



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

Page 1 of 17

LOCTITE EA 9497 B

SDS No. : 229736
V007.0

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

1.1. Product identifier

LOCTITE EA 9497 B

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

Intended use:

Epoxy Hardener

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

ua-productsafety.uk@henkel.com

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

Skin corrosion

Category 1B

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.

Specific target organ toxicity - repeated exposure

Category 2

H373 May cause damage to organs through prolonged or repeated exposure.

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**

4,4'-Methylenebis(cyclohexylamine)

C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer

Amines, polyethylenepoly-, triethylenetetramine fraction

Signal word:

Danger

Hazard statement:

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H373 May cause damage to organs through prolonged or repeated exposure.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statement:
Prevention

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 or doctor.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

2.3. Other hazards

None if used properly.

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

Following substances are present in a concentration $\geq 0,1\%$ and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):This mixture does not contain any substances in concentration \geq the concentration limit 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
4,4'-Methylenebis(cyclohexylamine) 1761-71-3 217-168-8 01-2119541673-38	10- 18 %	Acute Tox. 4, Oral, H302 Skin Corr. 1B, H314 Skin Sens. 1, H317 STOT RE 2, Oral, H373 Eye Dam. 1, H318		
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1 500-191-5 01-2119972320-44	10- 20 %	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Chronic 2, H411		
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8 292-588-2 01-2119487919-13	1- < 3 %	Acute Tox. 4, Oral, H302 Acute Tox. 4, Dermal, H312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Eye Dam. 1, H318 Aquatic Chronic 3, H412		

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.

In case of adverse health effects seek medical advice.

Skin contact:

Rinse with running water and soap.

If adverse health effects develop seek medical attention.

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

Causes burns.

SKIN: Rash, Urticaria.

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:

Carbon dioxide, foam, powder

Extinguishing media which must not be used for safety reasons:

None known

5.2. Special hazards arising from the substance or mixture

In the event of a fire, carbon monoxide (CO), carbon dioxide (CO₂) and nitrogen oxides (NO_x) can be released.

5.3. Advice for firefighters

Wear self-contained breathing apparatus.

Wear protective equipment.

Additional information:

In case of fire, keep containers cool with water spray.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.

Avoid skin and eye contact.

Wear protective equipment.

6.2. Environmental precautions

Do not let product enter drains.

6.3. Methods and material for containment and cleaning up

For large spills absorb onto inert absorbent material and place in sealed container for disposal.

Wear protective clothing, gloves and safety glasses.

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**

Avoid skin and eye contact.

Use only in well-ventilated areas.

Gloves and safety glasses should be worn

See advice in section 8

Hygiene measures:

Good industrial hygiene practices should be observed.

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

Store in sealed original container.

Store in a cool, well-ventilated place.

Refer to Technical Data Sheet

7.3. Specific end use(s)

Epoxy Hardener

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Great Britain

Ingredient [Regulated substance]	ppm	mg/m ³	Value type	Short term exposure limit category / Remarks	Regulatory list
Aluminium oxide 1344-28-1 [ALUMINIUM OXIDES, INHALABLE DUST]		10	Time Weighted Average (TWA):		EH40 WEL
Aluminium oxide 1344-28-1 [ALUMINIUM OXIDES, RESPIRABLE DUST]		4	Time Weighted Average (TWA):		EH40 WEL

