Top Seal

Liquid nail sealing in cartridge
Riwega | eternitycomfort

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

1.1 Product identifier

TRADE NAME: Top Seal
CODE: *020450042 / 020450043*

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

RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE:
Seam sealant
USES ADVISED AGAINST:
No information available at present.

1.3 Details of the supplier of the safety data sheet

RIWEGA Srl
Via Isola di Sopra, 28
39044 Egna (BZ) - ITALY
Tel. 0471/827500

1.4 Emergency telephone number

Gamper Werner
Tel. **0471/827500**
e-mail: info@riwega.com

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) 1272/2008 (CLP)

Hazard class	Hazard category	Hazard statement
Acute Tox	4	H332-Harmful if inhaled.
Eye Irrit	2	H319-Causes serious eye irritation.
STOT SE	3	H335-May cause respiratory irritation.
Skin Irrit.	2	H315-Causes skin irritation.
Resp. Sens.	1	H334-May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin Sens	1	H317-May cause an allergic skin reaction.
Carc.	2	H351-Suspected of causing cancer.
STOT RE	2	H373-May cause damage to organs through prolonged or repeated exposure by inhalation (respiratory system).

2.2 Label elements

Labeling according to Regulation (EC) 1272/2008 (CLP)

Danger

H332-Harmful if inhaled. H319-Causes serious eye irritation. H335-May cause respiratory irritation. H315-Causes skin irritation. H334-May cause allergy or asthma symptoms or breathing difficulties if inhaled. H317-May cause an allergic skin reaction. H351-Suspected of causing cancer. H373-May cause damage to organs through prolonged or repeated exposure by inhalation (respiratory system).

P201-Obtain special instructions before use. P260-Do not breathe vapours or spray. P280-Wear protective gloves / protective clothing / eye protection / face protection. P284-Wear respiratory protection.

P302+P352-IF ON SKIN: Wash with plenty of water / soap. P304+P340-IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338-IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313-IF exposed or concerned: Get medical advice / attention.

EUH204-Contains isocyanates. May produce an allergic reaction.
Diphenylmethanediisocyanate, isomeres and homologues 4,4'-methylenediphenyl diisocyanate o-(p-isocyanatobenzyl)phenyl isocyanate 2,2'-methylenediphenyl diisocyanate.

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2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

SECTION 3 : Composition / information on ingredients

3.1 Substance

n.a

3.2 Mixtures

4,4'-methylenediphenyl diisocyanate	
Registration number (REACH)	01-2119457014-47-XXXX
Index	615-005-00-9
EINECS, ELINCS, NLP	202-966-0
CAS	101-68-8
content %	10-<30
Classification according to Regulation (EC) 1272/2008 (CLP)	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373 (respiratory system) (as inhalation)
Poly propylene glycol	
Registration number (REACH)	---
Index	---
EINECS, ELINCS, NLP	500-039-8 (NLP)
CAS	25322-69-4
content %	10-<25
Classification according to Regulation (EC) 1272/2008 (CLP)	Acute Tox. 4, H302
Diphenylmethanediisocyanate, isomeres and homologues	
Registration number (REACH)	---
Index	---
EINECS, ELINCS, NLP	---
CAS	9016-87-9
content %	10-<25
Classification according to Regulation (EC) 1272/2008 (CLP)	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373 (respiratory system) (as inhalation)
o-(p-isocyanatobenzyl)phenyl isocyanate	
Registration number (REACH)	01-2119480143-45- XXXX
Index	615-005-00-9
EINECS, ELINCS, NLP	227-534-9
CAS	5873-54-1
content %	10-<25
Classification according to Regulation (EC) 1272/2008 (CLP)	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373 (respiratory system) (as inhalation)

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2,2'-methylenediphenyl diisocyanate	
Registration number (REACH)	01-2119927323-43-XXXX
Index	615-005-00-9
EINECS, ELINCS, NLP	219-799-4
CAS	2536-05-2
content %	1-<5
Classification according to Regulation (EC) 1272/2008 (CLP)	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373 (respiratory system) (as inhalation)
Isophthaloyl dichloride	
Registration number (REACH)	01-2119493993-19-XXXX
Index	---
EINECS, ELINCS, NLP	202-774-7
CAS	99-63-8
content %	<0,25
Classification according to Regulation (EC) 1272/2008 (CLP)	Acute Tox. 4, H312 Acute Tox. 3, H331 Skin Corr. 1A, H314 Eye Dam. 1, H318

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.
The substances named in this section are given with their actual, appropriate classification!
For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

SECTION 4: First aid measures

4.1 Description of first aid measures

First-aiders should ensure they are protected!
Never pour anything into the mouth of an unconscious person!

Inhalation
Remove person from danger area.
Supply person with fresh air and consult doctor according to symptoms.
If the person is unconscious, place in a stable side position and consult a doctor. Respiratory arrest - Artificial respiration apparatus necessary.

Skin contact
Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.
Dab away with polyethylene glycol 400

Eye contact
Remove contact lenses.
Wash thoroughly for several minutes using copious water - call doctor immediately, have Data Sheet available.

