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

TEROSON EP 5020 TR KOMP. B

SDS No. : 606585
V010.0
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
TEROSON EP 5020 TR KOMP. B

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

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

Great Britain

Phone: +44 (1442) 278000

For Safety Data Sheet updates please visit our website https://mysds.henkel.com/index.html#/appSelection or www.henkel-adhesives.com.
SDSinfo.Adhesive@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):

Skin corrosion	Sub-category 1A
H314 Causes severe skin burns and eye damage.	
Serious eye damage	Category 1
H318 Causes serious eye damage.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Chronic hazards to the aquatic environment	Category 3
H412 Harmful to aquatic life with long lasting effects.	

2.2. Label elements

Label elements (CLP):

Hazard pictogram:

Contains 2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine

m-Phenylenebis(methylamine)

Cashew nut shell liquid

Phenol, polymer with formaldehyde

Signal word: Danger

Hazard statement:
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.

Supplemental information EUH071 Corrosive to the respiratory tract.

Precautionary statement: Prevention
P260 Do not breathe dust/fume/spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement: Response
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor/…

2.3. Other hazards

Following substances are present in a concentration ≥ the concentration limit for depiction in Section 3 and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

This mixture does not contain any substances in a concentration ≥ the concentration limit for depiction in Section 3 that are assessed to be a PBT, vPvB or ED.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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

Hazardous components CAS-No. EC Number REACH-Reg No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8 247-063-2 01-2119560598-25	10- 20 %	Eye Dam. 1, H318 Skin Sens. 1A, H317 Skin Corr. 1A, H314 Acute Tox. 4, Oral, H302		
m-Phenylenebis(methylamine) 1477-55-0 216-032-5 01-2119480150-50	10- 20 %	Acute Tox. 4, Oral, H302 Skin Corr. 1B, H314 Skin Sens. 1B, H317 Acute Tox. 4, Inhalation, H332 Aquatic Chronic 3, H412 Eye Dam. 1, H318		
Cashew nut shell liquid 8007-24-7 232-355-4 01-2120038044-68	5- < 10 %	Skin Sens. 1A, H317 Eye Dam. 1, H318 Skin Irrit. 2, H315 Aquatic Chronic 3, H412		
Ethanol 64-17-5 200-578-6 01-2119457610-43	5- < 10 %	Eye Irrit. 2, H319 Flam. Liq. 2, H225	Eye Irrit. 2; H319; C >= 50 %	
Phenol, polymer with formaldehyde 9003-35-4	1- < 5 %	Skin Sens. 1, H317		
Calcium nitrate 10124-37-5 233-332-1	1- < 5 %	Ox. Sol. 3, H272 Acute Tox. 4, Oral, H302 Eye Dam. 1, H318	oral:ATE = 500 mg/kg	EUEXPL2D
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4 203-180-0 01-2119538811-39	1- < 5 %	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Acute Tox. 4, Oral, H302	STOT SE 3; H335; C >= 20 %	

If no ATE values are displayed, please refer to LD/LC50 values in Section 11.
For full text of the H - statements and other abbreviations see section 16 "Other information".

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Fresh air. Delayed effects possible after inhalation. Inform emergency services.

Skin contact:
Rinse immediately with plenty of running water (for 10 minutes). Remove all contaminated clothing and apply bandage. Seek medical advice.

Eye contact:
Immediately flush eyes with soft jet of water or eye rinse solution for at least 15 minutes. Hold eyelid wide-open. Seek a doctor/hospital, eye flushing should continue during transportation to a doctor.

Ingestion:
Rinse the mouth. Drink plenty of water. Immediate medical advice necessary.
Do not induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed
SKIN: Rash, Urticaria.

Causes burns.

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.
Inform authorities in the event of product spillage to water courses or sewage systems.

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
Ground/bond container and receiving equipment.
Use explosion proof electric equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid open flames and sources of ignition.