Occupational Exposure Limits

Valid for
Ireland

Ingredient [Regulated substance]	ppm	mg/m ³	Value type	Short term exposure limit category / Remarks	Regulatory list
Aluminium oxide 1344-28-1 [ALUMINIUM OXIDES]		4	Time Weighted Average (TWA):		IR_OEL
Aluminium oxide 1344-28-1 [ALUMINIUM OXIDES]		10	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	
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	aqua (intermittent releases)		0,08 mg/l				
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	sediment (freshwater)				14,6 mg/kg		
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	aqua (marine water)		0,008 mg/l				
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	sediment (marine water)				1,46 mg/kg		
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	sewage treatment plant (STP)		3,2 mg/l				
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Soil				4,56 mg/kg		
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	aqua (freshwater)		0,08 mg/l				
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	oral				0,556 mg/kg		
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	aqua (freshwater)		0,00434 mg/l				
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	aqua (marine water)		0,00043 mg/l				
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	aqua (intermittent releases)		0,0434 mg/l				
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	sewage treatment plant (STP)		3,84 mg/l				
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	sediment (freshwater)				434,02 mg/kg		
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	sediment (marine water)				43,4 mg/kg		
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	Soil				86,78 mg/kg		
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	aqua (intermittent releases)		0,2 mg/l				
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	aqua (freshwater)		0,027 mg/l				
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	aqua (marine water)		0,003 mg/l				
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	sediment (freshwater)				8,572 mg/kg		
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	sediment (marine water)				0,857 mg/kg		
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	Soil				1,25 mg/kg		
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	sewage treatment plant (STP)		0,13 mg/l				
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	oral						no potential for bioaccumulation

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Workers	inhalation	Long term exposure - systemic effects		0,9 mg/m3	
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Workers	dermal	Long term exposure - systemic effects		0,25 mg/kg	
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	Workers	inhalation	Long term exposure - systemic effects		3,9 mg/m3	
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	Workers	dermal	Long term exposure - systemic effects		1,1 mg/kg	
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	General population	inhalation	Long term exposure - systemic effects		0,97 mg/m3	
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	General population	dermal	Long term exposure - systemic effects		0,56 mg/kg	
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	General population	oral	Long term exposure - systemic effects		0,56 mg/kg	
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	Workers	Inhalation	Long term exposure - systemic effects		0,54 mg/m3	no potential for bioaccumulation
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	General population	Inhalation	Long term exposure - systemic effects		0,096 mg/m3	no potential for bioaccumulation
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	General population	oral	Long term exposure - systemic effects		0,14 mg/kg	no potential for bioaccumulation

Biological Exposure Indices:

None

8.2. Exposure controls:

Engineering controls:

Ensure good ventilation/extraction.

Respiratory protection:

Ensure adequate ventilation.

An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area

Filter type: A (EN 14387)

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:
Tightly fitting safety goggles
Avoid eye contact.
Protective eye equipment should conform to EN166.

Skin protection:
Wear suitable protective clothing.
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:

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

Physical state	liquid
Delivery form	liquid
Colour	grey
Odor	amine-like
Solidification temperature	< 5 °C (< 41 °F)
Initial boiling point	> 180 °C (> 356 °F)no method
Flammability	The product is not flammable.
Explosive limits	Not applicable, The product is not flammable.
Flash point	90,0 °C (194 °F); no method
Auto-ignition temperature	> 335 °C (> 635 °F)
Decomposition temperature	Currently under determination
pH	11,5
(25 °C (77 °F); Conc.: 10 % product; Solvent: Water)	
Viscosity (kinematic)	7.300 mm ² /s
(25 °C (77 °F);)	
Solubility (qualitative)	Insoluble
(20 °C (68 °F); Solvent: Water)	
Partition coefficient: n-octanol/water	Currently under determination
Vapour pressure	< 700 mbar;no method
(21 °C (69.8 °F))	
Density	2,1000 g/cm ³ None
()	
Relative vapour density:	> 1
(20 °C)	
Particle characteristics	Currently under determination

9.2. Other information

Other information not applicable for this product

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts with water: generation of heat.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

No decomposition if used according to specifications.
 Avoid contact with acids and oxidizing agents.
 Avoid contact with water.

10.5. Incompatible materials

See section reactivity.

10.6. Hazardous decomposition products

carbon oxides.

SECTION 11: Toxicological information**1.1 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
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	LD50	380 mg/kg	rat	EPA OPP 81-1 (Acute Oral Toxicity)
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	LD50	> 2.000 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	LD50	1.716 mg/kg	rat	equivalent or similar to 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
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	LD50	2.110 mg/kg	rabbit	not specified
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	LD50	1.465 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)

Acute inhalative toxicity:

No data available.