Ingestion
Rinse the mouth thoroughly with water.
Do not induce vomiting - give copious water to drink. Consult doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1. The following may occur:
Dermatitis (skin inflammation) Drying of the skin.
Allergic contact eczema Discoloration of the skin
Irritant to mucosa of the nose and throat Coughing
Headaches
Effect on the central nervous system Asthmatic symptoms
In case of sensitivity, concentrations below the limit value may already result in asthmatic symptoms. Respiratory distress

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		Other dangerous properties cannot be ruled out. In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.
4.3	**Indication of any immediate medical attention and special treatment needed**	Symptomatic treatment. Delayed effects from exposure can be expected. In case of urge to cough - antitussive agents In case of irritation of the lungs, perform first-aid with controlled-dosage aerosol dexamethasone.

SECTION 5: Firefighting measures

5.1	**Extinguishing media**	**Suitable extinguishing media** CO2 Extinction powder Water jet spray Large fire: Water jet spray / alcohol resistant foam **Unsuitable extinguishing media** High volume water jet
5.2	**Special hazards arising from the substance or mixture**	In case of fire the following can develop: Oxides of carbon Oxides of nitrogen Isocyanates Hydrocyanic acid (hydrogen cyanide) Toxic pyrolysis products. Danger of bursting (explosion) when heated
5.3	**Advice for firefighters**	In case of fire and/or explosion do not breathe fumes. Protective respirator with independent air supply. According to size of fire Full protection, if necessary. Cool container at risk with water. Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1	**Personal precautions, protective equipment and emergency procedures**	Ensure sufficient supply of air. Avoid inhalation, and contact with eyes or skin. If applicable, caution - risk of slipping.
6.2	**Environmental precautions**	If leakage occurs, dam up. Resolve leaks if this possible without risk. Prevent surface and ground-water infiltration, as well as ground penetration. Prevent from entering drainage system. If accidental entry into drainage system occurs, inform responsible authorities.
6.3	**Methods and material for containment and cleaning up**	Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth, sawdust) and dispose of according to Section 13. Keep moist. Do not close packing drum. Allow to stand for a few days in an unclosed container until reaction no longer occurs. CO2 formation in closed tanks causes pressure to rise.
6.4	**Reference to other sections**	For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

7.1	**Precautions for safe handling**	**General recommendations** Avoid inhalation of the vapours. Ensure good ventilation.

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If applicable, suction measures at the workstation or on the processing machine necessary.
Avoid contact with eyes or skin.
No contact with products of this type in case of allergies, asthma und chronic respiratory tract disorders. Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.
Observe directions on label and instructions for use.
Use working methods according to operating instructions.

Notes on general hygiene measures at the workplace
General hygiene measures for the handling of chemicals are applicable. Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities

Keep out of access to unauthorised individuals. Not to be stored in gangways or stair wells.
Store product closed and only in original packing. Do not store with oxidizing agents.
Store in a well ventilated place. Store in a dry place.
Store at room temperature.
Keep protected from direct sunlight and temperatures over 50°C.

7.3 Specific end use(s)

Adhesive sealant

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

GB	Chemical Name	4,4'-methylenediphenyl diisocyanate	Content %: 10-<30
WEL-TWA: 0,02 mg/m3 (Isocyanates, all (as -NCO))		WEL-STEL: 0,07 mg/m3 (Isocyanates, all (as -NCO))	---
Monitoring procedures:		ISO 16702 (Workplace air quality – determination of total isocyanate groups in air using 2-(1-methoxyphenylpiperazine and liquid chromatography) - 2001 MDHS 25/3 (Organic isocyanates in air – Laboratory method using sampling either onto 2-(1- methoxyphenylpiperazine coated glass fibre filters followed by solvent desorption or into impingers and analysis using high performance liquid chromatography) - 1999 - EU project BC/CEN/ENTR/000/2002-16 card 7-4 (2004)	
BMGV: 1 µmol isocyanate-derived diamine/mol creatinine in urine (At the end of the period of exposure)		Other information: Sen (Isocyanates, all (as -NCO))	

GB	Chemical Name	Diphenylmethanediisocyanate, isomeres and homologues	Content %: 10-<25
WEL-TWA: 0,02 mg/m3 (Isocyanates, all (as -NCO))		WEL-STEL: 0,07 mg/m3 (Isocyanates, all (as -NCO))	---
Monitoring procedures:		---	
BMGV: 1 µmol isocyanate-derived diamine/mol creatinine in urine (At the end of the period of exposure)		Other information: Sen (Isocyanates, all (as -NCO))	

GB	Chemical Name	o-(p-isocyanatobenzyl)phenyl isocyanate	Content %: 10-<25
WEL-TWA: 0,02 mg/m3 (Isocyanates, all (as -NCO))		WEL-STEL: 0,07 mg/m3 (Isocyanates, all (as -NCO))	---
Monitoring procedures:		---	

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BMGV: 1 µmol isocyanate-derived diamine/mol creatinine in urine (At the end of the period of exposure)	Other information: Sen (Isocyanates, all (as -NCO))

