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

SDS No. : 470545
V002.1

TEROSON PU 9225 UF ME

Revision: 20.11.2017
printing date: 13.08.2020
Replaces version from: 21.07.2017

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

1.1. Product identifier
TEROSON PU 9225 UF ME

1.2. Relevant identified uses of the substance or mixture and uses advised against
Intended use:
2-component-polyurethane adhesive

1.3. Details of the supplier of the safety data sheet
Henkel Ltd
Wood Lane End
HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 1442 278000
Fax-no.: +44 1442 278071

ua-productsafety.uk@henkel.com

1.4. Emergency telephone number
24 Hours Emergency Tel: +44 0 8701 906777 - For further general health & safety, technical and practical advice on this product, please call +44 (0) 1606 593933 or write to: Technical Services; Henkel Limited; Road 5; Winsford Industrial Estate; Winsford; Cheshire; CW7 3QY- Email: technical.services@henkel.co.uk

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):
Serious eye irritation Category 2
H319 Causes serious eye irritation.

2.2. Label elements

Label elements (CLP):

Hazard pictogram:

Signal word: Warning

Hazard statement: H319 Causes serious eye irritation.

Precautionary statement: P280 Wear eye protection.
Prevention

2.3. Other hazards
Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General chemical description:
Part A of two part adhesive
Base substances of preparation:
Polyether polyols

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

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
1,1',1",1'"-Ethylenedinitrilotetrapropan-2-ol 102-60-3	203-041-4 01-2119552434-41	10- < 20 %	Eye Irrit. 2 H319
Butane-1,4-diol 110-63-4	203-786-5 01-2119471849-20	1- < 3 %	Acute Tox. 4; Oral H302 STOT SE 3 H336

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.

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:
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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
EYE: Irritation, conjunctivitis.

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 self-contained breathing apparatus.
Wear protective equipment.

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 Section 13.

6.4. Reference to other sections
See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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

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

7.3. Specific end use(s)
2-component-polyurethane adhesive

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Great Britain

Ingredient [Regulated substance]	ppm	mg/m³	Value type	Short term exposure limit category / Remarks	Regulatory list
Limestone 1317-65-3 [CALCIUM CARBONATE, INHALABLE DUST]		10	Time Weighted Average (TWA):		EH40 WEL
Limestone 1317-65-3 [CALCIUM CARBONATE, RESPIRABLE DUST]		4	Time Weighted Average (TWA):		EH40 WEL
Limestone 1317-65-3 [LIMESTONE, RESPIRABLE MARBLE, RESPIRABLE]		4	Time Weighted Average (TWA):		EH40 WEL
Limestone 1317-65-3 [LIMESTONE, TOTAL INHALABLE MARBLE, TOTAL INHALABLE]		10	Time Weighted Average (TWA):		EH40 WEL
Calcium carbonate 471-34-1 [CALCIUM CARBONATE, INHALABLE DUST]		10	Time Weighted Average (TWA):		EH40 WEL
Calcium carbonate 471-34-1 [CALCIUM CARBONATE, RESPIRABLE DUST]		4	Time Weighted Average (TWA):		EH40 WEL
Calcium carbonate 471-34-1 [LIMESTONE, RESPIRABLE MARBLE, RESPIRABLE]		4	Time Weighted Average (TWA):		EH40 WEL
Calcium carbonate 471-34-1 [LIMESTONE, TOTAL INHALABLE MARBLE, TOTAL INHALABLE]		10	Time Weighted Average (TWA):		EH40 WEL
Zeolites 68989-22-0 [ALUMINIUM OXIDES, INHALABLE DUST]		10	Time Weighted Average (TWA):		EH40 WEL
Zeolites 68989-22-0 [ALUMINIUM OXIDES, RESPIRABLE DUST]		4	Time Weighted Average (TWA):		EH40 WEL

