



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

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LOCTITE 3609

SDS No. : 153602
V004.0

Revision: 26.01.2026

printing date: 27.01.2026

Replaces version from: 24.06.2024

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

1.1. Product identifier

LOCTITE 3609

UFI: 040N-0XK7-P203-XPQY

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

Intended use:

Epoxy adhesive

1.3. Details of the supplier of the safety data sheet

Henkel Ireland

Operations and Research Limited

Tallaght Business Park, Whitestown

24 Dublin

Ireland

Phone: +353 (0353) 1 404 6444

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

00353 14046280

National Poisons Information Centre: Members of Public: +353 (1) 809 2166. (8.00 a.m. to 10.00 p.m. 7 days a week)

Healthcare Professionals: +353 (1) 809 2566 (24-hour service)

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.	
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

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane

1-Chloro-2,3-epoxypropane, polymer with polypropyleneglycol

Diethylenetriamine

Signal word:

Warning

Hazard statement:

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statement:
Prevention

P273 Avoid release to the environment.
P280 Wear protective gloves.

Precautionary statement:
Response

P302+P352 IF ON SKIN: Wash with plenty of soap and water.
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 $\geq$ 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 $\geq$ 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 No REACH-Reg. No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3 216-823-5 01-2119456619-26	25- < 50 %	Eye Irrit. 2, H319 Aquatic Chronic 2, H411 Skin Sens. 1, H317 Skin Irrit. 2, H315	Eye Irrit. 2; H319; C >= 5 % Skin Irrit. 2; H315; C >= 5 %	
Reaction mass of 2-[[[2-[(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2'-[iminobis(2,1-ethanediyyliminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24,25-dodecahydridibenzo[i,t][1,4,7,12,15,18]hexaazacyclodocosine-5,13,18,26(6H,19H)- tetrone ----- 01-2120096580-52	20- < 40 %	Acute Tox. 4, H302 Aquatic Chronic 2, H411	oral:ATE = 1.001 mg/kg	
1-Chloro-2,3-epoxypropane, polymer with polypropyleneglycol 9072-62-2	20- < 40 %	Eye Irrit. 2, H319 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 3, H412		
Diethylenetriamine 111-40-0 203-865-4 01-2119473793-27	0,1- < 1 %	Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Acute Tox. 2, H330 STOT SE 3, H335 Eye Dam. 1, H318	inhalation:ATE = 0,071 mg/l;dust/mist	

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 (NO_x) 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

Ensure good ventilation/extraction.

Refer to Technical Data Sheet.

Keep container tightly sealed.

7.3. Specific end use(s)
Epoxy adhesive**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Occupational Exposure Limits**Valid for
Ireland

Ingredient [Regulated substance]	ppm	mg/m ³	Value type	Short term exposure limit category / Remarks	Regulatory list
2,2'-Iminodi(ethylamine) 111-40-0 [DIETHYLENE TRIAMINE]	1	4	Time Weighted Average (TWA):		IR_OEL
2,2'-Iminodi(ethylamine) 111-40-0 [DIETHYLENE TRIAMINE]			Skin designation:	Can be absorbed through the skin.	IR_OEL

Occupational Exposure LimitsValid for
Great Britain

Ingredient [Regulated substance]	ppm	mg/m ³	Value type	Short term exposure limit category / Remarks	Regulatory list
2,2'-iminodiethylamine 111-40-0 [2,2'-IMINODI(ETHYLAMINE)]			Skin designation:	Can be absorbed through the skin.	EH40 WEL
2,2'-iminodiethylamine 111-40-0 [2,2'-IMINODI(ETHYLAMINE)]	1	4,3	Time Weighted Average (TWA):		EH40 WEL