GB	Chemical Name	2,2'-methylenediphenyl diisocyanate	Content %: 1-<5
WEL-TWA: 0,02 mg/m3 (Isocyanates, all (as -NCO))		WEL-STEL: 0,07 mg/m3 (Isocyanates, all (as -NCO))	---
Monitoring procedures:		---	
BMGV: 1 µmol isocyanate-derived diamine/mol creatinine in urine (At the end of the period of exposure)			Other information: Sen (Isocyanates, all (as -NCO))

4,4'-methylenediphenyl diisocyanate						
Area of application	**Exposure route / Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**	**Note**
	Environment - freshwater		PNEC	1	mg/l	
	Environment - marine		PNEC	0,1	mg/l	
	Environment - sewage treatment plant		PNEC	1	mg/l	
	Environment - soil		PNEC	1	mg/kg dw	
	Environment – sporadic (intermittent) release		PNEC	10	mg/l	
Consumer	Human - oral	Short term, systemic effects	DNEL	20	mg/kg bw/day	
Consumer	Human - dermal	Short term, local effects	DNEL	17,2	mg/cm²	
Consumer	Human - dermal	Short term, systemic effects	DNEL	25	mg/kg bw/day	
Consumer	Human - inhalation	Short term, local effects	DNEL	0,05	mg/m³	
Consumer	Human - inhalation	Short term, systemic effects	DNEL	0,05	mg/m³	
Consumer	Human - inhalation	Long term, local effects	DNEL	0,025	mg/m³	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	0,025	mg/m³	
Workers / employees	Human - dermal	Short term, local effects	DNEL	28,7	mg/cm²	
Workers / employees	Human - dermal	Short term, systemic effects	DNEL	50	mg/kg bw/day	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	0,1	mg/m³	

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Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	0,1	mg/m³	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	0,05	mg/m³	Workers / employees
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	0,05	mg/m³	
o-(p-isocyanatobenzyl)phenyl isocyanate						
Area of application	**Exposure route / Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**	**Note**
	Environment - freshwater		PNEC	1	mg/l	
	Environment - marine		PNEC	0,1	mg/l	
	Environment – sewage treatment plant		PNEC	1	mg/l	
	Environment - soil		PNEC	1	mg/kg dw	
	Environment- Sporadic (intermittent) release		PNEC	10	mg/l	
Consumer	Human - oral	Short term, systemic effects	DNEL	20	mg/kg bw/day	
Consumer	Human - dermal	Short term, local effects	DNEL	17,2	mg/cm²	
Consumer	Human - dermal	Short term, systemic effects	DNEL	25	mg/kg bw/d	
Consumer	Human - inhalation	Short term, local effects	DNEL	0,05	mg/m³	
Consumer	Human - inhalation	Short term, systemic effects	DNEL	0,05	mg/m³	
Consumer	Human - inhalation	Long term, local effects	DNEL	0,025	mg/m³	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	0,025	mg/m³	

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Workers / employees	Human - dermal	Short term, systemic effects	DNEL	50	mg/kg bw/d	
Workers / employees	Human - dermal	Short term, local effects	DNEL	28,7	mg/cm^2	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	0,1	mg/m^3	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	0,1	mg/m^3	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	0,05	mg/m^3	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	0,05	mg/m^3	

2,2'-methylenediphenyl diisocyanate

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
Consumer	Human - oral	Short term, systemic effects	DNEL	20	mg/kg bw/d	
Consumer	Human - dermal	Short term, local effects	DNEL	17,2	mg/cm^2	
Consumer	Human - dermal	Short term, systemic effects	DNEL	25	mg/kg bw/d	
Consumer	Human - inhalation	Short term, systemic effects	DNEL	0,05	mg/m^3	
Consumer	Human - inhalation	Short term, local effects	DNEL	0,05	mg/m^3	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	0,025	mg/m^3	
Consumer	Human - inhalation	Long term, local effects	DNEL	0,025	mg/m^3	
Workers / employees	Human - dermal	Short term, local effects	DNEL	28,7	mg/cm^2	
Workers / employees	Human - dermal	Short term, systemic effects	DNEL	50	mg/kg bw/d	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	0,1	mg/m3	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	0,1	mg/m^3	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	0,05	mg/m^3	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	0,05	mg/m^3	

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Isophthaloyl dichloride						
Area of application	**Exposure route / Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**	**Note**
	Environment - freshwater		PNEC	0,133	mg/l	
	Environment - marine		PNEC	0,0133	mg/l	
	Environment - sporadic (intermittent) release		PNEC	1,337	mg/l	
	Environment - sewage treatment plant		PNEC	6,171	mg/l	
	Environment - sediment, freshwater		PNEC	0,63 65	mg/kg	
	Environment - sediment, marine		PNEC	0,0637	mg/kg	
	Environment - soil		PNEC	0,0492	mg/kg	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	3,94	mg/m³	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	4,47	mg/kg bw/d	

GB WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40.
AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany).
(8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/EU). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period).
(8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). | BMGV = Biological monitoring guidance value EH40.
BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma.
Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.
** = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

8.2 Exposure controls

Appropriate engineering controls
Ensure good ventilation. This can be achieved by local suction or general air extraction.
If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.
Applies only if maximum permissible exposure values are listed here.
Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.
These are specified by e.g. BS EN 14042.
BS EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

Individual protection measures, such as personal protective equipment
General hygiene measures for the handling of chemicals are applicable. Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:
Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:
Chemical resistant protective gloves (EN 374). Recommended
Protective nitrile gloves (EN 374). Minimum layer thickness in mm:
>= 0,35
Permeation time (penetration time) in minutes:
>= 4801

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The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions.
The recommended maximum wearing time is 50% of breakthrough time. Protective hand cream recommended.

