Safety Data Sheet according to Regulation (EC) No 1907/2006

sds no. : 76476
V004.2

TEROSON PU 6700 PART A known as TEROMIX 6700 KOMP.A

Revision: 14.08.2013
printing date: 07.12.2013

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

1.1. Product identifier
TEROSON PU 6700 PART A known as TEROMIX 6700 KOMP.A

1.2. Relevant identified uses of the substance or mixture and uses advised against
Intended use:
Part A for 2-K-Polyurethane adhesive and sealant

1.3. Details of the supplier of the safety data sheet
Henkel Ireland
Operations and Research Limited
Tallaght Business Park
Dublin 24

Ireland

Phone: +353 (14046444)
Fax-no.: +353 (14519926)

ua-productsafety.uk@uk.henkel.com

1.4. Emergency telephone number
24 Hours Emergency Tel: +44 (0)1442 278497

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):
No data available.

Classification (DPD):
No classification required.

2.2. Label elements

Label elements (CLP):
No data available.

Label elements (DPD):
The product is not subject to classification according to the calculation methods of the "General Classification Guideline for Preparations of the EC" as issued in the last version.

Additional labeling:
Safety data sheet available for professional user on request.

2.3. Other hazards
None if used properly.

SECTION 3: Composition/information on ingredients

General chemical description:
Polyurethane adhesive
Base substances of preparation:
Polyol mixture with fillers

Declaration of the ingredients according to CLP (EC) No 1272/2008:

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Polyether polyol based on ethylenediamine and propyleneoxide~ 25214-63-5	500-035-6 01-2119471485-32	10- < 20 %	Serious eye irritation 2 H319

For full text of the H - statements and other abbreviations see section 16 "Other information".
Substances without classification may have community workplace exposure limits available.

Declaration of ingredients according to DPD (EC) No 1999/45:

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Polyether polyol based on ethylenediamine and propyleneoxide~ 25214-63-5	500-035-6 01-2119471485-32	10 - < 20 %	Xi - Irritant; R36

For full text of the R-Phrases indicated by codes see section 16 'Other Information'.
Substances without classification may have community workplace exposure limits available.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Move to fresh air, consult doctor if complaint persists.

Skin contact:
Rinse with running water and soap. Apply replenishing cream. Change all contaminated clothing.

Eye contact:
Rinse immediately with plenty of running water (for 10 minutes). Seek medical attention if necessary.

Ingestion:
Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

4.2. Most important symptoms and effects, both acute and delayed
No data available.

4.3. Indication of any immediate medical attention and special treatment needed
See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
All common extinguishing agents are suitable.

Extinguishing media which must not be used for safety reasons:
High pressure waterjet

5.2. Special hazards arising from the substance or mixture
In case of fire toxic gases can be released.

5.3. Advice for firefighters
Wear protective equipment.
Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Wear protective equipment.

6.2. Environmental precautions
Do not empty into drains / surface water / ground water.

6.3. Methods and material for containment and cleaning up
Remove mechanically.
Dispose of contaminated material as waste according to Chapter 13.

6.4. Reference to other sections
See advice in chapter 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Hygiene measures:
Do not eat, drink or smoke while working.
Wash hands before work breaks and after finishing work.

7.2. Conditions for safe storage, including any incompatibilities
Ensure good ventilation/extraction.
Store in a cool, dry place.
Temperatures between + 10 °C and + 25 °C
Protect from direct sun-light and temperature above 50°C in any case.

7.3. Specific end use(s)
Part A for 2-K-Polyurethane adhesive and sealant

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Great Britain

None

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Polyether polyol based on ethylenediamine and propyleneoxide~ 25214-63-5	aqua (freshwater)					0,085 mg/L	
Polyether polyol based on ethylenediamine and propyleneoxide~ 25214-63-5	aqua (marine water)					0,0085 mg/L	
Polyether polyol based on ethylenediamine and propyleneoxide~ 25214-63-5	aqua (intermittent releases)					1,51 mg/L	
Polyether polyol based on ethylenediamine and propyleneoxide~ 25214-63-5	STP					70 mg/L	
Polyether polyol based on ethylenediamine and propyleneoxide~ 25214-63-5	sediment (freshwater)				0,193 mg/kg		
Polyether polyol based on ethylenediamine and propyleneoxide~ 25214-63-5	sediment (marine water)				0,0193 mg/kg		
Polyether polyol based on ethylenediamine and propyleneoxide~ 25214-63-5	soil				0,0183 mg/kg		