Occupational Exposure Limits

Valid for
Ireland

Ingredient [Regulated substance]	ppm	mg/m³	Value type	Short term exposure limit category / Remarks	Regulatory list
Limestone 1317-65-3 [CALCIUM CARBONATE, RESPIRABLE DUST]		4	Time Weighted Average (TWA):		IR_OEL
Limestone 1317-65-3 [CALCIUM CARBONATE, TOTAL INHALABLE DUST]		10	Time Weighted Average (TWA):		IR_OEL
Calcium carbonate 471-34-1 [CALCIUM CARBONATE, RESPIRABLE DUST]		4	Time Weighted Average (TWA):		IR_OEL
Calcium carbonate 471-34-1		10	Time Weighted Average (TWA):		IR_OEL

[CALCIUM CARBONATE, TOTAL INHALABLE DUST]					

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
1,1',1",1'"-Ethylenedinitrilotetrapropan-2-ol 102-60-3	aqua (freshwater)		0,085 mg/l				
1,1',1",1'"-Ethylenedinitrilotetrapropan-2-ol 102-60-3	aqua (marine water)		0,0085 mg/l				
1,1',1",1'"-Ethylenedinitrilotetrapropan-2-ol 102-60-3	aqua (intermittent releases)		1,51 mg/l				
1,1',1",1'"-Ethylenedinitrilotetrapropan-2-ol 102-60-3	sewage treatment plant (STP)		70 mg/l				
1,1',1",1'"-Ethylenedinitrilotetrapropan-2-ol 102-60-3	sediment (freshwater)				0,193 mg/kg		
1,1',1",1'"-Ethylenedinitrilotetrapropan-2-ol 102-60-3	sediment (marine water)				0,0193 mg/kg		
1,1',1",1'"-Ethylenedinitrilotetrapropan-2-ol 102-60-3	soil				0,0183 mg/kg		
Butane-1,4-diol 110-63-4	aqua (marine water)		0,0813 mg/l				
Butane-1,4-diol 110-63-4	aqua (intermittent releases)		8,13 mg/l				
Butane-1,4-diol 110-63-4	sediment (freshwater)				3,61 mg/kg		
Butane-1,4-diol 110-63-4	sediment (marine water)				0,361 mg/kg		
Butane-1,4-diol 110-63-4	soil				0,244 mg/kg		
Butane-1,4-diol 110-63-4	sewage treatment plant (STP)		1554 mg/l				
Butane-1,4-diol 110-63-4	aqua (freshwater)		0,813 mg/l				

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
1,1',1",1'"-Ethylenedinitrilotetrapropan-2-ol 102-60-3	Workers	dermal	Long term exposure - systemic effects		4,2 mg/kg	
1,1',1",1'"-Ethylenedinitrilotetrapropan-2-ol 102-60-3	Workers	Inhalation	Long term exposure - systemic effects		29,4 mg/m3	
1,1',1",1'"-Ethylenedinitrilotetrapropan-2-ol 102-60-3	General population	dermal	Long term exposure - systemic effects		2,5 mg/kg	
1,1',1",1'"-Ethylenedinitrilotetrapropan-2-ol 102-60-3	General population	Inhalation	Long term exposure - systemic effects		8,7 mg/m3	
1,1',1",1'"-Ethylenedinitrilotetrapropan-2-ol 102-60-3	General population	oral	Long term exposure - systemic effects		2,5 mg/kg	
Butane-1,4-diol 110-63-4	Workers	dermal	Long term exposure - systemic effects		19 mg/kg	
Butane-1,4-diol 110-63-4	Workers	Inhalation	Long term exposure - systemic effects		136 mg/m3	
Butane-1,4-diol 110-63-4	Workers	inhalation	Acute/short term exposure - systemic effects		958 mg/m3	
Butane-1,4-diol 110-63-4	General population	Inhalation	Acute/short term exposure - systemic effects		340 mg/m3	
Butane-1,4-diol 110-63-4	General population	inhalation	Long term exposure - systemic effects		29 mg/m3	
Butane-1,4-diol 110-63-4	General population	dermal	Long term exposure - systemic effects		8 mg/kg	
Butane-1,4-diol 110-63-4	General population	oral	Long term exposure - systemic effects		8 mg/kg	

Biological Exposure Indices:
None

8.2. Exposure controls:

Engineering controls:
Ensure good ventilation/extraction.