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

7.2. Conditions for safe storage, including any incompatibilities
Ensure good ventilation/extraction.

7.3. Specific end use(s)
2-Component epoxy 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
Ethanol 64-17-5 [ETHANOL]	1.000	1.920	Time Weighted Average (TWA):		EH40 WEL
Silicon dioxide 112945-52-5 [SILICA, AMORPHOUS, INHALABLE DUST]		6	Time Weighted Average (TWA):		EH40 WEL
Silicon dioxide 112945-52-5 [SILICA, AMORPHOUS, RESPIRABLE DUST]		2,4	Time Weighted Average (TWA):		EH40 WEL
Silicon dioxide 112945-52-5 [Dust, respirable dust]		4	Time Weighted Average (TWA):		EH40 WEL
Silicon dioxide 112945-52-5 [Dust, inhalable dust]		10	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
m-Phenylenebis(methylamine) 1477-55-0 [M-XYLENE A,A'-DIAMINE (M-PHENYLENEBIS(METHYLAMINE))]		0,1	Time Weighted Average (TWA):		IR_OEL
m-Phenylenebis(methylamine) 1477-55-0 [M-XYLENE A,A'-DIAMINE (M-PHENYLENEBIS(METHYLAMINE))]		0,1	Time Weighted Average (TWA):		IR_OEL
Limestone 1317-65-3 [CALCIUM CARBONATE]		4	Time Weighted Average (TWA):		IR_OEL
Limestone 1317-65-3 [CALCIUM CARBONATE]		10	Time Weighted Average (TWA):		IR_OEL
Ethanol 64-17-5 [ETHANOL]	1.000		Short Term Exposure Limit (STEL):	15 minutes	IR_OEL
Silicon dioxide 112945-52-5 [SILICA, AMORPHOUS]		6	Time Weighted Average (TWA):		IR_OEL
Silicon dioxide		2,4	Time Weighted Average		IR_OEL

112945-52-5 [SILICA, AMORPHOUS]			(TWA):		
Silicon dioxide 112945-52-5 [DUSTS NON-SPECIFIC]		10	Time Weighted Average (TWA):		IR_OEL
Silicon dioxide 112945-52-5 [DUSTS NON-SPECIFIC]		4	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	
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	aqua (freshwater)		0,102 mg/l				
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	aqua (marine water)		0,01 mg/l				
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	sediment (freshwater)				0,622 mg/kg		
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	sediment (marine water)				0,062 mg/kg		
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	Sewage treatment plant		72 mg/l				
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	Soil				10 mg/kg		
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	Freshwater - intermittent		0,315 mg/l				
m-Phenylenebis(methylamine) 1477-55-0	aqua (freshwater)		0,094 mg/l				
m-Phenylenebis(methylamine) 1477-55-0	aqua (marine water)		0,009 mg/l				
m-Phenylenebis(methylamine) 1477-55-0	Freshwater - intermittent		0,152 mg/l				
m-Phenylenebis(methylamine) 1477-55-0	sewage treatment plant (STP)		10 mg/l				
m-Phenylenebis(methylamine) 1477-55-0	sediment (freshwater)				12,4 mg/kg		
m-Phenylenebis(methylamine) 1477-55-0	sediment (marine water)				1,24 mg/kg		
m-Phenylenebis(methylamine) 1477-55-0	Soil				2,44 mg/kg		
Ethanol 64-17-5	aqua (freshwater)		0,96 mg/l				
Ethanol 64-17-5	aqua (marine water)		0,79 mg/l				
Ethanol 64-17-5	aqua (intermittent releases)		2,75 mg/l				
Ethanol 64-17-5	sewage treatment plant (STP)		580 mg/l				
Ethanol 64-17-5	sediment (freshwater)				3,6 mg/kg		
Ethanol 64-17-5	sediment (marine water)				2,9 mg/kg		
Ethanol 64-17-5	Soil				0,63 mg/kg		
Ethanol 64-17-5	oral				380 mg/kg		
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	aqua (freshwater)		0,073 mg/l				
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	Freshwater - intermittent		0,73 mg/l				
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	aqua (marine water)		0,0073 mg/l				
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	sewage treatment plant (STP)		65 mg/l				
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	sediment (freshwater)				0,35 mg/kg		
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	sediment (marine water)				0,0035 mg/kg		
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	Soil				0,028 mg/kg		
p-toluenesulphonic acid (containing a	Predator						no potential for

maximum of 5 % H2SO4) 104-15-4							bioaccumulation

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	General population	oral	Long term exposure - systemic effects		0,05 mg/kg	
m-Phenylenebis(methylamine) 1477-55-0	Workers	dermal	Long term exposure - systemic effects		0,33 mg/kg	
m-Phenylenebis(methylamine) 1477-55-0	Workers	inhalation	Long term exposure - systemic effects		1,2 mg/m3	
m-Phenylenebis(methylamine) 1477-55-0	Workers	inhalation	Long term exposure - local effects		0,2 mg/m3	
Ethanol 64-17-5	Workers	dermal	Long term exposure - systemic effects		343 mg/kg	
Ethanol 64-17-5	Workers	inhalation	Long term exposure - systemic effects		950 mg/m3	
Ethanol 64-17-5	General population	dermal	Long term exposure - systemic effects		206 mg/kg	
Ethanol 64-17-5	General population	inhalation	Long term exposure - systemic effects		114 mg/m3	
Ethanol 64-17-5	General population	oral	Long term exposure - systemic effects		87 mg/kg	
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	Workers	inhalation	Long term exposure - systemic effects		53,6 mg/m3	no potential for bioaccumulation
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	Workers	dermal	Long term exposure - systemic effects		7,6 mg/kg	no potential for bioaccumulation
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	General population	inhalation	Long term exposure - systemic effects		8,7 mg/m3	no potential for bioaccumulation
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	General population	dermal	Long term exposure - systemic effects		2,5 mg/kg	no potential for bioaccumulation
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	General population	oral	Long term exposure - systemic effects		2,5 mg/kg	no potential for bioaccumulation