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	aqua (freshwater)		0,006 mg/l				
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	Freshwater - intermittent		0,018 mg/l				
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	aqua (marine water)		0,001 mg/l				
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	Marine water - intermittent		0,002 mg/l				
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	sewage treatment plant (STP)		10 mg/l				
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	sediment (freshwater)				0,341 mg/kg		
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	sediment (marine water)				0,034 mg/kg		
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	Soil				0,065 mg/kg		
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	oral				11 mg/kg		
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	Air						no hazard identified
Reaction mass of 2-[[[2-[(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2'-[iminobis(2,1-ethanediyliminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24,25-dodecahydrodibenzo[i,t] [1,4,7,12,15,18] hexaazacyclodocosine-5,13,18,26(6H,19H)-tetrone -----	aqua (freshwater)		0,0026 mg/l				
Reaction mass of 2-[[[2-[(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2'-[iminobis(2,1-ethanediyliminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24,25-dodecahydrodibenzo[i,t] [1,4,7,12,15,18] hexaazacyclodocosine-5,13,18,26(6H,19H)-tetrone -----	aqua (marine water)		0,00026 mg/l				

Reaction mass of 2-[[[2-(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2'-[iminobis(2,1-ethanediyliminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24,25-dodecahydrodibenzo[i,t] [1,4,7,12,15,18] hexaazacyclodocosine-5,13,18,26(6H,19H)-tetrone -----	aqua (intermittent releases)		0,026 mg/l				
Reaction mass of 2-[[[2-(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2'-[iminobis(2,1-ethanediyliminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24,25-dodecahydrodibenzo[i,t] [1,4,7,12,15,18] hexaazacyclodocosine-5,13,18,26(6H,19H)-tetrone -----	sewage treatment plant (STP)		10 mg/l				
Reaction mass of 2-[[[2-(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2'-[iminobis(2,1-ethanediyliminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24,25-dodecahydrodibenzo[i,t] [1,4,7,12,15,18] hexaazacyclodocosine-5,13,18,26(6H,19H)-tetrone -----	sediment (freshwater)				0,014 mg/kg		
Reaction mass of 2-[[[2-(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2'-[iminobis(2,1-ethanediyliminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24,25-dodecahydrodibenzo[i,t] [1,4,7,12,15,18] hexaazacyclodocosine-5,13,18,26(6H,19H)-tetrone -----	sediment (marine water)				0,0014 mg/kg		
2,2'-iminodiethylamine 111-40-0	aqua (freshwater)		0,56 mg/l				
2,2'-iminodiethylamine 111-40-0	aqua (marine water)		0,056 mg/l				
2,2'-iminodiethylamine 111-40-0	aqua (intermittent releases)		0,32 mg/l				
2,2'-iminodiethylamine 111-40-0	sediment (freshwater)				1072 mg/kg		
2,2'-iminodiethylamine 111-40-0	sediment (marine water)				107,2 mg/kg		
2,2'-iminodiethylamine 111-40-0	sewage treatment plant (STP)		6 mg/l				
2,2'-iminodiethylamine 111-40-0	Soil				7,97 mg/kg		
2,2'-iminodiethylamine 111-40-0	Air						no hazard identified

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	Workers	inhalation	Long term exposure - systemic effects		4,93 mg/m ³	no hazard identified
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	Workers	dermal	Long term exposure - systemic effects		0,75 mg/kg	no hazard identified
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	General population	inhalation	Long term exposure - systemic effects		0,87 mg/m ³	no hazard identified
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	General population	dermal	Long term exposure - systemic effects		0,0893 mg/kg	no hazard identified
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	General population	oral	Long term exposure - systemic effects		0,5 mg/kg	no hazard identified
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	Workers	inhalation	Long term exposure - local effects			no hazard identified
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	Workers	inhalation	Acute/short term exposure - local effects			no hazard identified
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	Workers	dermal	Long term exposure - local effects			no hazard identified
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	Workers	dermal	Acute/short term exposure - local effects			no hazard identified
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	General population	inhalation	Long term exposure - local effects			no hazard identified
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	General population	inhalation	Acute/short term exposure - local effects			no hazard identified
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	General population	dermal	Long term exposure - local effects			no hazard identified
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, number average molecular weight ≤ 700 1675-54-3	General population	dermal	Acute/short term exposure - local effects			no hazard identified
Reaction mass of 2-[[[2-(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2'-[iminobis(2,1-ethanediyliiminocarbonyl)]bis-benzoic acid	Workers	inhalation	Long term exposure - systemic effects		11,7 mg/m ³	

