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

SDS No. : 332198
V003.0

LOCTITE EA E04 50ML EN/DE

Revision: 06.07.2020
printing date: 17.11.2020
Replaces version from: 11.06.2010

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

1.1. Product identifier
LOCTITE EA E04 50ML EN/DE

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
Wood Lane End
HP2 4RQ Hemel Hempstead

Great Britain

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

ua-productsafety.uk@henkel.com

1.4. Emergency telephone number
24 Hours Emergency Tel: +44 (0)1442 278497

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

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.	
Germ cell mutagenicity	Category 2
H341 Suspected of causing genetic defects.	
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	reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) Neodecanoic acid, oxiranylmethyl ester Triphenyl phosphite
Signal word:	Warning
Hazard statement:	H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H341 Suspected of causing genetic defects. H411 Toxic to aquatic life with long lasting effects.
Supplemental information	EUH211 Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.
Precautionary statement: Prevention	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. 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.
Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General chemical description:
2-Component epoxy putty
Base substances of preparation:
Epoxy resin

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

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	01-2119456619-26	50- 100 %	Skin Irrit. 2 H315 Skin Sens. 1 H317 Eye Irrit. 2 H319 Aquatic Chronic 2 H411
Neodecanoic acid, oxiranylmethyl ester 26761-45-5	247-979-2 01-2119431597-33	5- < 10 %	Skin Sens. 1 H317 Aquatic Chronic 2 H411 Muta. 2 H341
Titanium dioxide 13463-67-7	236-675-5 01-2119489379-17	1- < 5 %	
Triphenyl phosphite 101-02-0	202-908-4 01-2119511213-58	0,25- < 2,5 %	Acute Tox. 4; Oral H302 Eye Irrit. 2 H319 Skin Irrit. 2 H315 STOT RE 2 H373 Skin Sens. 1A H317 Aquatic Acute 1 H400 Aquatic Chronic 1 H410

For full text of the H - statements and other abbreviations see section 16 "Other information".
Substances without classification may have community workplace exposure limits available.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Move to fresh air. 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

EYE: Irritation, conjunctivitis.

SKIN: Redness, inflammation.

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:
All common extinguishing agents are suitable.

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

5.2. Special hazards arising from the substance or mixture
In the event of a fire, carbon monoxide (CO), carbon dioxide (CO2) and nitrogen oxides (NOx) can be released.

5.3. Advice for firefighters
Wear protective equipment.
Wear self-contained breathing apparatus.

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.
Ensure adequate ventilation.
Wear protective equipment.

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

6.3. Methods and material for containment and cleaning up
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.
Dispose of contaminated material as waste according to Section 13.

6.4. Reference to other sections
See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Use only in well-ventilated areas.
Avoid skin and eye contact.
Prolonged or repeated skin contact should be avoided to minimise any risk of sensitisation.
See advice in section 8

Hygiene measures:
Do not eat, drink or smoke while working.
Wash hands before work breaks and after finishing work.
Good industrial hygiene practices should be observed.

7.2. Conditions for safe storage, including any incompatibilities
Ensure good ventilation/extraction.
Keep container tightly sealed.
Store in a cool, frost-free 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/m³	Value type	Short term exposure limit category / Remarks	Regulatory list
Talc (Mg3H2(SiO3)4) 14807-96-6 [TALC, RESPIRABLE DUST]		1	Time Weighted Average (TWA):		EH40 WEL
Titanium dioxide 13463-67-7 [TITANIUM DIOXIDE, TOTAL INHALABLE]		10	Time Weighted Average (TWA):		EH40 WEL
Titanium dioxide 13463-67-7 [TITANIUM DIOXIDE, RESPIRABLE]		4	Time Weighted Average (TWA):		EH40 WEL
Silicon dioxide 112945-52-5 [SILICA, AMORPHOUS, INHALABLE DUST]		6	Time Weighted Average (TWA):		EH40 WEL
Silicon dioxide 112945-52-5 [SILICA, AMORPHOUS, RESPIRABLE DUST]		2,4	Time Weighted Average (TWA):		EH40 WEL

