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

SDS No. : 268359
V007.0

LOCTITE EA 9497 DC50ML EN/DE

Revision: 08.04.2025
printing date: 09.04.2025
Replaces version from: 08.11.2024

Kit/Multi-component Product

1. SDS No.229731 - LOCTITE EA 9497 A
2. SDS No.229736 - LOCTITE EA 9497 B

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

LOCTITE EA 9497 A

SDS No. : 229731
V007.0
Revision: 08.04.2025
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

LOCTITE EA 9497 A

UFI: CVT9-GX2H-Y20W-X4Y2

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

Intended use:
Epoxy resin

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

SDSinfo.Adhesive@henkel.com
For Safety Data Sheet updates please visit our website www.mysds.henkel.com 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 irritation	Category 2
H315 Causes skin irritation.	
Serious eye irritation	Category 2
H319 Causes serious eye irritation.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Toxic to reproduction	Category 1B
H360F May damage fertility.	
Chronic hazards to the aquatic environment	Category 2
H411 Toxic to aquatic life with long lasting effects.	

2.2. Label elements

Label elements (CLP):

Hazard pictogram:

Contains Bisphenol-F epichlorhydrin resin; MW<700
Bisphenol A Diglycidyl Ether
1,4-bis(2,3 epoxypropoxy)butane

Signal word: Danger

Hazard statement:
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H360F May damage fertility.
H411 Toxic to aquatic life with long lasting effects.

Supplemental information Restricted to professional users.

Precautionary statement: Prevention
P201 Obtain special instructions before use.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing.

Precautionary statement: Response
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

None if used properly.

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
Bisphenol-F epichlorhydrin resin; MW<700 ----- 500-006-8 01-2119454392-40	20- < 40 %	Skin Irrit. 2, H315 Skin Sens. 1A, H317 Aquatic Chronic 2, H411		
Bisphenol A Diglycidyl Ether 1675-54-3 216-823-5 01-2119456619-26	5- < 10 %	Eye Irrit. 2, H319 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411	Eye Irrit. 2; H319; C >= 5 % Skin Irrit. 2; H315; C >= 5 %	
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8 219-371-7 01-2119494060-45	1- < 5 %	Acute Tox. 4, Oral, H302 Acute Tox. 4, Dermal, H312 Acute Tox. 4, Inhalation, H332 Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319 Repr. 1B, H360F	inhalation:ATE = 11,01 mg/l;vapour	
Titanium dioxide 13463-67-7 236-675-5 01-2119489379-17	0,1- < 1 %	Carc. 2, Inhalation, H351		

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:
Move to fresh air. If symptoms persist, seek medical advice.

Skin contact:
Rinse with running water and soap.
Obtain medical attention if irritation persists.

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.

SKIN: Redness, inflammation.

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:
water, carbon dioxide, foam, powder

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

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 (NOx) can be released.

5.3. Advice for firefighters
Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

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
Avoid contact with skin and eyes.
Wear protective equipment.
Ensure adequate ventilation.

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

6.3. Methods and material for containment and cleaning up
Dispose of contaminated material as waste according to Section 13.
For small spills wipe up with paper towel and place in container for disposal.
For large spills absorb onto inert absorbent material and place in sealed container for disposal.

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.
See advice in section 8

Hygiene measures:
Good industrial hygiene practices should be observed.
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
Store in a cool, well-ventilated place.
Refer to Technical Data Sheet.