and 7,8,9,10,11,12,20,21,22,23,24,25-dodecahydrodibenzo[i,t] [1,4,7,12,15,18] hexaazacyclodocosine-5,13,18,26(6H,19H)-tetrone -----						
Reaction mass of 2-[[[2-[(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2'-[iminobis(2,1-ethanediyiminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24,25-dodecahydrodibenzo[i,t] [1,4,7,12,15,18] hexaazacyclodocosine-5,13,18,26(6H,19H)-tetrone -----	Workers	dermal	Long term exposure - systemic effects		33,3 mg/kg	
2,2'-iminodiethylamine 111-40-0	Workers	dermal	Long term exposure - systemic effects		11,4 mg/kg	no hazard identified
2,2'-iminodiethylamine 111-40-0	Workers	dermal	Long term exposure - local effects		1,1 mg/kg	no hazard identified
2,2'-iminodiethylamine 111-40-0	Workers	Inhalation	Acute/short term exposure - systemic effects		92,1 mg/m3	no hazard identified
2,2'-iminodiethylamine 111-40-0	Workers	Inhalation	Acute/short term exposure - local effects		2,6 mg/m3	no hazard identified
2,2'-iminodiethylamine 111-40-0	Workers	Inhalation	Long term exposure - systemic effects		15,4 mg/m3	no hazard identified
2,2'-iminodiethylamine 111-40-0	Workers	Inhalation	Long term exposure - local effects		0,87 mg/m3	no hazard identified
2,2'-iminodiethylamine 111-40-0	General population	dermal	Acute/short term exposure - systemic effects		4,88 mg/kg	no hazard identified
2,2'-iminodiethylamine 111-40-0	General population	Inhalation	Acute/short term exposure - systemic effects		27,5 mg/m3	no hazard identified
2,2'-iminodiethylamine 111-40-0	General population	dermal	Long term exposure - systemic effects		4,88 mg/kg	no hazard identified
2,2'-iminodiethylamine 111-40-0	General population	Inhalation	Long term exposure - systemic effects		4,6 mg/m3	no hazard identified

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	gel
Colour	Dark red
Odor	Mild
Physical state	liquid
Melting point	Not applicable, Product is a liquid
Solidification temperature	$< -20\text{ }^{\circ}\text{C}$ ($< -4\text{ }^{\circ}\text{F}$)
Initial boiling point	$> 93\text{ }^{\circ}\text{C}$ ($> 199.4\text{ }^{\circ}\text{F}$)
Flammability	Not applicable Non flammable product (flash point is greater than 93°C)
Explosive limits	Not applicable, The product is not flammable.
Flash point	$> 93\text{ }^{\circ}\text{C}$ ($> 199.4\text{ }^{\circ}\text{F}$); Tagliabue closed cup
Auto-ignition temperature	$> 200\text{ }^{\circ}\text{C}$ ($> 392\text{ }^{\circ}\text{F}$)
Decomposition temperature	$> 100\text{ }^{\circ}\text{C}$ ($> 212\text{ }^{\circ}\text{F}$);
pH	Product is non-soluble (in water)., Not applicable
Viscosity (kinematic) ($20\text{ }^{\circ}\text{C}$ ($68\text{ }^{\circ}\text{F}$);)	700 - 1.200 mm ² /s
Solubility (qualitative) ($20\text{ }^{\circ}\text{C}$ ($68\text{ }^{\circ}\text{F}$); Solvent: Water)	Not miscible
Partition coefficient: n-octanol/water	Not applicable
Vapour pressure ($20\text{ }^{\circ}\text{C}$ ($68\text{ }^{\circ}\text{F}$))	Mixture 6,67 mbar
Density ($20\text{ }^{\circ}\text{C}$ ($68\text{ }^{\circ}\text{F}$))	1,1 g/cm ³ None
Relative vapour density: ($20\text{ }^{\circ}\text{C}$)	> 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
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	LD50	> 2.000 mg/kg	rat	OECD Guideline 420 (Acute Oral Toxicity)
Reaction mass of 2-[[[2-[(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2'-[iminobis(2,1-ethanediyliminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24,25-dodecahydrodibenzo[i,t][1,4,7,12,15,18]hexaazacyclodocosine-5,13,18,26(6H,19H)-tetrone -----	LD50	> 1.000 - < 3.000 mg/kg	rat	not specified
Reaction mass of 2-[[[2-[(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2'-[iminobis(2,1-ethanediyliminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24,25-dodecahydrodibenzo[i,t][1,4,7,12,15,18]hexaazacyclodocosine-5,13,18,26(6H,19H)-tetrone -----	Acute toxicity estimate (ATE)	1.001 mg/kg		Expert judgement
1-Chloro-2,3-epoxypropane, polymer with polypropyleneglycol 9072-62-2	LD50	> 2.000 mg/kg	rat	not specified
Diethylenetriamine 111-40-0	LD50	1.553 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)