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Polyether polyol based on ethylenediamine and propyleneoxide~ 25214-63-5	worker	Dermal	Long term exposure - systemic effects		13,9 mg/kg	
Polyether polyol based on ethylenediamine and propyleneoxide~ 25214-63-5	worker	inhalation	Long term exposure - systemic effects		98 mg/m3	
Polyether polyol based on ethylenediamine and propyleneoxide~ 25214-63-5	general population	Dermal	Long term exposure - systemic effects		8,3 mg/kg	
Polyether polyol based on ethylenediamine and propyleneoxide~ 25214-63-5	general population	inhalation	Long term exposure - systemic effects		29 mg/m3	
Polyether polyol based on ethylenediamine and propyleneoxide~ 25214-63-5	general population	oral	Long term exposure - systemic effects		8,3 mg/kg	

Biological Exposure Indices:
None

8.2. Exposure controls:

Engineering controls:
Ensure good ventilation/extraction.

Respiratory protection:
Suitable breathing mask when there is inadequate ventilation.

Hand protection:
Chemical-resistant protective gloves (EN 374). Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374): Polychloroprene (CR; >= 1 mm thickness) or natural rubber (NR; >=1 mm thickness) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Polychloroprene (CR; >= 1 mm thickness) or natural rubber (NR; >=1 mm thickness) This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:
Protective goggles

Skin protection:
Wear protective equipment.

Advices to personal protection equipment:
Use only personal protection that's CE-labelled according to the regulation no. 819 of 19 August 1994.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	paste pasty light grey
Odor	odorless
Odour threshold	No data available / Not applicable
pH	No data available / Not applicable
Initial boiling point	No data available / Not applicable
Flash point	> 110 °C (> 230 °F); no method
Decomposition temperature	No data available / Not applicable
Vapour pressure	No data available / Not applicable
Density (20 °C (68 °F))	1,43 g/cm3
Bulk density	No data available / Not applicable
Viscosity (Brookfield; 20 °C (68 °F))	28 - 32 pa.s
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Insoluble
Solidification temperature	No data available / Not applicable
Melting point	No data available / Not applicable
Flammability	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Explosive limits	No data available / Not applicable
Partition coefficient: n-octanol/water	No data available / Not applicable
Evaporation rate	No data available / Not applicable
Vapor density	No data available / Not applicable
Solid content	100 %
Oxidising properties	No data available / Not applicable

9.2. Other information

No data available / Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity
None if used for intended purpose.

10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
See section reactivity

10.4. Conditions to avoid
None if used for intended purpose.

10.5. Incompatible materials
None if used properly.

10.6. Hazardous decomposition products
No decomposition if used according to specifications.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

General toxicological information:
To the best of our knowledge no harmful effects are to be expected if the product is handled and used properly.

SECTION 12: Ecological information

General ecological information:
The preparation is classified based on the conventional method outlined in Article 6(1)(a) of Directive 1999/45/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.
Do not empty into drains, soil or bodies of water.

12.1. Toxicity

No data available.

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential / 12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

Hazardous components **CAS-No.**	**PBT/vPvB**
Polyether polyol based on ethylenediamine and propyleneoxide~ 25214-63-5	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Product disposal:
In consultation with the responsible local authority, must be subjected to special treatment.

Waste code
The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.
08 04 09 Waste adhesives and sealants containing organic solvents or other dangerous substances

SECTION 14: Transport information

14.1. UN number

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

14.2. UN proper shipping name

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

14.3. Transport hazard class(es)

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

14.4. Packaging group

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

14.5. Environmental hazards

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

14.6. Special precautions for user

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not applicable

SECTION 15: Regulatory information

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

VOC content 0 %
(VOCV 814.018 VOC regulation CH)

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

R36 Irritating to eyes.
H319 Causes serious eye irritation.