Biological Exposure Indices:
None

8.2. Exposure controls:

Engineering controls:
Ensure good ventilation/extraction.

Respiratory protection:
The product should only be used at workplaces with intensive ventilation/extraction.
If intensive ventilation/extraction is not possible respiratory protection equipment with ABEK P2 filter (EN 14387) should be worn.

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), or equivalent.
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

Delivery form	paste
Colour	yellowish
Odor	Of amine
Physical state	solid
Melting point	Not applicable, Determination technically not possible
Solidification temperature	Not applicable, Product is a solid.
Initial boiling point	Not applicable, Decomposes before boiling point is reached
Flammability	The product is not flammable.
Explosive limits	Not applicable, Product is a solid.
Flash point	Not applicable, Product is a solid.
Auto-ignition temperature	Not applicable, Product is a solid.
Decomposition temperature	Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use
pH (20 °C (68 °F); Conc.: 10 %; Solvent: Water)	10 - 11
Viscosity (kinematic)	Not applicable, Product is a solid.
Viscosity, dynamic (Physica Rheolab; 23 °C (73.4 °F))	80.000 - 100.000 mPa.s Certificate of Supplier
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Not miscible or difficult to mix
Partition coefficient: n-octanol/water	Not applicable Mixture
Vapour pressure (20 °C (68 °F))	< 1 hPa
Density (20 °C (68 °F))	0,69 g/cm3
Relative vapour density:	Not applicable, Product is a solid.
Particle characteristics	Not applicable, mixture is a paste.

9.2. Other information

Other information not applicable for this product

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

General toxicological information:
An allergic reaction cannot be excluded after repeated skin contact.

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute oral toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Species	Method
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	LD50	910 mg/kg	rat	not specified
m-Phenylenebis(methylamine) 1477-55-0	LD50	980 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Cashew nut shell liquid 8007-24-7	LD50	> 2.000 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
Ethanol 64-17-5	LD50	10.470 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Phenol, polymer with formaldehyde 9003-35-4	LD50	> 5.000 mg/kg	rat	not specified
Calcium nitrate 10124-37-5	Acute toxicity estimate (ATE)	500 mg/kg		Expert judgement
Calcium nitrate 10124-37-5	LD50	300 - 2.000 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	LD50	1.410 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)

Acute dermal toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Species	Method
m-Phenylenebis(methylamine) 1477-55-0	LD50	> 3.100 mg/kg	rat	not specified
Cashew nut shell liquid 8007-24-7	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Ethanol 64-17-5	LD50	> 2.000 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
Phenol, polymer with formaldehyde 9003-35-4	LD50	> 2.000 mg/kg	rat	not specified
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	LD50	> 2.000 mg/kg	rabbit	not specified

Acute inhalative toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Test atmosphere	Exposure time	Species	Method
m-Phenylenebis(methylamine) 1477-55-0	LC50	1,16 mg/l	dust/mist	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)
Ethanol 64-17-5	LC50	124,7 mg/l	vapour	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)

Skin corrosion/irritation:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	corrosive	3 min	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Cashew nut shell liquid 8007-24-7	irritating	24 h	rabbit	other guideline:
Cashew nut shell liquid 8007-24-7	irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Ethanol 64-17-5	not irritating		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Calcium nitrate 10124-37-5	irritating			Expert judgement
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	corrosive	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Cashew nut shell liquid 8007-24-7	corrosive		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Ethanol 64-17-5	irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Calcium nitrate 10124-37-5	Category 1 (irreversible effects on the eye)		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Test type	Species	Method
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
m-Phenylenebis(methylamine) 1477-55-0	Sub-Category 1B (sensitising)	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Cashew nut shell liquid 8007-24-7	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Cashew nut shell liquid 8007-24-7	Sub-Category 1A (sensitising)	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Ethanol 64-17-5	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Ethanol 64-17-5	not sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)