Skin protection - Other:
Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection:
Normally not necessary.
If OES or MEL is exceeded.
Filter A2 P2 (EN 14387), code colour brown, white
Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:
Not applicable

Additional information on hand protection - No tests have been performed.
In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.
Selection of materials derived from glove manufacturer's indications.
Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.
Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.
In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.
The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.3 Environmental exposure controls

No information available at present.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state: Liquid
Colour: According to specification
Odour: Characteristic
Odour threshold: Not determined
pH-value: n.a.
Melting point/freezing point: Not determined
Initial boiling point and boiling range: Not determined
Flash point: Not determined
Evaporation rate: Not determined
Flammability (solid, gas): Not determined
Lower explosive limit: n.a.
Upper explosive limit: n.a.
Vapour pressure: Not determined
Vapour density (air = 1): Not determined
Density: 1,13 - 1,15 g/cm³ (20°C)
Bulk density: Not determined
Solubility(ies): Not determined
Water solubility: reacts with water, Insoluble
Partition coefficient (n-octanol/water): Not determined
Auto-ignition temperature: No
Decomposition temperature: Not determined
Viscosity: 1600 - 1900 mPas (20°C)
Explosive properties: Product is not explosive
Oxidising properties: No

9.2 Other information

Miscibility:	Not determined
Fat solubility / solvent:	Not determined
Conductivity:	Not determined
Surface tension:	Not determined
Solvents content:	Not determined

SECTION 10: Stability and reactivity

10.1	**Reactivity**	The product has not been tested.
10.2	**Chemical stability**	Stable with proper storage and handling.
10.3	**Possibility of hazardous reactions**	No decomposition if used as intended.
10.4	**Conditions to avoid**	Protect from humidity. Polymerisation due to high heat is possible. T ~ 260°C
10.5	**Incompatible materials**	Acids Bases Oxidizing agents Amines Alcohols Polyhydric alcohols Water Developement of: CO2 CO2 formation in closed tanks causes pressure to rise. Pressure increase will result in danger of bursting.
10.6	**Hazardous decomposition products**	No decomposition when used as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Possibly more information on health effects, see Section 2.1 (classification).

Top Seal						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	ATE	>2000	mg/kg			Calculated value
Acute toxicity, by dermal route:						n.d.a.
Acute toxicity, by inhalation:	ATE	12,43 - 21,5	mg/l/4h			Calculated value, Vapours
Acute toxicity, by inhalation:	ATE	2,06-3,67	mg/l/4h			Calculated value, Aerosol
Skin corrosion/irritation:		-				
Serious eye damage/irritation:						n.d.a.
Respiratory or skin sensitisation:						n.d.a.
Germ cell mutagenicity:						n.d.a.
Carcinogenicity:						n.d.a.
Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity – repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.

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Symptoms:						n.d.a.
Other information:						Classification according to calculation procedure.

4,4'-methylenediphenyl diisocyanate						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat	Regulation (EC) 440/2008 B.1 (ACUTE ORAL TOXICITY)	Analogous conclusion
Acute toxicity, by dermal route:	LD50	>9400	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	Analogous conclusion
Acute toxicity, by inhalation:	ATE	1,5	mg/l/4h			Aerosol, Expert judgement.
Acute toxicity, by inhalation:	LC50	0,368	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	Aerosol, Does not conform with EU classification.
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Skin Irrit. 2, Analogous conclusion
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant, Analogous conclusion, Does not conform with EU classification.
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact)
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	Yes (skin contact)
Respiratory or skin sensitisation:				Guinea pig		Yes (inhalation)
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative, Analogous conclusion
Germ cell mutagenicity:				Rat	OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative
Germ cell mutagenicity:				Rat	OECD 489 (In Vivo Mammalian Alkaline Comet Assay)	Negative
Carcinogenicity:				Rat	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Limited evidence of a carcinogenic effect., Aerosol, Analogous conclusion
Reproductive toxicity:	NOAE L	4	mg/m³	Rat	OECD 414 (Prenatal Developmental Toxicity Study)	Aerosol, Analogous conclusion
Specific target organ toxicity – repeated exposure (STOT-RE):	NOAE L	0,2	mg/m³	Rat	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Aerosol, Analogous conclusion

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Specific target organ toxicity - repeated exposure (STOT-RE):	LOAE L	1		Rat	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Aerosol, Analogous conclusion
Specific target organ toxicity - single exposure (STOT-SE), inhalative:						Target organ(s): respiratory system, Irritation of the respiratory tract
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:						Target organ(s): respiratory system, Positive