Further information:

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

Safety Data Sheet according to Regulation (EC) No 1907/2006

sds no. : 76477
V011.3

TEROMIX 6700 KOMP.B FA200KG

Revision: 20.09.2013
printing date: 07.12.2013

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

1.1. Product identifier
TEROMIX 6700 KOMP.B FA200KG

1.2. Relevant identified uses of the substance or mixture and uses advised against
Intended use:
Part B for 2-K-Polyurethane adhesive and sealant

1.3. Details of the supplier of the safety data sheet
Henkel Ireland
Operations and Research Limited
Tallaght Business Park
Dublin 24

Ireland

Phone: +353 (14046444)
Fax-no.: +353 (14519926)

ua-productsafety.uk@uk.henkel.com

1.4. Emergency telephone number
24 Hours Emergency Tel: +44 (0)1442 278497

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):
No data available.

Classification (DPD):
Xn - Harmful
R20 Harmful by inhalation.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
Xi - Irritant
R36/37/38 Irritating to eyes, respiratory system and skin.
carcinogenic, category 3
R40 Limited evidence of a carcinogenic effect.
Sensitizing
R42/43 May cause sensitization by inhalation and skin contact.

2.2. Label elements

Label elements (CLP):
No data available.

Label elements (DPD):

Xn - Harmful

Risk phrases:
R20 Harmful by inhalation.
R36/37/38 Irritating to eyes, respiratory system and skin.
R40 Limited evidence of a carcinogenic effect.
R42/43 May cause sensitization by inhalation and skin contact.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Safety phrases:
S23 Do not breathe vapour/spray.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37 Wear suitable protective clothing and gloves.
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Additional labeling:
Contains isocyanates. See information supplied by the manufacturer.

Contains:
Diphenylmethane diisocyanate,
4,4'- methylenediphenyl diisocyanate,
Isocyanic acid, polymethylenepolyphenylene ester,
o-(p-Isocyanatobenzyl)phenyl isocyanate,
2,2'-Methylenediphenyl diisocyanate

2.3. Other hazards
Persons suffering from allergic reactions to isocyanates should avoid contact with the product.

SECTION 3: Composition/information on ingredients

General chemical description:
Hardening component of a 2-component PU adhesive
Base substances of preparation:
Isocyanate

Declaration of the ingredients according to CLP (EC) No 1272/2008:

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Diphenylmethane diisocyanate 32055-14-4	500-079-6	< 20 %	Acute toxicity 4 H332 Skin corrosion/irritation 2 H315 Eye Damage/Irritation 2 H319 Respiratory sensitizer 1 H334 Skin sensitizer 1 H317 Carcinogenicity 2 H351 Specific target organ toxicity - single exposure 3 H335 Specific target organ toxicity - repeated exposure 2 H373
4,4'- methylenediphenyl diisocyanate 101-68-8	202-966-0 01-2119457014-47	< 10 %	Carcinogenicity 2 H351 Acute toxicity 4; Inhalation H332 Specific target organ toxicity - repeated exposure 2 H373 Serious eye irritation 2 H319 Specific target organ toxicity - single exposure 3 H335 Skin irritation 2 H315 Respiratory sensitizer 1 H334 Skin sensitizer 1 H317
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9		< 5 %	Carcinogenicity 2 H351 Acute toxicity 4; Inhalation H332 Specific target organ toxicity - repeated exposure 2 H373 Serious eye irritation 2 H319 Specific target organ toxicity - single exposure 3 H335 Skin irritation 2 H315 Respiratory sensitizer 1 H334 Skin sensitizer 1 H317
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	227-534-9 01-2119480143-45	< 5 %	Skin sensitizer 1 H317 Respiratory sensitizer 1 H334 Carcinogenicity 2 H351 Acute toxicity 4; Inhalation H332 Specific target organ toxicity - repeated exposure 2 H373 Serious eye irritation 2 H319 Specific target organ toxicity - single exposure 3 H335 Skin irritation 2 H315
2,2'-Methylenediphenyl diisocyanate 2536-05-2	219-799-4 01-2119927323-43	< 2 %	Carcinogenicity 2 H351

			Acute toxicity 4; Inhalation H332 Specific target organ toxicity - repeated exposure 2 H373 Serious eye irritation 2 H319 Specific target organ toxicity - single exposure 3 H335 Skin irritation 2 H315 Respiratory sensitizer 1 H334 Skin sensitizer 1 H317

For full text of the H - statements and other abbreviations see section 16 "Other information".
Substances without classification may have community workplace exposure limits available.