7.3. Specific end use(s)
Epoxy resin

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
Titanium dioxide 13463-67-7 [TITANIUM DIOXIDE, RESPIRABLE]		4	Time Weighted Average (TWA):		EH40 WEL
Titanium dioxide 13463-67-7 [TITANIUM DIOXIDE, TOTAL INHALABLE]		10	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
Titanium dioxide 13463-67-7 [TITANIUM DIOXIDE]		10	Time Weighted Average (TWA):		IR_OEL
Titanium dioxide 13463-67-7 [TITANIUM DIOXIDE]		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	
Reaction mass bisphenol-F-(epichlorhydrin) -----	aqua (freshwater)		0,003 mg/l				
Reaction mass bisphenol-F-(epichlorhydrin) -----	aqua (marine water)		0,0003 mg/l				
Reaction mass bisphenol-F-(epichlorhydrin) -----	sewage treatment plant (STP)		10 mg/l				
Reaction mass bisphenol-F-(epichlorhydrin) -----	sediment (freshwater)				0,294 mg/kg		
Reaction mass bisphenol-F-(epichlorhydrin) -----	sediment (marine water)				0,0294 mg/kg		
Reaction mass bisphenol-F-(epichlorhydrin) -----	Soil				0,237 mg/kg		
Reaction mass bisphenol-F-(epichlorhydrin) -----	aqua (intermittent releases)		0,0254 mg/l				
Reaction mass bisphenol-F-(epichlorhydrin) -----	Air						no hazard identified
Reaction mass bisphenol-F-(epichlorhydrin) -----	Predator						no potential for bioaccumulation
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	aqua (freshwater)		0,006 mg/l				
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Freshwater - intermittent		0,018 mg/l				
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	aqua (marine water)		0,001 mg/l				
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Marine water - intermittent		0,002 mg/l				
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	sewage treatment plant (STP)		10 mg/l				
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	sediment (freshwater)				0,341 mg/kg		
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	sediment (marine water)				0,034 mg/kg		
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Air						no hazard identified
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Soil				0,065 mg/kg		
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	oral				11 mg/kg		
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	aqua (freshwater)		0,111 mg/l				
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	aqua (marine water)		0,011 mg/l				
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	sewage treatment plant (STP)		10 mg/l				
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	sediment (freshwater)				0,484 mg/kg		
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	sediment (marine water)				0,048 mg/kg		
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	Soil				0,032 mg/kg		
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	oral				22,2 mg/kg		
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	Freshwater - intermittent		0,24 mg/l				

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Reaction mass bisphenol-F-(epichlorhydrin) -----	Workers	Inhalation	Long term exposure - systemic effects		29,39 mg/m3	no hazard identified
Reaction mass bisphenol-F-(epichlorhydrin) -----	Workers	dermal	Long term exposure - systemic effects		104,15 mg/kg	no hazard identified
Reaction mass bisphenol-F-(epichlorhydrin) -----	Workers	dermal	Acute/short term exposure - local effects		0,0083 mg/cm2	no hazard identified
Reaction mass bisphenol-F-(epichlorhydrin) -----	General population	Inhalation	Long term exposure - systemic effects		8,7 mg/m3	no hazard identified
Reaction mass bisphenol-F-(epichlorhydrin) -----	General population	dermal	Long term exposure - systemic effects		62,5 mg/kg	no hazard identified
Reaction mass bisphenol-F-(epichlorhydrin) -----	General population	oral	Long term exposure - systemic effects		6,25 mg/kg	no hazard identified
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Workers	inhalation	Long term exposure - systemic effects		4,93 mg/m3	no hazard identified
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Workers	dermal	Long term exposure - systemic effects		0,75 mg/kg	no hazard identified
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	General population	inhalation	Long term exposure - systemic effects		0,87 mg/m3	no hazard identified
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	General population	dermal	Long term exposure - systemic effects		0,0893 mg/kg	no hazard identified
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	General population	oral	Long term exposure - systemic effects		0,5 mg/kg	no hazard identified
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Workers	Inhalation	Long term exposure - local effects			no hazard identified
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Workers	Inhalation	Acute/short term exposure - local effects			no hazard identified
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Workers	dermal	Long term exposure - local effects			no hazard identified
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	Workers	dermal	Acute/short term exposure - local effects			no hazard identified
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	General population	Inhalation	Long term exposure - local effects			no hazard identified
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	General population	Inhalation	Acute/short term exposure - local effects			no hazard identified
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	General population	dermal	Long term exposure - local effects			no hazard identified
Biphenyl-4-(2,3-epoxypropoxy)propane 1675-54-3	General population	dermal	Acute/short term exposure - local effects			no hazard identified
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	Workers	inhalation	Long term exposure - systemic effects		7,8 mg/m3	
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	Workers	dermal	Long term exposure - systemic effects		5,5 mg/kg	
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	General population	inhalation	Long term exposure - systemic effects		1,91 mg/m3	
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	General population	dermal	Long term exposure - systemic effects		2,75 mg/kg	
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	General population	oral	Long term exposure - systemic effects		1,38 mg/kg	

