp.
LD50 (Dermal). > 9400 mg/kg Oryctolagus sp.
LC50 (Inhalation). 2,24 mg/l Rattus sp.

PHOSPHORIC ACID
LD50 (Oral). 1530 mg/kg Rattus sp.
LD50 (Dermal). 2740 mg/kg Oryctolagus sp.
LC50 (Inhalation). > 0,85 mg/l/1h Rattus sp.

SECTION 12. Ecological information.

12.1. Toxicity.

1,6-HEXANEDIYL-BIS-(2-(2-(1-ETHYLPENTYL)-3-OXAZOLIDINYL)ETHYL)CARBAMATE
LC50 - for Fish. 316 mg/l/96h Danio rerio
EC50 - for Crustacea. 193 mg/l/48h Daphnia magna

2,2 - DIMORPHOLINODIETHYL ETHER
LC50 - for Fish. > 2150 mg/l/96h
EC50 - for Crustacea. > 100 mg/l/48h Daphnia sp.
EC50 - for Algae / Aquatic Plants. > 100 mg/l/72h
Chronic NOEC for Algae / Aquatic Plants. 100 mg/l

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES.
LC50 - for Fish. > 1000 mg/l/96h Danio rerio
EC50 - for Algae / Aquatic Plants. > 1640 mg/l/72h Scenedesmus subspicatus
Chronic NOEC for Crustacea. > 10 mg/l Daphnia magna

DIPHENYLMETHANE-2,4'-DIISOCYANATE
LC50 - for Fish. > 1000 mg/l/96h Danio rerio
EC50 - for Algae / Aquatic Plants. > 1640 mg/l/72h Scenedesmus subspicatus
Chronic NOEC for Crustacea. > 10 mg/l Daphnia magna

DIPHENYLMETHANE-4,4'-DIISOCYANATE
LC50 - for Fish. > 1000 mg/l/96h Danio rerio
Chronic NOEC for Algae / Aquatic Plants. 1640 mg/l Desmodesmus subspicatus

12.2. Persistence and degradability.

SECTION 12. Ecological information. ... / >>

1,6-HEXANEDIYL-BIS-(2-(2-(1-ETHYLPENTYL)-3-OXAZOLIDINYL)ETHYL)CARBAMATE
NOT rapidly biodegradable.

2,2 - DIMORPHOLINODIETHYL ETHER
NOT rapidly biodegradable.

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES.
NOT rapidly biodegradable.

PHOSPHORIC ACID
Solubility in water. > 850000 mg/l
Biodegradability: Information not available.

12.3. Bioaccumulative potential.

DIPHENYLMETHANE-2,4'-DIISOCYANATE
BCF. 200 Cyprinus carpio

12.4. Mobility in soil.
Information not available.

12.5. Results of PBT and vPvB assessment.

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

12.6. Other adverse effects.

Information not available.

SECTION 13. Disposal considerations.

13.1. Waste treatment methods.
Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information.

14.1. UN number.

Not applicable.

14.2. UN proper shipping name.

Not applicable.

14.3. Transport hazard class(es).

Not applicable.

14.4. Packing group.

Not applicable.

14.5. Environmental hazards.

Not applicable.

14.6. Special precautions for user.

Not applicable.

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

Information not relevant.

SECTION 15. Regulatory information.

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

Seveso category. None.

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006.

Product.

Point. 3

Contained substance.

Point.	56	DIPHENYLMETHANE-4,4'-DIISOCYANATE Reg. no.: 01-2119457014-47-XXXX
Point.	56	DIPHENYLMETHANE-2,4'-DIISOCYANATE Reg. no.: 01-2119480143-45-XXXX
Point.	56	DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES.

Substances in Candidate List (Art. 59 REACH).
None.
Substances subject to authorisarion (Annex XIV REACH).
None.
Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:
None.

Substances subject to the Rotterdam Convention:
None.

Substances subject to the Stockholm Convention:
None.

Healthcare controls.
Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

German regulation on the classification of substances hazardous to water (VwVwS 2005).
WGK 2: Hazard to waters

15.2. Chemical safety assessment.

No chemical safety assessment has been processed for the mixture and the substances it contains.

SECTION 16. Other information.

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Carc. 2	Carcinogenicity, category 2
Acute Tox. 4	Acute toxicity, category 4
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Skin Corr. 1B	Skin corrosion, category 1B
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Resp. Sens. 1	Respiratory sensitization, category 1
Skin Sens. 1	Skin sensitization, category 1
H351	Suspected of causing cancer.
H332	Harmful if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
EUH204	Contains isocyanates. May produce an allergic reaction.

Use descriptor system:

ERC	2	Formulation of preparations
ERC	5	Industrial use resulting in inclusion into or onto a matrix
ERC	8b	Wide dispersive indoor use of reactive substances in open systems

SECTION 16. Other information. ... / >>

PC	1	Adhesives, sealants
PC	21	Laboratory chemicals
PROC	10	Roller application or brushing
PROC	15	Use as laboratory reagent
PROC	3	Use in closed batch process (synthesis or formulation)
PROC	4	Use in batch and other process (synthesis) where opportunity for exposure arises
PROC	5	Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)
PROC	8a	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
PROC	8b	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC	9	Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
SU	10	Formulation [mixing] of preparations and/or re-packaging (excluding alloys)
SU	17	General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment
SU	19	Building and construction work

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY
1. Regulation (EU) 1907/2006 (REACH) of the European Parliament
2. Regulation (EU) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
4. Regulation (EU) 2015/830 of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- ECHA website

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

SECTION 16. Other information. ... / >>

This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

Changes to previous review:
The following sections were modified:
01 / 02 / 03 / 07 / 08 / 09 / 11 / 14 / 15 / 16.