Germ cell mutagenicity:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		EU Method B.13/14 (Mutagenicity)
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
m-Phenylenebis(methylamine) 1477-55-0	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		not specified
m-Phenylenebis(methylamine) 1477-55-0	negative	in vitro mammalian chromosome aberration test	with and without		not specified
Ethanol 64-17-5	negative	bacterial reverse mutation assay (e.g Ames test)			OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Ethanol 64-17-5	negative	in vitro mammalian chromosome aberration test	without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Ethanol 64-17-5	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	negative	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	negative	intraperitoneal		hamster, Chinese	OECD Guideline 475 (Mammalian Bone Marrow Chromosome Aberration Test)
Ethanol 64-17-5	negative				OECD Guideline 475 (Mammalian Bone Marrow Chromosome Aberration Test)

Carcinogenicity

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
Ethanol 64-17-5	not carcinogenic					Expert judgement

Reproductive toxicity:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	NOAEL P 10 mg/kg NOAEL F1 10 mg/kg NOAEL F2 10 mg/kg	two-generation study	oral: gavage	rat	OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
Ethanol 64-17-5	NOAEL P 13.800 mg/kg	Two generation study	oral: unspecified	mouse	OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)

STOT-single exposure:

No data available.

STOT-repeated exposure:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	NOAEL 10 mg/kg	oral: gavage	13 weeks daily	rat	FDA Guideline
m-Phenylenebis(methylamine) 1477-55-0	LOAEL >= 600 mg/kg	oral: gavage	28 days daily	rat	Guidelines for 28-Day Repeat Dose Toxicity Test (Japan)

Aspiration hazard:

No data available.

11.2 Information on other hazards

not applicable

SECTION 12: Ecological information

General ecological information:
Do not empty into drains, soil or bodies of water.

12.1. Toxicity

Toxicity (Fish):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	LC50	174 mg/l	48 h	Leuciscus idus	OECD Guideline 203 (Fish, Acute Toxicity Test)
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	NOEC	10,9 mg/l	30 d	Danio rerio	OECD Guideline 210 (fish early lite stage toxicity test)
m-Phenylenebis(methylamine) 1477-55-0	LC50	87,6 mg/l	96 h	Oryzias latipes	OECD Guideline 203 (Fish, Acute Toxicity Test)
Cashew nut shell liquid 8007-24-7	LL50	> 1.000 mg/l	96 h	Cyprinodon variegatus	OECD Guideline 203 (Fish, Acute Toxicity Test)
Ethanol 64-17-5	LC50	14.200 mg/l	96 h	Pimephales promelas	EPA-660 (Methods for Acute Toxicity Tests with Fish, Macroinvertebrates and Amphibians)
Ethanol 64-17-5	NOEC	250 mg/l	120 h	Danio rerio	OECD Guideline 212 (Fish, Short-term Toxicity Test on Embryo and Sac-Fry Stages)
Phenol, polymer with formaldehyde 9003-35-4	LC50	185 mg/l	48 h	Oncorhynchus mykiss	other guideline:
Calcium nitrate 10124-37-5	LC50	10.000 mg/l	96 h	Lepomis macrochirus	not specified
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	LC50	325 mg/l	96 h	Leuciscus idus melanotus	OECD Guideline 203 (Fish, Acute Toxicity Test)

Toxicity (aquatic invertebrates):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	EC50	31,5 mg/l	24 h	Daphnia magna	DIN 38412, part 11
m-Phenylenebis(methylamine) 1477-55-0	EC50	15,2 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Cashew nut shell liquid 8007-24-7	EL50	40,46 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Ethanol 64-17-5	EC50	5.012 mg/l	48 h	Ceriodaphnia dubia	other guideline:
Phenol, polymer with formaldehyde 9003-35-4	EC50	172 mg/l	48 h	Daphnia pulex	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	EC50	> 103 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Chronic toxicity (aquatic invertebrates):

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	NOEC	1,02 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
m-Phenylenebis(methylamine) 1477-55-0	NOEC	4,7 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Ethanol 64-17-5	NOEC	9,6 mg/l	9 d	Daphnia magna	not specified

Toxicity (Algae):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	EC50	43,5 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	NOEC	16 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
m-Phenylenebis(methylamine) 1477-55-0	EC50	33,3 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
m-Phenylenebis(methylamine) 1477-55-0	NOEC	22,9 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Cashew nut shell liquid 8007-24-7	EL50	5,82 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Cashew nut shell liquid 8007-24-7	NOELR	1 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Ethanol 64-17-5	EC50	275 mg/l	72 h	Chlorella vulgaris	OECD Guideline 201 (Alga, Growth Inhibition Test)
Ethanol 64-17-5	EC10	11,5 mg/l	72 h	Chlorella vulgaris	OECD Guideline 201 (Alga, Growth Inhibition Test)
Phenol, polymer with formaldehyde 9003-35-4	EC50	575 mg/l	24 h	Desmodesmus subspicatus	other guideline:
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	EC50	73 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	NOEC	44,8 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)