1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	Workers	inhalation	Acute/short term exposure - systemic effects			
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	Workers	inhalation	Long term exposure - local effects			
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	Workers	inhalation	Acute/short term exposure - local effects			
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	Workers	dermal	Long term exposure - local effects			
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	Workers	dermal	Acute/short term exposure - systemic effects			
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	Workers	dermal	Acute/short term exposure - local effects			
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	General population	inhalation	Acute/short term exposure - systemic effects			
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	General population	inhalation	Long term exposure - local effects			
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	General population	inhalation	Acute/short term exposure - local effects			
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	General population	dermal	Acute/short term exposure - systemic effects			
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	General population	dermal	Long term exposure - local effects			
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	General population	dermal	Acute/short term exposure - local effects			
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	General population	oral	Acute/short term exposure - systemic effects			
Titanium dioxide 13463-67-7	Workers	inhalation	Long term exposure - local effects		0,17 mg/m3	
Titanium dioxide 13463-67-7	General population	inhalation	Long term exposure - local effects		0,028 mg/m3	

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:
Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.
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

Delivery form	liquid
Colour	White
Odor	characteristic
Physical state	liquid
Melting point	Not applicable, Product is a liquid
Solidification temperature	< 5 °C (< 41 °F)
Initial boiling point	> 250 °C (> 482 °F)no method / method unknown
Flammability	Currently under determination
Explosive limits	Not applicable, The product is not flammable.
Flash point	93,0 °C (199.4 °F)
Auto-ignition temperature	> 400 °C (> 752 °F)
Decomposition temperature	Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use
pH	Product is non-soluble (in water)., Not applicable
Viscosity (kinematic) (40 °C (104 °F);)	> 20,5 mm2/s
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Insoluble
Partition coefficient: n-octanol/water	Not applicable Mixture
Vapour pressure (21 °C (69.8 °F))	< 700 mbar;no method / method unknown
Density (25 °C (77 °F))	2,06 - 2,12 g/cm3 None
Relative vapour density: (20 °C)	> 1
Particle characteristics	Not applicable Product is a liquid

9.2. Other information

Other information not applicable for this product

SECTION 10: Stability and reactivity

10.1. Reactivity
Reacts with strong oxidants.
Reaction with strong acids.

10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
See section reactivity

10.4. Conditions to avoid
Stable under normal conditions of storage and use.

10.5. Incompatible materials
See section reactivity.

10.6. Hazardous decomposition products
carbon oxides.

SECTION 11: Toxicological information

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.
Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Bisphenol-F epichlorhydrin resin; MW<700 -----	LD50	> 5.000 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
Bisphenol A Diglycidyl Ether 1675-54-3	LD50	> 2.000 mg/kg	rat	OECD Guideline 420 (Acute Oral Toxicity)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	LD50	1.118 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Titanium dioxide 13463-67-7	LD50	> 5.000 mg/kg	rat	OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure)

Acute dermal toxicity:

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

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Bisphenol-F epichlorhydrin resin; MW<700 -----	LD50	> 2.000 mg/kg	rat	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
Bisphenol A Diglycidyl Ether 1675-54-3	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	LD50	1.130 mg/kg	rabbit	not specified
Titanium dioxide 13463-67-7	LD50	> 10.000 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.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Value type	Value	Test atmosphere	Exposure time	Species	Method
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Acute toxicity estimate (ATE)	11,01 mg/l	vapour	4 h		Expert judgement
Titanium dioxide 13463-67-7	LC50	> 6,82 mg/l	dust	4 h	rat	not specified