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
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	corrosive	2,75 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	irritating		In vitro	OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	corrosive		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
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Category 1 (irreversible effects on the eye)		rabbit	not specified
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	Category 1 (irreversible effects on the eye)		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	Category 1 (irreversible effects on the eye)		rabbit	equivalent or similar to 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
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	Sensitizing	Buehler test	guinea pig	equivalent or similar to 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
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	negative	in vitro mammalian cell micronucleus test	with and without		OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	negative	intraperitoneal		mouse	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus 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
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	not carcinogenic	dermal	lifetime three times/w	mouse	male	equivalent or similar OECD Guideline 451 (Carcinogenicity Studies)

Reproductive toxicity:

No data available.

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
4,4'- Methylenebis(cyclohexyla mine) 1761-71-3	NOAEL 15 mg/kg	oral: gavage	M: 36 d / F: 48-52 d daily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	LOAEL 50 mg/kg	oral: gavage	26 w daily	rat	equivalent or similar to OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

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 / surface water / ground water.

12.1. Toxicity

Toxicity (Fish):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	LC50	> 100 mg/l	96 h	Leuciscus idus	DIN 38412-15
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	LC50	7,07 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	LC50	330 mg/l	96 h	Pimephales promelas	other guideline:

Toxicity (Daphnia):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	EC50	7,07 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	EC50	7,07 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	EC50	31 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Chronic toxicity to aquatic invertebrates

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	NOEC	4 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	EC10	1,9 mg/l	21 day	Daphnia magna	OECD Guideline 202 (Daphnia sp. Chronic Immobilisation Test)

Toxicity (Algae):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	EC50	> 140 - 200 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	DIN 38412-09
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	EC10	100 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	DIN 38412-09
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	EC50	4,34 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	NOEC	0,5 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	EC50	20 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	EC10	1,34 mg/l	72 h	Pseudokirchneriella subcapitata (reported as Raphidocelis subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)

Toxicity to microorganisms

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	EC20	> 1.000 mg/l	3 h	activated sludge, industrial	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	EC10	130 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 product is not biodegradable.

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	not readily biodegradable.	aerobic	0 %	28 d	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	not readily biodegradable.	no data	0 - 60 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	not readily biodegradable.	aerobic	0 %	162 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	not inherently biodegradable	aerobic	20 %	84 d	OECD Guideline 302 A (Inherent Biodegradability: Modified SCAS Test)

12.3. Bioaccumulative potential

No data available.

Hazardous substances CAS-No.	Bioconcentration factor (BCF)	Exposure time	Temperature	Species	Method
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	< 60	60 d	24 °C	Cyprinus carpio	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)

12.4. Mobility in soil

Cured adhesives are immobile.

Hazardous substances CAS-No.	LogPow	Temperature	Method
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	2,2	23 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	10,34		QSAR (Quantitative Structure Activity Relationship)
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	-2,65		OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

12.5. Results of PBT and vPvB assessment

Hazardous substances CAS-No.	PBT / vPvB
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8	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:

Dispose of in accordance with local and national regulations.

Disposal of uncleaned packages:

After use, tubes, cartons and bottles containing residual product should be disposed of as chemically contaminated waste in an authorised legal land fill site or incinerated.

Waste code

08 04 09* waste adhesives and sealants containing organic solvents and other dangerous substances

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.

SECTION 14: Transport information

14.1. UN number or ID number

ADR	2735
RID	2735
ADN	2735
IMDG	2735
IATA	2735

14.2. UN proper shipping name

ADR	AMINES, LIQUID, CORROSIVE, N.O.S. (4,4-methylenebis-cyclohexylamine, Triethylenetetramine)
RID	AMINES, LIQUID, CORROSIVE, N.O.S. (4,4-methylenebis-cyclohexylamine, Triethylenetetramine)
ADN	AMINES, LIQUID, CORROSIVE, N.O.S. (4,4-methylenebis-cyclohexylamine, Triethylenetetramine)
IMDG	AMINES, LIQUID, CORROSIVE, N.O.S. (4,4-methylenebis-cyclohexylamine, Triethylenetetramine)
IATA	Amines, liquid, corrosive, n.o.s. (4,4-methylenebis-cyclohexylamine, Triethylenetetramine)

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/EC)	< 3,00 %

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.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.
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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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.

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