Declaration of ingredients according to DPD (EC) No 1999/45:

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Diphenylmethane diisocyanate 32055-14-4	500-079-6	< 20 %	Xn - Harmful; R20, R42/43, R48/20 carcinogenic, category 3; Xn - Harmful; R40 Xi - Irritant; R36/37/38
4,4'- methylenediphenyl diisocyanate 101-68-8	202-966-0 01-2119457014-47	< 10 %	Xi - Irritant; R36/37/38 R42/43 carcinogenic, category 3; R40 Xn - Harmful; R20, R48/20
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9		< 5 %	Xi - Irritant; R36/37/38 carcinogenic, category 3; R40 Xn - Harmful; R20, R48/20 R42/43
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	227-534-9 01-2119480143-45	< 5 %	carcinogenic, category 3; R40 Xi - Irritant; R36/37/38 Xn - Harmful; R20, R48/20 R42/43
2,2'-Methylenediphenyl diisocyanate 2536-05-2	219-799-4 01-2119927323-43	< 2 %	Xi - Irritant; R36/37/38 Xn - Harmful; R20, R48/20 carcinogenic, category 3; R40 R42/43

For full text of the R-Phrases indicated by codes see section 16 'Other Information'.
Substances without classification may have community workplace exposure limits available.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:
Symptoms of poisoning may occur even after several hours, continue medical observation for at least 48 hours after the accident.

Inhalation:
Fresh air, oxygen supply, warmth; seek specialist medical attention.
Delayed effects possible after inhalation.

Skin contact:
Rinse with running water and soap. Apply replenishing cream. Change all contaminated clothing. If necessary, see a dermatologist.

Eye contact:
Immediately flush eyes with soft jet of water or eye rinse solution for at least 5 minutes. If pains remains (intensive smarting, sensivity to light, visual disturbance) continue flushing and contact/seek doctor or hospital.

Ingestion:
Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

4.2. Most important symptoms and effects, both acute and delayed
Harmful by inhalation.

Danger of serious damage to health by prolonged exposure by inhalation.

Limited evidence of a carcinogenic effect (carcinogenic category 3).

May cause sensitization by inhalation.

May cause sensitization by skin contact.

Irritating to respiratory system

Irritating to eyes.

Irritating to the skin.

4.3. Indication of any immediate medical attention and special treatment needed
See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
All common extinguishing agents are suitable.

Extinguishing media which must not be used for safety reasons:
High pressure waterjet

5.2. Special hazards arising from the substance or mixture
In case of fire toxic gases can be released.

5.3. Advice for firefighters
Wear protective equipment.
Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Wear protective equipment.
Avoid contact with skin and eyes.
Keep unprotected persons away.

6.2. Environmental precautions
Do not empty into drains / surface water / ground water.

6.3. Methods and material for containment and cleaning up
Remove mechanically.
Dispose of contaminated material as waste according to Chapter 13.

6.4. Reference to other sections
See advice in chapter 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Hygiene measures:
Do not eat, drink or smoke while working.
Wash hands before work breaks and after finishing work.

7.2. Conditions for safe storage, including any incompatibilities

Ensure good ventilation/extraction.
Store in a cool, dry place.
Temperatures between + 10 °C and + 25 °C
Protect from direct sun-light and temperature above 50°C in any case.

7.3. Specific end use(s)

Part B for 2-K-Polyurethane adhesive and sealant

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Great Britain

Ingredient	ppm	mg/m^3	Type	Category	Remarks
ISOCYANATES, ALL (AS -NCO) 101-68-8		0,07	Short Term Exposure Limit (STEL):		EH40 WEL
ISOCYANATES, ALL (AS -NCO) 101-68-8		0,02	Time Weighted Average (TWA):		EH40 WEL
ISOCYANATES, ALL (AS -NCO) 9016-87-9		0,02	Time Weighted Average (TWA):		EH40 WEL
ISOCYANATES, ALL (AS -NCO) 9016-87-9		0,07	Short Term Exposure Limit (STEL):		EH40 WEL
ISOCYANATES, ALL (AS -NCO) 5873-54-1		0,07	Short Term Exposure Limit (STEL):		EH40 WEL
ISOCYANATES, ALL (AS -NCO) 5873-54-1		0,02	Time Weighted Average (TWA):		EH40 WEL
ISOCYANATES, ALL (AS -NCO) 2536-05-2		0,07	Short Term Exposure Limit (STEL):		EH40 WEL
ISOCYANATES, ALL (AS -NCO) 2536-05-2		0,02	Time Weighted Average (TWA):		EH40 WEL