Poly propylene glycol

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>500 - <2000	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>3000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	Analogous conclusion
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	Not sensitizising
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:					OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative, Analogous conclusion
Reproductive toxicity (Developmental toxicity):	NOAEL	1000	mg/kg	Rat	OECD 421 (Reproduction/Developmental Toxicity Screening Test)	Female, Negative, Analogous conclusion
Reproductive toxicity (Effects on fertility):	NOAEL	1000	mg/kg	Rat	OECD 421 (Reproduction/Developmental Toxicity Screening Test)	Analogous conclusion
Reproductive toxicity (Effects on fertility):	NOAEL	1000	mg/kg	Rat	OECD 421 (Reproduction/Developmental Toxicity Screening Test)	Analogous conclusion
Specific target organ toxicity – repeated exposure (STOT-RE):	NOAEL	>=1000	mg/kg/d	Rat	OECD 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)	Analogous conclusion
Symptoms:						annoyance, cramps, trembling

Diphenylmethanediisocyanate, isomeres and homologues

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	

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Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	0,31	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	Aerosol, Does not conform with EU classification.
Acute toxicity, by inhalation:	ATE	1,5	mg/l/4h			Expert judgement.
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Skin Irrit. 2
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant, Analogous conclusion, Does not conform with EU classification.
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	Yes (skin contact), Analogous conclusion
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact)
Respiratory or skin sensitisation:				Rat		Yes (inhalation)
Germ cell mutagenicity:				Rat	OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative, Analogous conclusion
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Carcinogenicity:				Rat	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Aerosol, Limited evidence of a carcinogenic effect.
Reproductive toxicity:	NOAEL	4	mg/m3	Rat	OECD 414 (Prenatal Developmental Toxicity Study)	Aerosol, Negative
Specific target organ toxicity – repeated exposure (STOT-RE):	LOAEL	1		Rat	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Aerosol, Analogous conclusion
Specific target organ toxicity - repeated exposure (STOT-RE):	NOAEL	0,2		Rat	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Aerosol, Analogous conclusion
Aspiration hazard:						Negative
Specific target organ toxicity - single exposure (STOT-SE), inhalative:						Target organ(s): respiratory system, May cause respiratory irritation.

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	Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:						Target organ(s): respiratory system, Positive

o-(p-isocyanatobenzyl)phenyl isocyanate						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat	Regulation (EC) 440/2008 B.1 (ACUTE ORAL TOXICITY)	Analogous conclusion
Acute toxicity, by dermal route:	LD50	>9400	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	Analogous conclusion
Acute toxicity, by inhalation:	LC50	0,387	mg/l/4h	Rat		Aerosol, Does not conform with EU classification.
Acute toxicity, by inhalation:	ATE	1,5	mg/l/4h			Aerosol, Expert judgement.
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Skin Irrit. 2, Analogous conclusion
Serious eye damage/irritation:				Rabbit	OECD 405	Serious eye damage/irritation:
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact), Analogous conclusion
Respiratory or skin sensitisation:				Guinea pig		Yes (inhalation), Analogous conclusion
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	Yes (skin contact), Analogous conclusion
Germ cell mutagenicity:				Salmonel la typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Rat	OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative, Analogous conclusion
Carcinogenicity:				Rat	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Aerosol, Analogous conclusion, Limited evidence of a carcinogenic effect.
Reproductive toxicity:	NOAEL	4	mg/kg	Rat	OECD 414 (Prenatal Developmental Toxicity Study)	Aerosol, Analogous conclusion
Specific target organ toxicity – repeated exposure (STOT-RE):	LOAEL	1		Rat	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Aerosol, Analogous conclusion

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Specific target organ toxicity – repeated exposure (STOT-RE):	NOAEL	0,2	mg/m3	Rat	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Aerosol, Analogous conclusion
Symptoms:						Mucous membrane irritation, breathing difficulties, coughing, asthmatic symptoms
Specific target organ toxicity - single exposure (STOT-SE), inhalative:						Target organ(s): respiratory system, Irritation of the respiratory tract
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat:						Target organ(s): respiratory system, Positive
2,2'-methylenediphenyl diisocyanate						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat	Regulation (EC) 440/2008 B.1 (ACUTE ORAL TOXICITY)	Analogous conclusion
Acute toxicity, by dermal route:	LD50	>9400	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	Analogous conclusion
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Irritant, Analogous conclusion
Respiratory or skin sensitisation:				Guinea pig		Yes (inhalation), Analogous conclusion
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	Yes (skin contact)
Germ cell mutagenicity:				Salmonel la typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative, Analogous conclusion