Acute dermal toxicity:

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

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Reaction mass of 2-[[[2-[(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2' -[iminobis(2,1-ethanediyiminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24,25-dodecahydrodibenzo[i,t][1,4,7,12,15,18]hexaazacyclodocosine-5,13,18,26(6H,19H)-tetrone -----	LD50	> 3.000 mg/kg	rabbit	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
1-Chloro-2,3-epoxypropane, polymer with polypropyleneglycol 9072-62-2	LD50	> 2.000 mg/kg	rabbit	not specified
Diethylenetriamine 111-40-0	LD50	1.045 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
Reaction mass of 2-[[[2- [(2-aminoethyl)amino]ethyl]a mino]carbonyl]-benzoic acid and 2,2' - [iminobis(2,1- ethanediyiminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,2 3,24,25- dodecahydrodibenzo[i,t] [1,4,7,12,15,18] hexaazacyclodocosine- 5,13,18,26(6H,19H)- tetrone -----	LC50	> 1,05 mg/l	dust/mist	4 h	rat	not specified
Diethylenetriamine 111-40-0	LD 50	> 0,07 - < 0,30 mg/l		4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)
Diethylenetriamine 111-40-0	Acute toxicity estimate (ATE)	0,071 mg/l	dust/mist			Expert judgement

Skin corrosion/irritation:

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

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
2,2'-[(1- methylethylidene)bis(4,1- phenyleneoxymethylene)] bisoxirane 1675-54-3	irritating			Weight of evidence
Reaction mass of 2-[[[2- [(2-aminoethyl)amino]ethyl]a mino]carbonyl]-benzoic acid and 2,2' - [iminobis(2,1- ethanediyiminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,2 3,24,25- dodecahydrodibenzo[i,t] [1,4,7,12,15,18] hexaazacyclodocosine- 5,13,18,26(6H,19H)- tetrone -----	not irritating		human	Patch Test
Diethylenetriamine 111-40-0	corrosive	15 min	rabbit	BASF Test

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
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	irritating			Weight of evidence
Reaction mass of 2-[[[2-[(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2'-[iminobis(2,1-ethanediyliminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24,25-dodecahydrodibenzo[i,t][1,4,7,12,15,18]hexaazacyclodocosine-5,13,18,26(6H,19H)-tetrone -----	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Diethylenetriamine 111-40-0	corrosive	30 s	rabbit	not specified

Respiratory or skin sensitization:

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

Hazardous substances CAS-No.	Result	Test type	Species	Method
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Reaction mass of 2-[[[2-[(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2'-[iminobis(2,1-ethanediyliminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24,25-dodecahydrodibenzo[i,t][1,4,7,12,15,18]hexaazacyclodocosine-5,13,18,26(6H,19H)-tetrone -----	not sensitising	Patch-Test	human	Patch Test
Diethylenetriamine 111-40-0	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)