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
4,4'- methylenediphenyl diisocyanate 101-68-8	aqua (freshwater)					1 mg/L	
4,4'- methylenediphenyl diisocyanate 101-68-8	aqua (marine water)					0,1 mg/L	
4,4'- methylenediphenyl diisocyanate 101-68-8	soil				1 mg/kg		
4,4'- methylenediphenyl diisocyanate 101-68-8	STP					1 mg/L	
4,4'- methylenediphenyl diisocyanate 101-68-8	aqua (intermittent releases)					10 mg/L	
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	aqua (freshwater)					1 mg/L	
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	aqua (marine water)					0,1 mg/L	
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	soil				1 mg/kg		
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	STP					1 mg/L	
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	aqua (intermittent releases)					10 mg/L	
2,2'-Methylenediphenyl diisocyanate 2536-05-2	aqua (freshwater)					> 1 mg/L	
2,2'-Methylenediphenyl diisocyanate 2536-05-2	aqua (marine water)					> 0,1 mg/L	
2,2'-Methylenediphenyl diisocyanate 2536-05-2	soil				> 1 mg/kg		
2,2'-Methylenediphenyl diisocyanate 2536-05-2	STP					> 1 mg/L	

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
4,4'- methylenediphenyl diisocyanate 101-68-8	worker	Dermal	Acute/short term exposure - systemic effects		50 mg/kg bw/day	
4,4'- methylenediphenyl diisocyanate 101-68-8	worker	inhalation	Acute/short term exposure - systemic effects		0,1 mg/m3	
4,4'- methylenediphenyl diisocyanate 101-68-8	worker	Dermal	Acute/short term exposure - local effects		28,7 mg/cm2	
4,4'- methylenediphenyl diisocyanate 101-68-8	worker	inhalation	Acute/short term exposure - local effects		0,1 mg/m3	
4,4'- methylenediphenyl diisocyanate 101-68-8	worker	inhalation	Long term exposure - systemic effects		0,05 mg/m3	
4,4'- methylenediphenyl diisocyanate 101-68-8	worker	inhalation	Long term exposure - local effects		0,05 mg/m3	
4,4'- methylenediphenyl diisocyanate 101-68-8	general population	Dermal	Acute/short term exposure - systemic effects		25 mg/kg bw/day	
4,4'- methylenediphenyl diisocyanate 101-68-8	general population	inhalation	Acute/short term exposure - systemic effects		0,05 mg/m3	
4,4'- methylenediphenyl diisocyanate 101-68-8	general population	oral	Acute/short term exposure - systemic effects		20 mg/kg bw/day	
4,4'- methylenediphenyl diisocyanate 101-68-8	general population	Dermal	Acute/short term exposure - local effects		17,2 mg/cm2	
4,4'- methylenediphenyl diisocyanate 101-68-8	general population	inhalation	Acute/short term exposure - local effects		0,05 mg/m3	
4,4'- methylenediphenyl diisocyanate 101-68-8	general population	inhalation	Long term exposure - systemic effects		0,025 mg/m3	
4,4'- methylenediphenyl diisocyanate 101-68-8	general population	inhalation	Long term exposure - local effects		0,025 mg/m3	
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	worker	Dermal	Acute/short term exposure - systemic effects		50 mg/kg bw/day	
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	worker	inhalation	Acute/short term exposure - systemic effects		0,1 mg/m3	
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	worker	Dermal	Acute/short term exposure - local effects		28,7 mg/cm2	
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	worker	inhalation	Acute/short term exposure - local effects		0,1 mg/m3	
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	worker	inhalation	Long term exposure - systemic effects		0,05 mg/m3	
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	worker	inhalation	Long term exposure - local effects		0,05 mg/m3	
2,2'-Methylenediphenyl diisocyanate 2536-05-2	worker	Dermal	Acute/short term exposure - systemic effects		50 mg/kg bw/day	
2,2'-Methylenediphenyl diisocyanate 2536-05-2	worker	inhalation	Acute/short term exposure - systemic effects		0,1 mg/m3	
2,2'-Methylenediphenyl diisocyanate 2536-05-2	worker	Dermal	Acute/short term exposure - local effects		28,7 mg/cm2	
2,2'-Methylenediphenyl diisocyanate 2536-05-2	worker	inhalation	Acute/short term exposure - local effects		0,1 mg/m3	
2,2'-Methylenediphenyl diisocyanate 2536-05-2	worker	inhalation	Long term exposure -		0,05 mg/m3	