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
Bisphenol-F epichlorhydrin resin; MW<700 -----	irritating	4 h	rabbit	equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Bisphenol A Diglycidyl Ether 1675-54-3	moderately irritating	24 h	rabbit	Draize Test
Titanium dioxide 13463-67-7	not irritating	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
Bisphenol-F epichlorhydrin resin; MW<700 -----	not irritating		rabbit	equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Bisphenol A Diglycidyl Ether 1675-54-3	slightly irritating		rabbit	Draize Test
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Category 1 (irreversible effects on the eye)		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Titanium dioxide 13463-67-7	not irritating		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
Bisphenol-F epichlorhydrin resin; MW<700 -----	Sub-Category 1A (sensitising)	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Bisphenol A Diglycidyl Ether 1675-54-3	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Titanium dioxide 13463-67-7	not sensitising	Mouse local lymphnode assay (LLNA)	mouse	equivalent or similar to OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Titanium dioxide 13463-67-7	not sensitising	Buehler 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.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Bisphenol-F epichlorhydrin resin; MW<700 -----	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Bisphenol A Diglycidyl Ether 1675-54-3	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		EU Method B.13/14 (Mutagenicity)
Bisphenol A Diglycidyl Ether 1675-54-3	negative with metabolic activation	mammalian cell gene mutation assay	with and without		not specified
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	positive	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	positive	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Titanium dioxide 13463-67-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Titanium dioxide 13463-67-7	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Titanium dioxide 13463-67-7	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Titanium dioxide 13463-67-7	negative	in vitro mammalian cell micronucleus test	without		equivalent or similar to OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
Bisphenol-F epichlorhydrin resin; MW<700 -----	negative	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Bisphenol-F epichlorhydrin resin; MW<700 -----	negative	oral: gavage		rat	OECD Guideline 486 (Unscheduled DNA Synthesis (UDS) Test with Mammalian Liver Cells in vivo)
Bisphenol A Diglycidyl Ether 1675-54-3	negative	oral: gavage		mouse	not specified
Bisphenol A Diglycidyl Ether 1675-54-3	negative	oral: gavage		rat	OECD Guideline 488 (In Vivo Transgenic Cell Gene Mutation Assays)
Bisphenol A Diglycidyl Ether 1675-54-3	negative	oral: gavage		mouse	not specified
Bisphenol A Diglycidyl Ether 1675-54-3	negative	oral: gavage		mouse	not specified
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	negative	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Titanium dioxide 13463-67-7	negative	oral: gavage		rat	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.

Based on available data, the classification criteria are not met.

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
Bisphenol A Diglycidyl Ether 1675-54-3	not carcinogenic	oral: gavage	24 m daily	rat	male/female	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
Bisphenol A Diglycidyl Ether 1675-54-3	not carcinogenic	dermal	2 y 3 times/w	mouse	male	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
Titanium dioxide 13463-67-7	not carcinogenic	oral: feed	103 w daily	rat	male/female	not specified