Respiratory protection:
In case of dust formation, we recommend wearing of appropriate respiratory protection equipment with particle filter P (EN 14387).
This recommendation should be matched to local conditions.

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:
Goggles which can be tightly sealed.
Protective eye equipment should conform to EN166.

Skin protection:
Wear protective equipment.
Protective clothing that covers arms and legs.
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:
Use only personal protection that's CE-labelled according to Directive 89/686/EEC (Europe) or to Regulation No. 819 of 19 August 1994 (Norway).
The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions.
Personal protective equipment should conform to the relevant EN standard.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	paste pasty light grey
Odor	characteristic
Odour threshold	No data available / Not applicable
pH	No data available / Not applicable
Melting point	No data available / Not applicable
Solidification temperature	No data available / Not applicable
Initial boiling point	No data available / Not applicable
Flash point	Not applicable
Evaporation rate	No data available / Not applicable
Flammability	No data available / Not applicable
Explosive limits	No data available / Not applicable
Vapour pressure	No data available / Not applicable
Relative vapour density:	No data available / Not applicable
Density (20 °C (68 °F))	1,46 - 1,56 g/cm3
Bulk density	No data available / Not applicable
Solubility	No data available / Not applicable
Solubility (qualitative) (Solvent: Water)	Not miscible
Partition coefficient: n-octanol/water	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Decomposition temperature	No data available / Not applicable
Viscosity (Bingham; 35 °C (95 °F))	16.000 mPa.s
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
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:
The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation (EC) No 1272/2008. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Eye irritation:
Causes serious eye irritation.

Acute oral toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
1,1',1",1"'-Ethylenedinitrilotetrapropan-2-ol 102-60-3	LD50	2.890 mg/kg	oral		rat	OECD Guideline 401 (Acute Oral Toxicity)
Butane-1,4-diol 110-63-4	LD50	1.500 mg/kg	oral		rat	BASF Test

Acute inhalative toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Butane-1,4-diol 110-63-4	LC50	> 5,1 mg/l	aerosol	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)

Acute dermal toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
1,1',1",1"'-Ethylenedinitrilotetrapropan-2-ol 102-60-3	LD50	> 2.000 mg/kg	dermal		rat	OECD Guideline 402 (Acute Dermal Toxicity)
Butane-1,4-diol 110-63-4	LD50	> 2.000 mg/kg	dermal		rat	BASF Test

Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
1,1',1",1"'-Ethylenedinitrilotetrapropan-2-ol 102-60-3	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
1,1',1",1"'-Ethylenedinitrilotetrapropan-2-ol 102-60-3	irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

Hazardous components CAS-No.	Result	Test type	Species	Method
1,1',1",1"'-Ethylenedinitrilotetrapropan-2-ol 102-60-3	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)

Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
1,1',1",1"'-Ethylenedinitrilotetrapropan-2-ol 102-60-3	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Butane-1,4-diol 110-63-4	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)

Reproductive toxicity:

Hazardous substances CAS-No.	Result / Classification	Species	Exposure time	Species	Method
1,1',1",1"'-Ethylenedinitrilotetrapropan-2-ol 102-60-3	NOAEL P = 1.000 mg/kg NOAEL F1 = 1.000 mg/kg	screening oral: gavage	30-49 d	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

Repeated dose toxicity

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
1,1',1",1"'-Ethylenedinitrilotetrapropan-2-ol 102-60-3	NOAEL=300 mg/kg	oral: gavage	30-49 ddaily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

SECTION 12: Ecological information

General ecological information:
The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation (EC) No 1272/2008. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

12.1. Toxicity

Ecotoxicity:
Do not empty into drains, soil or bodies of water.