			systemic effects			
2,2'-Methylenediphenyl diisocyanate 2536-05-2	worker	inhalation	Long term exposure - local effects		0,05 mg/m3	

Biological Exposure Indices:
None

8.2. Exposure controls:

Engineering controls:
Use only in well ventilated areas.
Draw off vapors and fumes directly at the point of generation or release. In the case of regular work use bench-mounted extraction equipment.

Respiratory protection:
Suitable breathing mask when there is inadequate ventilation.
Filter: B - P3

Hand protection:
Chemical-resistant protective gloves (EN 374).
Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):
nitrile rubber (NBR; >= 0.4 mm thickness)
Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):
nitrile rubber (NBR; >= 0.4 mm thickness)
This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:
Goggles which can be tightly sealed.

Skin protection:
Wear protective equipment.
Protective clothing that covers arms and legs.

Advices to personal protection equipment:
Use only personal protection that's CE-labelled according to the regulation no. 819 of 19 August 1994.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	paste pasty black
Odor	earthy
Odour threshold	No data available / Not applicable
pH	No data available / Not applicable
Initial boiling point	No data available / Not applicable
Flash point	> 110 °C (> 230 °F); no method
Decomposition temperature	No data available / Not applicable
Vapour pressure	No data available / Not applicable
Density (20 °C (68 °F))	1,7 g/cm3
Bulk density	No data available / Not applicable
Viscosity (Brookfield; 20 °C (68 °F); Conc.: 100 % product)	26 - 32 pa.s
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable

Solubility (qualitative) (Solvent: alcohol)	Insoluble
Solidification temperature	No data available / Not applicable
Melting point	No data available / Not applicable
Flammability	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Explosive limits	No data available / Not applicable
Partition coefficient: n-octanol/water	No data available / Not applicable
Evaporation rate	No data available / Not applicable
Vapor density	No data available / Not applicable
Solid content	100 %
Oxidising properties	No data available / Not applicable

9.2. Other information

No data available / Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity
Reaction with water, alcohols, amines.
Reaction with water, formation of CO2

10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
See section reactivity

10.4. Conditions to avoid
Humidity
Temperatures over appr. 250 °C

10.5. Incompatible materials
See section reactivity

10.6. Hazardous decomposition products
At higher temperatures isocyanate may be released.
Carbon dioxide is generated under contact with moisture, leading to pressure in the cans. Danger of cans bursting!

SECTION 11: Toxicological information

11.1. Information on toxicological effects

General toxicological information:
The preparation is classified based on the conventional method outlined in Article 6(1)(a) of Directive 1999/45/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.
Persons suffering from allergic reactions to isocyanates should avoid contact with the product.
Limited evidence of a carcinogenic effect (carcinogenic category 3).

Inhalative toxicity:
Danger of serious damage to health by prolonged exposure by inhalation.
Harmful by inhalation.
Irritating to respiratory system

Skin irritation:
Irritating to the skin.

Eye irritation:
Irritating to eyes.

Sensitizing:
May cause sensitization by inhalation.
May cause sensitization by skin contact.