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
Bisphenol-F epichlorhydrin resin; MW<700 -----	NOAEL P > 750 mg/kg NOAEL F1 750 mg/kg NOAEL F2 750 mg/kg	two-generation study	oral: gavage	rat	OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
Bisphenol A Diglycidyl Ether 1675-54-3	NOAEL P >= 50 mg/kg NOAEL F1 >= 750 mg/kg NOAEL F2 >= 750 mg/kg	Two generation study	oral: gavage	rat	OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	NOAEL P 55 mg/kg NOAEL F1 55 mg/kg	one-generation study	oral: gavage	rat	OECD Guideline 443 (Extended One-Generation Reproductive Toxicity Study)
Titanium dioxide 13463-67-7	NOAEL P >= 1.000 mg/kg NOAEL F1 >= 1.000 mg/kg	one-generation study	oral: feed	rat	OECD Guideline 443 (Extended One-Generation Reproductive 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.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
Bisphenol-F epichlorhydrin resin; MW<700 -----	NOAEL 250 mg/kg	oral: gavage	13 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Bisphenol A Diglycidyl Ether 1675-54-3	NOAEL 50 mg/kg	oral: gavage	14 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Bisphenol A Diglycidyl Ether 1675-54-3	NOAEL 100 mg/kg	dermal	13 w 3 times/w	mouse	OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	NOAEL 200 mg/kg	oral: gavage	28 d daily	rat	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
Titanium dioxide 13463-67-7	NOAEL > 1.000 mg/kg	oral: gavage	92 d daily	rat	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.

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
Bisphenol-F epichlorhydrin resin; MW<700 -----	LC50	5,7 mg/l	96 h	Leuciscus idus	OECD Guideline 203 (Fish, Acute Toxicity Test)
Bisphenol A Diglycidyl Ether 1675-54-3	LC50	1,2 mg/l	96 h	Oncorhynchus mykiss	EPA-660 (Methods for Acute Toxicity Tests with Fish, Macroinvertebrates and Amphibians)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	LC50	19,8 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	EC10	1,11 mg/l	35 d	Danio rerio	OECD Guideline 210 (fish early lite stage toxicity test)
Titanium dioxide 13463-67-7	LC50	Toxicity > Water solubility	48 h	Leuciscus idus	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
Bisphenol-F epichlorhydrin resin; MW<700 -----	EC50	2,55 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Bisphenol A Diglycidyl Ether 1675-54-3	EC50	2,7 mg/l	48 h	Daphnia magna	other guideline:
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	EC50	75 mg/l	24 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Titanium dioxide 13463-67-7	EC50	Toxicity > Water solubility	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Chronic 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
Bisphenol-F epichlorhydrin resin; MW<700 -----	NOEC	0,3 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Bisphenol A Diglycidyl Ether 1675-54-3	NOEC	0,3 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	EC10	8,93 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Titanium dioxide 13463-67-7	NOEC	Toxicity > Water solubility	21 d	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.

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
Bisphenol-F epichlorhydrin resin; MW<700 -----	EC50	1,8 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Bisphenol A Diglycidyl Ether 1675-54-3	EC50	> 11 mg/l	72 h	Scenedesmus capricornutum	other guideline:
Bisphenol A Diglycidyl Ether 1675-54-3	NOEC	4,2 mg/l	72 h	Scenedesmus capricornutum	other guideline:
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	EC50	> 160 mg/l	72 h	Raphidocelis subcapitata (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	NOELR	40 mg/l	72 h	Raphidocelis subcapitata (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Titanium dioxide 13463-67-7	EC50	Toxicity > Water solubility	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Titanium dioxide 13463-67-7	NOEC	Toxicity > Water solubility	72 h	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
Bisphenol-F epichlorhydrin resin; MW<700 -----	IC50	> 100 mg/l	3 h	activated sludge, industrial	other guideline:
Bisphenol A Diglycidyl Ether 1675-54-3	IC50	> 100 mg/l	3 h	activated sludge, industrial	other guideline:
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	IC50	> 100 mg/l	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Titanium dioxide 13463-67-7	EC0	Toxicity > Water solubility	24 h	Pseudomonas fluorescens	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-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
Bisphenol-F epichlorhydrin resin; MW<700 -----	not readily biodegradable.	aerobic	0 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Bisphenol A Diglycidyl Ether 1675-54-3	not inherently biodegradable	not specified	12 %	28 d	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
Bisphenol A Diglycidyl Ether 1675-54-3	not readily biodegradable.	aerobic	5 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	not readily biodegradable.	aerobic	38 %	28 d	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	inherently biodegradable	aerobic	98 %	60 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry 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**
Bisphenol-F epichlorhydrin resin; MW<700 -----	2,7 - 3,6		OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Bisphenol A Diglycidyl Ether 1675-54-3	> 2,64 - 3,78	25 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	-0,269	25 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)