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
1,1',1",1'"-Ethylenedinitrilotetrapropan-2-ol 102-60-3	LC50	> 2.000 mg/l	Fish	96 h	Leuciscus idus	OECD Guideline 203 (Fish, Acute Toxicity Test)
1,1',1",1'"-Ethylenedinitrilotetrapropan-2-ol 102-60-3	EC0	> 1.000 mg/l	Bacteria			not specified
Butane-1,4-diol 110-63-4	LC50	> 10.000 mg/l	Fish	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
Butane-1,4-diol 110-63-4	EC50	> 500 mg/l	Daphnia	24 h	other aquatic arthropod:	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Butane-1,4-diol 110-63-4	EC50	> 500 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
	EC10	83 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Butane-1,4-diol 110-63-4	EC10	10.000 mg/l	Bacteria	16 h		not specified
Butane-1,4-diol 110-63-4	NOEC	> 85 mg/l	chronic Daphnia	21 d	Daphnia magna	not specified

12.2. Persistence and degradability

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
1,1',1",1'"-Ethylenedinitrilotetrapropan-2-ol 102-60-3		aerobic	49 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Butane-1,4-diol 110-63-4	readily biodegradable	aerobic	74 - 96 %	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
	inherently biodegradable	aerobic	90 - 100 %	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)

12.3. Bioaccumulative potential / 12.4. Mobility in soil

Hazardous components CAS-No.	LogPow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
1,1',1",1'"-Ethylenedinitrilotetrapropan-2-ol 102-60-3	-2,08					not specified
Butane-1,4-diol 110-63-4	-0,88				25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

12.5. Results of PBT and vPvB assessment

Hazardous components CAS-No.	PBT/vPvB
1,1',1",1'"-Ethylenedinitrilotetrapropan-2-ol 102-60-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Butane-1,4-diol 110-63-4	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.
080409

SECTION 14: Transport information

14.1. UN number

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

14.2. UN proper shipping name

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

14.3. Transport hazard class(es)

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

14.4. Packing group

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

14.5. Environmental hazards

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

14.6. Special precautions for user

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

14.7. Transport in bulk according to Annex II of Marpol 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 (VOCV 814.018 VOC regulation CH)	0 %
VOC content (2010/75/EU)	0 %

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:

H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

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.

Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.

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

SDS No. : 470537
V002.1

TEROSON PU 9225 UF ME

Revision: 20.11.2017
printing date: 13.08.2020
Replaces version from: 21.07.2017

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

1.1. Product identifier
TEROSON PU 9225 UF ME

Contains:
Hexane, 1,6-diisocyanato-, homopolymer, V=2750-4250 mPas/23
Hexamethylene diisocyanate

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 Ltd
Wood Lane End
HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 1442 278000
Fax-no.: +44 1442 278071

ua-productsafety.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):

Acute toxicity	Category 4
H332 Harmful if inhaled.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Specific target organ toxicity - single exposure	Category 3
H335 May cause respiratory irritation.	

2.2. Label elements

Label elements (CLP):

Hazard pictogram:

Signal word: Warning

Hazard statement:
H317 May cause an allergic skin reaction.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.

Precautionary statement:
Prevention
P261 Avoid breathing dust.
P280 Wear protective gloves/protective clothing.

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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General chemical description:
Part B of a two part adhesive
Base substances of preparation:
Polyurethane prepolymer with isocyanate groups

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

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Hexane, 1,6-diisocyanato-, homopolymer, V=2750-4250 mPas/23 28182-81-2	500-060-2 01-2119485796-17	60- < 80 %	Acute Tox. 4 H332 STOT SE 3 H335 Skin Sens. 1 H317
Cristobalite 14464-46-1	238-455-4	1- < 5 %	STOT RE 2; Inhalation H373
Hexamethylene diisocyanate 822-06-0	212-485-8 01-2119457571-37	0,1- < 0,5 %	Acute Tox. 4; Oral H302 Acute Tox. 1; Inhalation - vapour H330 Skin Irrit. 2 H315 Skin Sens. 1 H317 Resp. Sens. 1 H334 STOT SE 3 H335 Eye Irrit. 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.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Fresh air, oxygen supply, warmth; seek specialist medical attention.

Skin contact:
IF ON SKIN: Wash with plenty of soap and water.
In case of adverse health effects seek medical advice.

Eye contact:
Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.

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
SKIN: Rash, Urticaria.

RESPIRATORY: Irritation, coughing, shortness of breath, chest tightness.