Toxicity (microorganisms):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	EC10	72 mg/l	16 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
m-Phenylenebis(methylamine) 1477-55-0	EC50	> 1.000 mg/l	30 min	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Ethanol 64-17-5	IC50	> 1.000 mg/l	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	EC10	240 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

12.2. Persistence and degradability

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	not readily biodegradable.	aerobic	7 %	28 d	EU Method C.4-A (Determination of the "Ready" BiodegradabilityDissolved Organic Carbon (DOC) Die-Away Test)
m-Phenylenebis(methylamine) 1477-55-0	not readily biodegradable.	aerobic	49 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Cashew nut shell liquid 8007-24-7	readily biodegradable	aerobic	83,8 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Ethanol 64-17-5	readily biodegradable	aerobic	80 - 85 %	30 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Phenol, polymer with formaldehyde 9003-35-4	readily biodegradable	aerobic	> 60 %	10 d	ISO DIS 9408 (Ultimate Aerobic BiodegradabilityMethod by Determining the Oxygen Demand in a Closed Respirometer)
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	inherently biodegradable	aerobic	94 %	20 d	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	readily biodegradable	aerobic	99,8 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	LogPow	Temperature	Method
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	-0,3	25 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
m-Phenylenebis(methylamine) 1477-55-0	0,18	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Ethanol 64-17-5	-0,35	24 °C	not specified
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	-0,96	50 °C	EU Method A.8 (Partition Coefficient)

12.5. Results of PBT and vPvB assessment

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	PBT / vPvB
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine 25513-64-8	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
m-Phenylenebis(methylamine) 1477-55-0	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Cashew nut shell liquid 8007-24-7	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Ethanol 64-17-5	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Calcium nitrate 10124-37-5	According to Annex XIII of regulation (EC) 1907/2006 a PBT and vPvB assessment shall not be conducted for inorganic substances.
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4) 104-15-4	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. Endocrine disrupting properties

not applicable

12.7. 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 or ID number

ADR	3259
RID	3259
ADN	3259
IMDG	3259
IATA	3259

14.2. UN proper shipping name

ADR	AMINES, SOLID, CORROSIVE, N.O.S. (Trimethylhexamethylenediamine,m-Xylylenediamine)
RID	AMINES, SOLID, CORROSIVE, N.O.S. (Trimethylhexamethylenediamine,m-Xylylenediamine)
ADN	AMINES, SOLID, CORROSIVE, N.O.S. (Trimethylhexamethylenediamine,m-Xylylenediamine)
IMDG	AMINES, SOLID, CORROSIVE, N.O.S. (Trimethylhexamethylenediamine,m-Xylylenediamine)
IATA	Amines, solid, corrosive, n.o.s. (Trimethylhexamethylenediamine,m-Xylylenediamine)

14.3. Transport hazard class(es)

ADR	8
RID	8
ADN	8
IMDG	8
IATA	8

14.4. Packing group

ADR	II
RID	II
ADN	II
IMDG	II
IATA	II

14.5. Environmental hazards

ADR	not applicable
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

14.6. Special precautions for user

ADR	not applicable Tunnelcode: (E)
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

Ozone Depleting Substance (ODS) (Regulation (EC) No 1005/2009):	Not applicable
Prior Informed Consent (PIC) (Regulation (EU) No 649/2012):	Not applicable
Persistent organic pollutants (Regulation (EU) 2019/1021):	Not applicable
VOC content (2010/75/EU)	5,7 %

15.2. Chemical safety assessment

A chemical safety assessment has 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:

H225 Highly flammable liquid and vapour.
H272 May intensify fire; oxidizer.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.

ED:	Substance identified as having endocrine disrupting properties
EU OEL:	Substance with a Union workplace exposure limit
EU EXPLD 1:	Substance listed in Annex I, Reg (EC) No. 2019/1148
EU EXPLD 2	Substance listed in Annex II, Reg (EC) No. 2019/1148
SVHC:	Substance of very high concern (REACH Candidate List)
PBT:	Substance fulfilling persistent, bioaccumulative and toxic criteria
PBT/vPvB:	Substance fulfilling persistent, bioaccumulative and toxic plus very persistent and very bioaccumulative criteria
vPvB:	Substance fulfilling very persistent and very bioaccumulative criteria

Further information:

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