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**
Bisphenol-F epichlorhydrin resin; MW<700 -----	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Bisphenol A Diglycidyl Ether 1675-54-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
1,4-bis(2,3 epoxypropoxy)butane 2425-79-8	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Titanium dioxide 13463-67-7	According to Annex XIII to Regulation (EC) No 1907/2006, a PBT and vPvB assessment shall not be conducted for inorganic substances.

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:
Do not empty into drains / surface water / ground water.
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	3082
RID	3082
ADN	3082
IMDG	3082
IATA	3082

14.2. UN proper shipping name

ADR	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol-F Epichlorhydrin resin,Bisphenol-A Epichlorhydrin resin)
RID	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol-F Epichlorhydrin resin,Bisphenol-A Epichlorhydrin resin)
ADN	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol-F Epichlorhydrin resin,Bisphenol-A Epichlorhydrin resin)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol-F Epichlorhydrin resin,Bisphenol-A Epichlorhydrin resin)
IATA	Environmentally hazardous substance, liquid, n.o.s. (Bisphenol-F Epichlorhydrin resin,Bisphenol-A Epichlorhydrin resin)

14.3. Transport hazard class(es)

ADR	9
RID	9
ADN	9
IMDG	9
IATA	9

14.4. Packing group

ADR	III
RID	III
ADN	III
IMDG	III
IATA	III

14.5. Environmental hazards

ADR	Environmentally Hazardous
RID	Environmentally Hazardous
ADN	Environmentally Hazardous
IMDG	Marine Pollutant
IATA	Environmentally Hazardous

14.6. Special precautions for user

ADR	not applicable

	Tunnelcode:
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

The transport classifications in this section apply generally to packed and bulk goods alike. For containers with a net volume of no more than 5 L for liquid substances or a net mass of no more than 5 kg for solid substances per individual or inner package, the exemptions SP 375 (ADR), A197 (IATA), 2.10.2.7 (IMDG), NZ 4.3(10) may be applied, which can result in a deviation from the transport classification for packed goods.

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 2024/590):	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.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H351 Suspected of causing cancer.
H360F May damage fertility.
H411 Toxic 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.

Dear Customer,
Henkel is committed to creating a sustainable future by promoting opportunities along the entire value chain. If you would like to contribute by switching from a paper to the electronic version of SDS, please contact the local Customer Service representative. We recommend to use a non-personal email address (e.g. SDS@your_company.com).

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.

LOCTITE EA 9497 B

SDS No. : 229736
V007.0
Revision: 08.04.2025
printing date: 09.04.2025
Replaces version from: 26.08.2024

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

1.1. Product identifier
LOCTITE EA 9497 B

UFI: UXFF-C0SG-P009-MF2F

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

SDSinfo.Adhesive@henkel.com
For Safety Data Sheet updates please visit our website www.mysds.henkel.com 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)

Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine

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.

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
4,4'-Methylenebis(cyclohexylamine) 1761-71-3 217-168-8 01-2119541673-38 01-2119979542-27	10- 18 %	Acute Tox. 4, Oral, H302 Skin Corr. 1B, H314 Skin Sens. 1, H317 STOT RE 2, Oral, H373 Eye Dam. 1, H318		
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 68082-29-1	10- 20 %	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, 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		

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:
Move to fresh air. If symptoms persist, seek medical advice.

Skin contact:
Rinse with running water and soap.
Obtain medical attention if irritation persists.

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
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 (NOx) can be released.

5.3. Advice for firefighters
Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

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
Avoid contact with skin and eyes.
Wear protective equipment.
Ensure adequate ventilation.
Keep away from sources of ignition.