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Carcinogenicity:				Rat	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Limited evidence of a carcinogenic effect., Analogous conclusion, Aerosol
Reproductive toxicity:	NOAEL	4	mg/m ^{3}	Rat	OECD 414 (Prenatal Developmental Toxicity Study)	No indications of such an effect., Aerosol, Analogous conclusion
Specific target organ toxicity - repeated exposure (STOT-RE):	LOAEL	1		Rat	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Aerosol, Analogous conclusion
Specific target organ toxicity – repeated exposure (STOT-RE):	NOAEL	0,2		Rat	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Aerosol, Analogous conclusion
Symptoms:						Respiratory distress, coughing, mucous membrane irritation
Specific target organ toxicity - single exposure (STOT-SE), inhalative:						May cause respiratory irritation.
Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.:						Target organ(s): respiratory system
Isophthaloyl dichloride						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	1410	mg/kg	Rabbit		
Acute toxicity, by inhalation:	LC50	0,7	mg/l/4h	Rat		Aerosol, Analogous conclusion
Skin corrosion/irritation:				Rabbit		Corrosive, Analogous conclusion
Serious eye damage/irritation:				Rabbit		Corrosive, Analogous conclusion
Respiratory or skin sensitisation:				Guinea pig		No (skin contact)

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Germ cell mutagenicity:					OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative, Analogous conclusion

SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

Top Seal							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:							n.d.a.
12.1. Toxicity to daphnia:							n.d.a.
12.1. Toxicity to algae:							n.d.a.
12.2. Persistence and degradability:							With water at the interface, transforms slowly with formation of CO2 into a firm, insoluble reaction product with a high melting point (polycarba mide). According to experience available to date, polycarbam ide is inert and non-degradable
12.3. Bioaccumulative potential:							n.d.a.
12.4. Mobility in soil:							n.d.a.
12.5. Results of PBT and vPvB assessment							n.d.a.
12.6. Other adverse effects:							n.d.a.
Other information:	AOX						According to the recipe, contains no AOX.
Other information:	DOC						DOC - elimination degree (co mplexing organic substance) >= 80%/28d: n.a.
4,4'-methylenediphenyl diisocyanate							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Other information:	H (Henry)		0,0229				
12.1. Toxicity to fish:	LC50	96h	>1000	mg/l	Brachydaniorerio	OECD 203 (Fish, Acute Toxicity Test)	Analogous conclusion
12.1. Toxicity to daphnia:	EC50	24h	>1000	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	Analogous conclusion
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	>10	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	Analogous conclusion
12.2. Persistence and degradability:		28d	0	%		OECD 302 C (Inherent Biodegradability - Modified MITI Test (II))	Not biodegradable
12.1. Toxicity to algae:	ErC50	72h	>1640	mg/l	Desmodesm us subspicatus	OECD 201 (Alga, Growth Inhibition Test)	Analogous conclusion
12.3. Bioaccumulative potential:	BCF	28d	200		Cyprinus caprio	IUCLID Chem. Data Sheet (ESIS)	Not to be expected

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12.3. Bioaccumulative potential:	Log Pow		5,22				A notable biological accumulati on potential has to be expected (LogPow > 3).
Toxicity to bacteria:	EC50	3h	>100	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	Analogous conclusion
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to annelids:	EC50	14d	>1000	mg/kg	Eisenia foetida	OECD 207 (Earthworm, Acute Toxicity Tests)	Analogous conclusion
Toxicity to annelids:	NOEC/N OEL	14d	> 1000	mg/kg	Lumbricus terrestris	OECD 207 (Earthworm, Acute Toxicity Tests)	Analogous conclusion
Water solubility:							According to experience available to date, polycarbamide is inert and non-degradable, With water at the interface, transforms slowly with formation of CO2 into a firm, insoluble reaction product with a high melting point (polycarbamide).
Poly propylene glycol							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.1. Toxicity to fish:	LC50	96h	>100	mg/l	Poecilia reticulata	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	>100	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	NOEC/N OEL	21d	>=10	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	Analogous conclusion
12.1. Toxicity to algae:	EC0	72h	>= 100	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	>60	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable
12.2. Persistence and degradability:		28d	>60	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable
Toxicity to bacteria:	EC50	3h	>1000	g/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	

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Diphenylmethanediisocyanate, isomeres and homologues							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Other organisms:	NOEC/NOEL	14d	>1000	mg/kg	Avena sativa	OECD 208 (Terrestrial Plants, Growth Test)	
12.1. Toxicity to fish:	LC50	96h	>1000	mg/l	Brachydaniorerio	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	>10	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	EC50	24h	>1000	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	ErC50	72h	>1640	mg/l	Scenedesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	0	%	activated sludge	OECD 302 C (Inherent Biodegradability - Modified MITI Test (II))	Not biodegradable
12.3. Bioaccumulative potential:	BCF	42d	<14		Cyprinus caprio	OECD 305 (Bioconcentr ation - Flow-Through Fish Test)	No significant biodegradation is expected.
12.5. Results of PBT and vPvB assessment							Negative
Toxicity to bacteria:	EC50	3h	>100	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	
Other organisms:	NOEC/N OEL	14d	>1000	mg/kg	Lactuca sativa	OECD 208 (Terrestrial Plants, Growth Test)	
Toxicity to annelids:	NOEC/NOEL	14d	>1000	mg/kg	Lumbricus terrestris	OECD 207 (Earthworm, Acute Toxicity Tests)	
o-(p-isocyanatobenzyl)phenyl isocyanate							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
12.3. Bioaccumulative potential:	BCF	28d	200		Cyprinus caprio	OECD 305 (Bioconcentration-Flow-Through Fish Test)	Not to be expected, Analogous conclusion
Other organisms:	NOEC/NOEL	14d	>1000	mg/kg	Avena sativa	OECD 208 (Terrestrial Plants, Growth Test)	Analogous conclusion
Other organisms:	NOEC/NOEL	14d	>1000	mg/kg	Lactuca sativa	OECD 208 (Terrestrial Plants, Growth Test)	Analogous conclusion
Other information:	H (Henry)		0,0229				
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
12.1. Toxicity to fish:	LC50	96h	>1000	mg/l	Brachydanio rerio	OECD 203 (Fish, Acute Toxicity Test)	Analogous conclusion
12.1. Toxicity to daphnia:	EC50	24h	>1000	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	Analogous conclusion
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	>10	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	Analogous conclusion
12.1. Toxicity to algae:	ErC50	72h	>1640	mg/l	Scenedesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	Analogous conclusion