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
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 472 (Genetic Toxicology: Escherichia coli, Reverse Mutation Assay)
Reaction mass of 2-[[[2-(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2' - [iminobis(2,1-ethanediyliminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24,25-dodecahydrodibenzo[i,t][1,4,7,12,15,18]hexaazacyclodocosine-5,13,18,26(6H,19H)-tetrone -----	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Reaction mass of 2-[[[2-(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2' - [iminobis(2,1-ethanediyliminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24,25-dodecahydrodibenzo[i,t][1,4,7,12,15,18]hexaazacyclodocosine-5,13,18,26(6H,19H)-tetrone -----	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Reaction mass of 2-[[[2-(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2' - [iminobis(2,1-ethanediyliminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24,25-dodecahydrodibenzo[i,t][1,4,7,12,15,18]hexaazacyclodocosine-5,13,18,26(6H,19H)-tetrone -----	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Diethylenetriamine 111-40-0	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Diethylenetriamine 111-40-0	negative	in vitro mammalian chromosome aberration test	with and without		Chromosome Aberration Test
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	negative	oral: gavage		mouse	not specified

Diethylenetriamine 111-40-0	negative	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Diethylenetriamine 111-40-0	negative	oral: gavage		mouse	not specified

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
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane 1675-54-3	not carcinogenic	dermal	2 y daily	mouse	male	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane 1675-54-3	not carcinogenic	oral: gavage	2 y daily	rat	male/female	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
Diethylenetriamine 111-40-0	not carcinogenic	dermal	lifetime (appr. 587 d) 3 d/w	mouse	male	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

Reproductive toxicity:

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	Test type	Route of application	Species	Method
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)] bisoxirane 1675-54-3	NOAEL P $\geq$ 50 mg/kg NOAEL F1 $\geq$ 750 mg/kg NOAEL F2 $\geq$ 750 mg/kg	Two generation study	oral: gavage	rat	OECD Guideline 416 (Two- Generation Reproduction Toxicity Study)
Diethylenetriamine 111-40-0	NOAEL P 100 mg/kg NOAEL F1 30 mg/kg	screening	oral: gavage	rat	OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)

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
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	NOAEL 50 mg/kg	oral: gavage	14 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Reaction mass of 2-[[[2-[(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2'-[iminobis(2,1-ethanediyliminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24,25-dodecahydrodibenzo[i,t][1,4,7,12,15,18]hexaazacyclodocosine-5,13,18,26(6H,19H)-tetrone -----	NOAEL 1.000 mg/kg	oral: gavage	M: 42 d daily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Diethylenetriamine 111-40-0	NOAEL 70 - 80 mg/kg	oral: feed	90 d daily	rat	not specified
Diethylenetriamine 111-40-0	NOAEL 0,55 mg/l	inhalation: vapour	15 d 6 h/d	rat	not specified

Aspiration hazard:

No data available.

11.2 Information on other hazards**11.2.1 Endocrine disrupting properties**

No substance data available.

No data available.

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
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	LC50	1,75 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Reaction mass of 2-[[[2-[(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2'-[iminobis(2,1-ethanediyiminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24, 25-dodecahydrodibenzo[i,t][1,4,7,12,15,18]hexaazacyclodocosine-5,13,18,26(6H,19H)- tetrone -----	LC50	2,7 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
1-Chloro-2,3-epoxypropane, polymer with polypropyleneglycol 9072-62-2	LC50	67 mg/l	96 h	Leuciscus idus	OECD Guideline 203 (Fish, Acute Toxicity Test)
Diethylenetriamine 111-40-0	LC50	430 mg/l	96 h	Poecilia reticulata	EU Method C.1 (Acute Toxicity for Fish)
Diethylenetriamine 111-40-0	NOEC	> 10 mg/l	28 d	Gasterosteus aculeatus	OECD Guideline 210 (fish early life stage toxicity test)

Toxicity (aquatic invertebrates):