Acute oral toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
4,4'- methylenediphenyl diisocyanate 101-68-8	LD50	> 2.000 mg/kg	oral		rat	

Acute inhalative toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
4,4'- methylenediphenyl diisocyanate 101-68-8	LC50	> 2,24 mg/l	inhalation		rat	OECD Guideline 403 (Acute Inhalation Toxicity)

Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
4,4'- methylenediphenyl diisocyanate 101-68-8	irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Respiratory or skin sensitization:

Hazardous components CAS-No.	Result	Test type	Species	Method
4,4'- methylenediphenyl diisocyanate 101-68-8	sensitising	Buehler test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
4,4'- methylenediphenyl diisocyanate 101-68-8	sensitising		guinea pig	

Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
4,4'- methylenediphenyl diisocyanate 101-68-8	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		EU Method B.13/14 (Mutagenicity)

Carcinogenicity:

Hazardous components CAS-No.	Result	Species	Sex	Exposure timeFrequency of treatment	Route of application	Method
4,4'- methylenediphenyl diisocyanate 101-68-8	not carcinogenic	rat	male/female	2 y 6 h/d	inhalation: aerosol	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

Repeated dose toxicity

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
Diphenylmethane diisocyanate 32055-14-4	NOAEL=0,2 mg/m³	inhalation: aerosol	2 y 6 h per d, 5 d per week	rat	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9	NOAEL=0,2 mg/m³	inhalation: aerosol	2 y 6 h per d, 5 d per week	rat	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

SECTION 12: Ecological information

General ecological information:

The preparation is classified based on the conventional method outlined in Article 6(1)(a) of Directive 1999/45/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.
Do not empty into drains, soil or bodies of water.

12.1. Toxicity

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
Diphenylmethane diisocyanate 32055-14-4	LC0	> 1.000 mg/l	Fish	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
Diphenylmethane diisocyanate 32055-14-4	EC50	> 1.000 mg/l	Daphnia	24 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
4,4'- methylenediphenyl diisocyanate 101-68-8	LC0	> 3.000 mg/l	Fish	96 h	Oryzias latipes	OECD Guideline 203 (Fish, Acute Toxicity Test)
4,4'- methylenediphenyl diisocyanate 101-68-8	EC50	129,7 mg/l	Daphnia	24 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
4,4'- methylenediphenyl diisocyanate 101-68-8	EC50	> 1.640 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
4,4'- methylenediphenyl diisocyanate 101-68-8	NOEC	>= 10 mg/l	chronic Daphnia	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

12.2. Persistence and degradability

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
Diphenylmethane diisocyanate 32055-14-4		no data	0 %	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
4,4'- methylenediphenyl diisocyanate 101-68-8		aerobic	0 %	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)

12.3. Bioaccumulative potential / 12.4. Mobility in soil

Hazardous components CAS-No.	LogKow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
4,4'- methylenediphenyl diisocyanate 101-68-8		92	28 d	Cyprinus carpio		OECD Guideline 305 E (Bioaccumulation: Flow-through Fish Test)
4,4'- methylenediphenyl diisocyanate 101-68-8	5,22					
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	5,22					

12.5. Results of PBT and vPvB assessment

Hazardous components CAS-No.	PBT/vPvB

4,4'- methylenediphenyl diisocyanate 101-68-8	Not fulfilling PBT (persistent/bioaccummulative/toxic) criteria
Isocyanic acid, polymethylenepolyphenylene ester 9016-87-9	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
o-(p-Isocyanatobenzyl)phenyl isocyanate 5873-54-1	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
2,2'-Methylenediphenyl diisocyanate 2536-05-2	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:

In consultation with the responsible local authority, must be subjected to special treatment.

Waste code

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

08 04 09 Waste adhesives and sealants containing organic solvents or other dangerous substances

SECTION 14: Transport information

14.1. UN number

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

14.2. UN proper shipping name

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

14.3. Transport hazard class(es)

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

14.4. Packaging group

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

14.5. Environmental hazards

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

14.6. Special precautions for user

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not applicable

SECTION 15: Regulatory information

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

VOC content 0 %
(VOCV 814.018 VOC regulation
CH)

VOC Paints and Varnishes (EU):

Product (sub)category:	This product is not a subject of the Directive 2004/42/EC
max. VOC content:	0 g/l

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text
of all abbreviations indicated by codes in this safety data sheet are as follows:

R20 Harmful by inhalation.
R36/37/38 Irritating to eyes, respiratory system and skin.
R40 Limited evidence of a carcinogenic effect.
R42/43 May cause sensitization by inhalation and skin contact.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
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.
H373 May cause damage to organs through prolonged or repeated exposure.

Further information:

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.