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12.2. Persistence and degradability:		28d	0	%		OECD 302 C (Inherent Biodegradability - Modified MITI Test (II))	Not biodegradable, Analogous conclusion
Toxicity to bacteria:	EC50	3h	>100	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	Analogous conclusion
Toxicity to annelids:	NOEC/NOEL	14d	>1000	mg/kg	Eisenia foetida	OECD 207 (Earthworm, Acute Toxicity Tests)	Analogous conclusion

2,2'-methylenediphenyl diisocyanate

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	>1000	mg/l	Brachydaniorerio	OECD 203 (Fish, Acute Toxicity Test)	Analogous conclusion
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	>10	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	EC50	24h	>1000	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	Analogous conclusion
12.1. Toxicity to algae:	EC50	72h	1640	mg/l	Scenedesm us subspicatus	OECD 201 (Alga, Growth Inhibition Test)	Analogous conclusion
12.2. Persistence and degradability:		28d	0	%		OECD 302 C (Inherent Biodegradability - Modified MITI Test (II))	With water at the interface, transforms slowly with formation of CO2 into a firm, insoluble reaction product with a high melting point (polycarbamide)., According to experience available to date, polycarbamide is inert and non-degradable, Analogous conclusion
12.3. Bioaccumulative potential:	Log Pow		5,22				A notable biological accumulation potential has to be expected (LogPow > 3).
Toxicity to bacteria:	EC50	3h	>100	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	Analogous conclusion

Isophthaloyl dichloride

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	134	mg/l	Pimephales promelas		

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12.1. Toxicity to daphnia:	EC50	48h	>952	mg/l	Daphnia magna		Analogous conclusion
12.1. Toxicity to algae:	EC50	96h	>996	mg/l	Selenastrum capricornutum		Analogous conclusion

SECTION 13: Disposal considerations

13.1 Waste treatment methods

For the substance / mixture / residual amounts
EC disposal code no.:
The waste codes are recommendations based on the scheduled use of this product. Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)
08 04 09 waste adhesives and sealants containing organic solvents or other hazardous substances 08 05 01 waste isocyanates
Recommendation:
Sewage disposal shall be discouraged.
Pay attention to local and national official regulations.
E.g. suitable incineration plant. Hardened product:
E.g. dispose at suitable refuse site.

For contaminated packing material
Pay attention to local and national official regulations. Empty container completely.
Uncontaminated packaging can be recycled.
Dispose of packaging that cannot be cleaned in the same manner as the substance.
15 01 02 plastic packaging
15 01 10 packaging containing residues of or contaminated by hazardous substances

SECTION 14: Transport information

General statements
14.1 UN number: n.a.

Transport by road/by rail (ADR/RID)
14.2 UN proper shipping name:
14.3 Transport hazard class(es): n.a.
14.4 Packing group: n.a.
Classification code: n.a.
LQ: n.a.
Environmental hazards: Not applicable Tunnel
restriction code:

Transport by sea (IMDG-code)
UN proper shipping name:
14.2 Transport hazard class(es): n.a.
14.3 Packing group: n.a.
14.4 Marine Pollutant: n.a.
Environmental hazards: Non applicable

Transport by air (IATA)
14.2 UN proper shipping name:
14.3 Transport hazard class(es): n.a.
14.4 Packing group: n.a.
14.5 Environmental hazards: Non applicable

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14.6	**Special precautions for user**	Unless specified otherwise, general measures for safe transport must be followed.
14.7	**Transport in bulk according to Annex II of MARPOL and the IBC Code**	Non-dangerous material according to Transport Regulations.