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

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	EC50	1,7 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Reaction mass of 2-[[[2-[(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2'-[iminobis(2,1-ethanediyiminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24, 25-dodecahydrodibenzo[i,t][1,4,7,12,15,18]hexaazacyclodocosine-5,13,18,26(6H,19H)- tetrone -----	EC50	> 100 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Diethylenetriamine 111-40-0	EC50	64,6 mg/l	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)

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
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	NOEC	0,3 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Diethylenetriamine 111-40-0	NOEC	5,6 mg/l	21 d	Daphnia magna	EU Method C.20 (Daphnia magna Reproduction 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
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	EC50	> 11 mg/l	72 h	Scenedesmus capricornutum	OECD Guideline 201 (Alga, Growth Inhibition Test)
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	NOEC	4,2 mg/l	72 h	Scenedesmus capricornutum	OECD Guideline 201 (Alga, Growth Inhibition Test)
Reaction mass of 2-[[[2-[(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2'-[iminobis(2,1-ethanediyiminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24, 25-dodecahydridibenzo[i,t] [1,4,7,12,15,18] hexaazacyclodocosine-5,13,18,26(6H,19H)- tetrone -----	EC50	2,6 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Reaction mass of 2-[[[2-[(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2'-[iminobis(2,1-ethanediyiminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24, 25-dodecahydridibenzo[i,t] [1,4,7,12,15,18] hexaazacyclodocosine-5,13,18,26(6H,19H)- tetrone -----	NOEC	1 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Diethylenetriamine 111-40-0	EC50	1.164 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Diethylenetriamine 111-40-0	NOEC	10 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)

Toxicity (microorganisms):

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

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	IC50	> 100 mg/l	3 h	activated sludge, industrial	other guideline:
Reaction mass of 2-[[[2-[(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2'-[iminobis(2,1-ethanediyiminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24, 25-dodecahydridibenzo[i,t] [1,4,7,12,15,18] hexaazacyclodocosine-5,13,18,26(6H,19H)- tetrone -----	EC50	1.000 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Diethylenetriamine	NOEC	6 mg/l	3 h	anaerobic bacteria	not specified

111-40-0					
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12.2. Persistence and degradability

Biodegradability (Screening Tests):

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

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	not readily biodegradable.	aerobic	5 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Reaction mass of 2-[[[2-[(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2'-[iminobis(2,1-ethanediyliminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24, 25-dodecahydridibenzo[i,t] [1,4,7,12,15,18] hexaazacyclodocosine-5,13,18,26(6H,19H)- tetrone -----	not readily biodegradable.	aerobic	25 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Reaction mass of 2-[[[2-[(2-aminoethyl)amino]ethyl]amino]carbonyl]-benzoic acid and 2,2'-[iminobis(2,1-ethanediyliminocarbonyl)]bis-benzoic acid and 7,8,9,10,11,12,20,21,22,23,24, 25-dodecahydridibenzo[i,t] [1,4,7,12,15,18] hexaazacyclodocosine-5,13,18,26(6H,19H)- tetrone -----	inherently biodegradable	aerobic	91 %	28 d	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
Diethylenetriamine 111-40-0	inherently biodegradable	aerobic	83 %	28 d	EU Method C.9 (Biodegradation: Zahn-Wellens Test)
Diethylenetriamine 111-40-0	readily biodegradable	aerobic	87 %	21 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)

No substance data available.

(Bio)degradability (Simulation Tests):

No data available.

12.3. Bioaccumulative potential

Partition Coefficient (octanol/water)

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

Hazardous substances CAS-No.	LogPow	Temperature	Method
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane 1675-54-3	3,242	25 °C	EU Method A.8 (Partition Coefficient)
Diethylenetriamine 111-40-0	-1,58	20 °C	QSAR (Quantitative Structure Activity Relationship)

Bioconcentration factor (BCF)

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
Diethylenetriamine 111-40-0	> 0,3 - < 6,3	42 d		Cyprinus carpio	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)

12.4. Mobility in soil

No substance data available.