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 Section 13.

6.4. Reference to other sections
See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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

7.2. Conditions for safe storage, including any incompatibilities
Ensure good ventilation/extraction.
Store in a cool, dry place.
Storage at 5 to 25°C is recommended.

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 [Regulated substance]	ppm	mg/m³	Value type	Short term exposure limit category / Remarks	Regulatory list
Silicon dioxide 112926-00-8 [SILICA, AMORPHOUS, INHALABLE DUST]		6	Time Weighted Average (TWA):		EH40 WEL
Silicon dioxide 112926-00-8 [SILICA, AMORPHOUS, RESPIRABLE DUST]		2,4	Time Weighted Average (TWA):		EH40 WEL
Zeolites 1318-02-1 [ALUMINIUM OXIDES, INHALABLE DUST]		10	Time Weighted Average (TWA):		EH40 WEL
Zeolites 1318-02-1 [ALUMINIUM OXIDES, RESPIRABLE DUST]		4	Time Weighted Average (TWA):		EH40 WEL
Cristobalite 14464-46-1 [SILICA, RESPIRABLE CRYSTALLINE]		0,1	Time Weighted Average (TWA):		EH40 WEL
Hexamethylene diisocyanate 822-06-0 [ISOCYANATES, ALL (AS -NCO)]		0,07	Short Term Exposure Limit (STEL):		EH40 WEL
Hexamethylene diisocyanate 822-06-0 [ISOCYANATES, ALL (AS -NCO)]		0,02	Time Weighted Average (TWA):		EH40 WEL

Occupational Exposure Limits

Valid for
Ireland

Ingredient [Regulated substance]	ppm	mg/m³	Value type	Short term exposure limit category / Remarks	Regulatory list
Silicon dioxide 112926-00-8 [SILICA, AMORPHOUS, TOTAL INHALABLE DUST]		6	Time Weighted Average (TWA):		IR_OEL
Silicon dioxide 112926-00-8 [SILICA, AMORPHOUS, RESPIRABLE DUST]		2,4	Time Weighted Average (TWA):		IR_OEL
Cristobalite 14464-46-1 [CRISTOBALITE, RESPIRABLE DUST (SEE CRYSTALLINE SILICA)]		0,1	Time Weighted Average (TWA):		IR_OEL
Hexamethylene diisocyanate 822-06-0 [HEXAMETHYLENE DIISOCYANATE (AS -NCO)]	0,005		Time Weighted Average (TWA):		IR_OEL

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Hexane, 1,6-diisocyanato-, homopolymer 28182-81-2	aqua (freshwater)		0,127 mg/l				
Hexane, 1,6-diisocyanato-, homopolymer 28182-81-2	aqua (marine water)		0,0127 mg/l				
Hexane, 1,6-diisocyanato-, homopolymer 28182-81-2	aqua (intermittent releases)		1,27 mg/l				
Hexane, 1,6-diisocyanato-, homopolymer 28182-81-2	sediment (freshwater)				266700 mg/kg		
Hexane, 1,6-diisocyanato-, homopolymer 28182-81-2	sediment (marine water)				26670 mg/kg		
Hexane, 1,6-diisocyanato-, homopolymer 28182-81-2	soil				53182 mg/kg		
Hexane, 1,6-diisocyanato-, homopolymer 28182-81-2	sewage treatment plant (STP)		38,28 mg/l				
Hexamethylene diisocyanate 822-06-0	aqua (freshwater)		> 0,0774 mg/l				
Hexamethylene diisocyanate 822-06-0	aqua (marine water)		> 0,00774 mg/l				
Hexamethylene diisocyanate 822-06-0	sewage treatment plant (STP)		8,42 mg/l				
Hexamethylene diisocyanate 822-06-0	sediment (freshwater)				> 0,01334 mg/kg		
Hexamethylene diisocyanate 822-06-0	sediment (marine water)				> 0,001334 mg/kg		
Hexamethylene diisocyanate 822-06-0	soil				> 0,0026 mg/kg		
Hexamethylene diisocyanate 822-06-0	aqua (intermittent releases)		0,774 mg/l				