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

6.3. Methods and material for containment and cleaning up
Dispose of contaminated material as waste according to Section 13.
For small spills wipe up with paper towel and place in container for disposal.
For large spills absorb onto inert absorbent material and place in sealed container for disposal.

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.
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)				136,6 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)				13,7 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				27,3 mg/kg		
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	aqua (freshwater)		0,08 mg/l				
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 68082-29-1	aqua (freshwater)		0,00434 mg/l				
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 68082-29-1	aqua (marine water)		0,00043 mg/l				
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 68082-29-1	aqua (intermittent releases)		0,0434 mg/l				
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 68082-29-1	sewage treatment plant (STP)		3,84 mg/l				
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 68082-29-1	sediment (freshwater)				434,02 mg/kg		
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 68082-29-1	sediment (marine water)				43,4 mg/kg		
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 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		0,13 mg/m3	
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Workers	dermal	Long term exposure - systemic effects		0,053 mg/kg	
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Workers	inhalation	Long term exposure - local effects			
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Workers	inhalation	Acute/short term exposure - local effects			
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Workers	dermal	Long term exposure - local effects			
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Workers	dermal	Acute/short term exposure - local effects			
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 68082-29-1	Workers	inhalation	Long term exposure - systemic effects		3,9 mg/m3	
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 68082-29-1	Workers	dermal	Long term exposure - systemic effects		1,1 mg/kg	
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 68082-29-1	General population	inhalation	Long term exposure - systemic effects		0,97 mg/m3	
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 68082-29-1	General population	dermal	Long term exposure - systemic effects		0,56 mg/kg	
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 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:
Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.
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

Delivery form	liquid
Colour	Gray / Grey
Odor	amine-like
Physical state	liquid
Melting point	Not applicable, Product is a liquid
Solidification temperature	< 5 °C (< 41 °F)
Initial boiling point	> 180 °C (> 356 °F)no method / method unknown
Flammability	The product is not flammable.
Explosive limits	Not applicable, The product is not flammable.
Flash point	90,0 °C (194 °F); no method / method unknown
Auto-ignition temperature	> 335 °C (> 635 °F)
Decomposition temperature	Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use
pH (25 °C (77 °F); Conc.: 10 % product; Solvent: Water)	11,5
Viscosity (kinematic) (25 °C (77 °F);)	7.300 mm2/s
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Insoluble
Partition coefficient: n-octanol/water	Not applicable Mixture
Vapour pressure (21 °C (69.8 °F))	< 700 mbar;no method / method unknown
Density (25 °C (77 °F))	2,1000 g/cm3 None
Relative vapour density: (20 °C)	> 1
Particle characteristics	Maximum grain size <= 0,11 mm LCT STM 744; Particle size 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

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.
Based on available data, the classification criteria are not met.

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)
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 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.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Value type	Value	Species	Method
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	LD50	2.110 mg/kg	rabbit	not specified
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 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)
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 68082-29-1	irritating or corrosive		Human, EpiDermTM SIT (EPI-200), Reconstructed Human Epidermis (RHE)	OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method)
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 68082-29-1	not corrosive		Human, in vitro skin model	OECD Guideline 431 (In Vitro Skin Corrosion: 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
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 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
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 68082-29-1	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 68082-29-1	sensitising	Guinea pig maximisation test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)
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.

Based on available data, the classification criteria are not met.

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 68082-29-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 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.

Based on available data, the classification criteria are not met.

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(cyclohexylamine) 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.

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
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	LC50	> 100 mg/l	96 h	Leuciscus idus	DIN 38412-15
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 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 (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
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	EC50	7,07 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 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 (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
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.

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
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
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 68082-29-1	EC50	4,34 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 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 (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
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)
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 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 table below presents the data of the classified substances present in the mixture.

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))
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 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

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

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

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

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)
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 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

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

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.
Fatty acids, C18 unsaturated, dimers, polymers with tall oil fatty acids and triethylenetetramine 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:
Do not empty into drains / surface water / ground water.
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 2024/590):	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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