No data available.

12.5. Results of PBT / vPvB / PMT / vPvM assessment**PBT/vPvB**

This mixture does not contain any substances that are assessed to be a PBT or vPvB.
Based on available data, the classification criteria are not met.

PMT/vPvM

This mixture does not contain any substances that are assessed to be a PMT or vPvM.
Based on available data, the classification criteria are not met.

12.6. Endocrine disrupting properties

No substance data available.

No data available.

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
IMDG	3082
IATA	3082

14.2. UN proper shipping name

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

14.3. Transport hazard class(es)

ADR	9
RID	9
IMDG	9
IATA	9

14.4. Packing group

ADR	III
RID	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
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	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 %

Seveso III (2012/18/EU): E2, Hazardous to the Aquatic Environment in Category Chronic 2

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.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H335 May cause respiratory irritation.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

Abbreviations and acronyms:

ADG(-Code): Australian Dangerous Goods (Code)
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road
ASTM: American Society for Testing and Materials
ATE: acute toxicity estimate
AS: Australian Standard
AwSV: Ordinance on Installations for the Handling of Substances Hazardous to Water
CAS: Chemical Abstract Service
CLP: Regulation (EC) No 1272/2008
CMR: cancerogenic, mutagenic or reprotoxic
DIN: German Institute for Standardization
ECx: Effective concentration (x% effective level)
ECHA: European Chemicals Agency
EC-Nummer: Substance number in the EU-inventories EINECS/ELINCS
ECTLV: European community threshold limit value
ED: Substance identified as having endocrine disrupting properties
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
EN : European Standard
ENCS: Japanese chemical inventory
EPA: US Environmental Protection Agency
EU: European Union
EU EXPLD1: Substance listed in Annex I, Reg (EC) No. 2019/1148
EU EXPLD2: Substance listed in Annex II, Reg (EC) No. 2019/1148
EWC: European Waste Catalogue
GHS: Globally Harmonised System for Classification and Labelling of Chemicals
GLP: Good Laboratory Practice
HSNO: Hazardous Substances and New Organisms
IARC: International Agency for Research of Cancer
IATA: International Air Transport Association
IBC-Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50: half maximal inhibitory concentration
ICAO: International Civil Aviation Organization
IMDG-Code: International Maritime Code for Dangerous Goods
IMO: International Maritime Organization
ISO: International Standardization Organisation
LC50: Median lethal concentration
LD50: Median lethal dose
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
n.o.s.: not otherwise specified
NO(A)EC: No (adverse) effect concentration
NO(A)EL: No (adverse) effect level
NZS: New Zealand Standard
OECD: Organisation for Economic Co-operation and Development
OEL: Occupational Exposure Limit
OPPT: US EPA Office of Pollution Prevention and Toxics
OPPTS: US EPA Office of Prevention, Pesticides and Toxic Substances

PBT: Persistent, bioaccumulative, toxic
PMT: Persistent, mobile and toxic
(Q)SAR: (Quantitative) structure–activity relationship
REACH: Regulation (EC) No. 1907/2006
RID: Regulations concerning the International Transport of Dangerous Goods by Rail
SADT: Self Accelerating Decomposition Temperature
SDS: Safety Data Sheet
STOT: Specific Target Organ Toxicity
STOT SE: Specific Target Organ Toxicity - single exposure
STOT RE: Specific Target Organ Toxicity - repeated exposure
SUSMP: Standard for the Uniform Scheduling of Medicines and Poisons
SVHC: Substance of very high concern (REACH Candidate List)
TRGS: German Technical Rules for hazardous substances
UN: United Nations
VOC: Volatile Organic Compound
814.018 VOC Reg CH: Swiss Ordinance 814.018 on the Incentive Tax on Volatile Organic Compounds
vPvB: Very persistent, very bioaccumulative
vPvM: Very persistent and very mobile
VwVwS: Administrative Regulation on Substances Hazardous to Waters
WGK: Water hazard class

Further information:

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