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Hexane, 1,6-diisocyanato-, homopolymer 28182-81-2	Workers	Inhalation	Acute/short term exposure - local effects		1 mg/m3	
Hexane, 1,6-diisocyanato-, homopolymer 28182-81-2	Workers	Inhalation	Long term exposure - local effects		0,5 mg/m3	
Hexamethylene diisocyanate 822-06-0	Workers	Inhalation	Acute/short term exposure - systemic effects		0,07 mg/m3	
Hexamethylene diisocyanate 822-06-0	Workers	Inhalation	Long term exposure - systemic effects		0,035 mg/m3	
Hexamethylene diisocyanate 822-06-0	Workers	Inhalation	Long term exposure - local effects		0,035 mg/m3	
Hexamethylene diisocyanate 822-06-0	Workers	inhalation	Acute/short term exposure - local effects		0,07 mg/m3	

Biological Exposure Indices:
None

8.2. Exposure controls:

Engineering controls:
Use only in well ventilated areas.

Respiratory protection:
In case of dust formation, we recommend wearing of appropriate respiratory protection equipment with particle filter P (EN 14387).
This recommendation should be matched to local conditions.

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.
Protective eye equipment should conform to EN166.

Skin protection:
Wear protective equipment.
Protective clothing that covers arms and legs.
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:
Use only personal protection that's CE-labelled according to Directive 89/686/EEC (Europe) or to Regulation No. 819 of 19 August 1994 (Norway).
The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions.
Personal protective equipment should conform to the relevant EN standard.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	paste pasty white
Odor	characteristic
Odour threshold	No data available / Not applicable
pH	No data available / Not applicable
Melting point	No data available / Not applicable
Solidification temperature	No data available / Not applicable
Initial boiling point	No data available / Not applicable
Flash point	Not applicable
Evaporation rate	No data available / Not applicable
Flammability	No data available / Not applicable
Explosive limits	No data available / Not applicable
Vapour pressure	No data available / Not applicable
Relative vapour density:	No data available / Not applicable
Density (20 °C (68 °F))	1,21 - 1,31 g/cm3
Bulk density	No data available / Not applicable
Solubility	No data available / Not applicable
Solubility (qualitative)	No data available / Not applicable
Partition coefficient: n-octanol/water	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Decomposition temperature	No data available / Not applicable
Viscosity	4.000 mPa.s

(Bingham; 35 °C (95 °F))

Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
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.
Reacts with water: Pressure built up in closed vessel (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

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 mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation (EC) No 1272/2008. 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.

STOT-single exposure:
May cause respiratory irritation.

Inhalative toxicity:
Harmful if inhaled.

Sensitizing:
May cause an allergic skin reaction.

Acute oral toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Hexane, 1,6-diisocyanato-, homopolymer, V=2750-4250 mPas/23 28182-81-2	LD50	> 5.000 mg/kg	oral		rat	not specified
Cristobalite 14464-46-1	LD50	3.160 mg/kg	oral		rat	
Hexamethylene diisocyanate 822-06-0	LD50	959 mg/kg	oral		rat	OECD Guideline 401 (Acute Oral Toxicity)

Acute inhalative toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Hexane, 1,6-diisocyanato-, homopolymer, V=2750-4250 mPas/23 28182-81-2	Acute toxicity estimate (ATE)	1,5 mg/l	dust/mist			Expert judgement
Hexamethylene diisocyanate 822-06-0	LC50	0,124 mg/l	vapour	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)

Acute dermal toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Hexane, 1,6-diisocyanato-, homopolymer, V=2750-4250 mPas/23 28182-81-2	LD50	> 2.000 mg/kg	dermal		rat	OECD Guideline 402 (Acute Dermal Toxicity)
Hexamethylene diisocyanate 822-06-0	LD50	> 7.000 mg/kg	dermal		rat	OECD Guideline 402 (Acute Dermal Toxicity)

Respiratory or skin sensitization:

Hazardous components CAS-No.	Result	Test type	Species	Method
Hexamethylene diisocyanate 822-06-0	sensitising	Respiratory sensitisation	guinea pig	not specified
Hexamethylene diisocyanate 822-06-0	sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)

Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Hexamethylene diisocyanate 822-06-0	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
	negative	mammalian cell gene mutation assay	with and without		not specified
Hexamethylene diisocyanate 822-06-0	negative	inhalation: vapour		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Carcinogenicity:

Hazardous components CAS-No.	Result	Species	Sex	Exposure timeFrequency of treatment	Route of application	Method
Hexamethylene diisocyanate 822-06-0	not carcinogenic	rat	male/female	2 y 6 h/d, 5 d/w	inhalation: vapour	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

Reproductive toxicity:

Hazardous substances CAS-No.	Result / Classification	Species	Exposure time	Species	Method
Hexamethylene diisocyanate 822-06-0	NOAEL P = 0.3 ppm NOAEL F1 = 0.3 ppm	screening inhalation: vapour	28-54 d	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

Repeated dose toxicity

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
Hexamethylene diisocyanate 822-06-0	NOAEL=0.005 ppm	inhalation: vapour	2 y6 h/d, 5 d/w	rat	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

SECTION 12: Ecological information

General ecological information:
The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation (EC) No 1272/2008. 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
Hexane, 1,6-diisocyanato-, homopolymer, V=2750-4250 mPas/23 28182-81-2	LC50	> 100 mg/l	Fish	96 h	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)
Hexane, 1,6-diisocyanato-, homopolymer, V=2750-4250 mPas/23 28182-81-2	EC50	> 100 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Hexane, 1,6-diisocyanato-, homopolymer, V=2750-4250 mPas/23 28182-81-2	EC50	> 1.000 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Hexane, 1,6-diisocyanato-, homopolymer, V=2750-4250 mPas/23 28182-81-2	EC 50	> 1.000 mg/l	Bacteria	3 h		OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Cristobalite 14464-46-1	EC0	> 1.000 mg/l	Bacteria			ISO 8192 (Test for Inhibition of Oxygen Consumption by Activated Sludge)
Hexamethylene diisocyanate 822-06-0	LC50	> 82,8 mg/l	Fish	96 h	Brachydanio rerio (new name: Danio rerio)	EU Method C.1 (Acute Toxicity for Fish)
Hexamethylene diisocyanate 822-06-0	EC50	> 89,1 mg/l	Daphnia	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)
Hexamethylene diisocyanate 822-06-0	EC50	> 77,4 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	EU Method C.3 (Algal Inhibition test)
	NOEC	11,7 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	EU Method C.3 (Algal Inhibition test)
Hexamethylene diisocyanate 822-06-0	EC 50	842 mg/l	Bacteria	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

12.2. Persistence and degradability

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
Hexane, 1,6-diisocyanato-, homopolymer, V=2750-4250 mPas/23 28182-81-2		aerobic	0 %	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Hexamethylene diisocyanate 822-06-0	not readily biodegradable.	aerobic	42 %	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)

12.3. Bioaccumulative potential / 12.4. Mobility in soil

Hazardous components CAS-No.	LogPow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
Hexane, 1,6-diisocyanato-, homopolymer, V=2750-4250 mPas/23 28182-81-2		3,2		calculation		OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)
Hexamethylene diisocyanate 822-06-0		57,6		calculated		QSAR (Quantitative Structure Activity Relationship)
Hexamethylene diisocyanate 822-06-0	3,20				25 °C	QSAR (Quantitative Structure Activity Relationship)

12.5. Results of PBT and vPvB assessment

Hazardous components CAS-No.	PBT/vPvB
Hexane, 1,6-diisocyanato-, homopolymer, V=2750-4250 mPas/23 28182-81-2	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Hexamethylene diisocyanate 822-06-0	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.
080409

SECTION 14: Transport information

14.1. UN number

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

14.2. UN proper shipping name

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

14.3. Transport hazard class(es)

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

14.4. Packing group

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

14.5. Environmental hazards

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

14.6. Special precautions for user

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

14.7. Transport in bulk according to Annex II of Marpol 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:

H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
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.

Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.