SECTION 15: Regulatory information

15.1	**Safety, health and environmental regulations/legislation specific for the substance or mixture**	Observe restrictions: Comply with national regulations/laws governing maternity protection (national implementation of the Directive 92/85/EEC)! Regulation (EC) No 1907/2006, Annex XVII 4,4'-methylenediphenyl diisocyanate Diphenylmethanediisocyanate, isomeres and homologues o-(p-isocyanatobenzyl)phenyl isocyanate 2,2'-methylenediphenyl diisocyanate Comply with trade association/occupational health regulations. Directive 2010/75/EU (VOC): 0 %
15.2	**Chemical Safety Assessment**	A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information

Revised sections: 2, 3, 4, 8, 11, 15
These details refer to the product as it is delivered.
Employee instruction/training in handling hazardous materials is required.

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used
Acute Tox. 4, H332	Classification according to calculation procedure.
Eye Irrit. 2, H319	Classification according to calculation procedure.
STOT SE 3, H335	Classification according to calculation procedure.
Skin Irrit. 2, H315	Classification according to calculation procedure.
Resp. Sens. 1, H334	Classification according to calculation procedure.
Skin Sens. 1, H317	Classification according to calculation procedure.
Carc. 2, H351	Classification according to calculation procedure.
STOT RE 2, H373	Classification according to calculation procedure.

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).
H314 Causes severe skin burns and eye damage.
H373 May cause damage to organs through prolonged or repeated exposure by inhalation. H302 Harmful if swallowed.
H312 Harmful in contact with skin. H315 Causes skin irritation.
H317 May cause an allergic skin reaction. H318 Causes serious eye damage.
H319 Causes serious eye irritation. H331 Toxic if inhaled.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 May cause respiratory irritation.
H351 Suspected of causing cancer.

Acute Tox. — Acute toxicity – inhalation
Eye Irrit. — Eye irritation
STOT SE — Specific target organ toxicity - single exposure - respiratory tract irritation
Skin Irrit. — Skin irritation
Resp. Sens. — Respiratory sensitization
Skin Sens. — Skin sensitization
Carc. — Carcinogenicity
STOT RE — Specific target organ toxicity - repeated exposure
Acute Tox. — Acute toxicity - oral
Acute Tox. — Acute toxicity - dermal
Skin Corr. — Skin corrosion

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Eye Dam. — Serious eye damage

Any abbreviations and acronyms used in this document:

AC Article Categories
acc., acc. to according, according to
ACGIH American Conference of Governmental Industrial Hygienists
ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
AOEL Acceptable Operator Exposure Level
AOX Adsorbable organic halogen compounds approx.approximately
Art., Art. no.Article number
ATE Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)
BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)
BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)
BCF Bioconcentration factor
BGV Berufsgenossenschaftliche Vorschrift (= Accident Prevention Regulation)
BHT Butylhydroxytoluol (= 2,6-Di-t-butyl-4-methyl-phenol)
BMGV Biological monitoring guidance value (EH40, UK)
BOD Biochemical oxygen demand
BSEF Bromine Science and Environmental Forum bw body weight
CAS Chemical Abstracts Service
CEC Coordinating European Council for the Development of Performance Tests for Fuels, Lubricants and Other Fluids
CESIO Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques
CIPAC Collaborative International Pesticides Analytical Council
CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)
CMR carcinogenic, mutagenic, reproductive toxic
COD Chemical oxygen demand
CTFA Cosmetic, Toiletry, and Fragrance Association
DMEL Derived Minimum Effect Level
DNEL Derived No Effect Level
DOC Dissolved organic carbon
DT50 Dwell Time - 50% reduction of start concentration
DVS Deutscher Verband für Schweißen und verwandte Verfahren e.V. (= German Association for Welding and Allied Processes)
dw dry weight
e.g. for example (abbreviation of Latin 'exempli gratia'), for instance
EC European Community
ECHA European Chemicals Agency
EEA European Economic Area
EEC European Economic Community
EINECS European Inventory of Existing Commercial Chemical Substances
ELINCS European List of Notified Chemical Substances
EN European Norms
EPA United States Environmental Protection Agency (United States of America)
ERC Environmental Release Categories
ES Exposure scenario
etc. et cetera
EU European Union
EWC European Waste Catalogue Fax. Fax number
gen. general
GHS Globally Harmonized System of Classification and Labelling of Chemicals GWP Global warming potential
HET-CAM Hen's Egg Test - Chorionallantoic Membrane HGWP Halocarbon Global Warming Potential
IARC International Agency for Research on Cancer IATA International Air Transport Association
IBC Intermediate Bulk Container
IBC (Code) International Bulk Chemical (Code) IC Inhibitory concentration
IMDG-code International Maritime Code for Dangerous Goods incl. including, inclusive
IUCLID International Uniform ChemicaL Information Database LC lethal concentration
LC50 lethal concentration 50 percent kill LCLo lowest published lethal concentration LD Lethal Dose of a chemical
LD50 Lethal Dose, 50% kill
LDLo Lethal Dose Low
LOAEL Lowest Observed Adverse Effect Level LOEC Lowest Observed Effect Concentration LOEL Lowest Observed Effect Level
LQ Limited Quantities
MARPOL International Convention for the Prevention of Marine Pollution from Ships
n.a. not applicable
n.av. not available
n.c. not checked
n.d.a. no data available
NIOSH National Institute of Occupational Safety and Health (United States of America)