Occupational Exposure Limits

Valid for
Ireland

Ingredient [Regulated substance]	ppm	mg/m³	Value type	Short term exposure limit category / Remarks	Regulatory list
Talc (Mg3H2(SiO3)4) 14807-96-6 [TALC, RESPIRABLE DUST]		0,8	Time Weighted Average (TWA):		IR_OEL
Talc (Mg3H2(SiO3)4) 14807-96-6 [TALC, TOTAL INHALABLE DUST]		10	Time Weighted Average (TWA):		IR_OEL
Titanium dioxide 13463-67-7 [TITANIUM DIOXIDE, RESPIRABLE DUST]		4	Time Weighted Average (TWA):		IR_OEL
Titanium dioxide 13463-67-7 [TITANIUM DIOXIDE, TOTAL INHALABLE DUST]		10	Time Weighted Average (TWA):		IR_OEL
Silicon dioxide 112945-52-5 [SILICA, AMORPHOUS, TOTAL INHALABLE DUST]		6	Time Weighted Average (TWA):		IR_OEL
Silicon dioxide 112945-52-5 [SILICA, AMORPHOUS, RESPIRABLE DUST]		2,4	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 product: bisphenol-A-(epichlorhydrin) 25068-38-6	aqua (freshwater)		0,006 mg/l				
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	aqua (marine water)		0,001 mg/l				
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	sewage treatment plant (STP)		10 mg/l				
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	sediment (freshwater)				0,341 mg/kg		
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	sediment (marine water)				0,034 mg/kg		
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	Soil				0,065 mg/kg		
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	oral				11 mg/kg		
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	aqua (intermittent releases)		0,018 mg/l				
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	marine water - intermittent		0,002 mg/l				
2,3-Epoxypropyl neodecanoate 26761-45-5	aqua (freshwater)		0,0035 mg/l				
2,3-Epoxypropyl neodecanoate 26761-45-5	aqua (marine water)		0,00035 mg/l				
2,3-Epoxypropyl neodecanoate 26761-45-5	sewage treatment plant (STP)		50 mg/l				
2,3-Epoxypropyl neodecanoate 26761-45-5	aqua (intermittent releases)		0,035 mg/l				
Titanium dioxide 13463-67-7	aqua (freshwater)						no hazard identified
Titanium dioxide 13463-67-7	aqua (marine water)						no hazard identified
Titanium dioxide 13463-67-7	sewage treatment plant (STP)						no hazard identified
Titanium dioxide 13463-67-7	sediment (freshwater)						no hazard identified
Titanium dioxide 13463-67-7	sediment (marine water)						no hazard identified
Titanium dioxide 13463-67-7	Soil						no hazard identified
Titanium dioxide 13463-67-7	Aquatic (intermit. releases)						no hazard identified
Titanium dioxide 13463-67-7	Predator						no hazard identified
Triphenyl phosphite 101-02-0	aqua (freshwater)		0,0077 mg/l				
Triphenyl phosphite 101-02-0	Sewage treatment plant		2,1 mg/l				
Triphenyl phosphite 101-02-0	Soil				0,136 mg/kg		

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	Workers	dermal	Acute/short term exposure - systemic effects		8,33 mg/kg	
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	Workers	Inhalation	Acute/short term exposure - systemic effects		12,25 mg/m3	
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	Workers	dermal	Long term exposure - systemic effects		8,33 mg/kg	
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	Workers	Inhalation	Long term exposure - systemic effects		12,25 mg/m3	
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	General population	dermal	Acute/short term exposure - systemic effects		3,571 mg/kg	
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	General population	dermal	Long term exposure - systemic effects		3,571 mg/kg	
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	General population	oral	Acute/short term exposure - systemic effects		0,75 mg/kg	
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	General population	oral	Long term exposure - systemic effects		0,75 mg/kg	
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	General population	inhalation	Acute/short term exposure - systemic effects		0,75 mg/m3	
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	General population	inhalation	Long term exposure - systemic effects		0,75 mg/m3	
2,3-Epoxypropyl neodecanoate 26761-45-5	Workers	dermal	Long term exposure - systemic effects		1,4 mg/kg	
2,3-Epoxypropyl neodecanoate 26761-45-5	Workers	Inhalation	Long term exposure - systemic effects		1,965 mg/m3	
2,3-Epoxypropyl neodecanoate 26761-45-5	General population	dermal	Long term exposure - systemic effects		0,7 mg/kg	
2,3-Epoxypropyl neodecanoate 26761-45-5	General population	Inhalation	Long term exposure - systemic effects		1 mg/m3	
2,3-Epoxypropyl neodecanoate 26761-45-5	General population	oral	Long term exposure - systemic effects		1,1 mg/kg	
Triphenyl phosphite 101-02-0	General population	dermal	Long term exposure - systemic effects		0,150 mg/kg	
Triphenyl phosphite 101-02-0	General population	inhalation	Long term exposure - systemic effects		0,53 mg/m3	

Biological Exposure Indices:
None

8.2. Exposure controls:

Engineering controls:
Ensure good ventilation/extraction.

Respiratory protection:
An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area
Ensure adequate ventilation.
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

Appearance	paste liquid, paste white
Odor	Slight
Odour threshold	No data available / Not applicable
pH	Not available.
Melting point	No data available / Not applicable
Solidification temperature	No data available / Not applicable
Initial boiling point	No data available / Not applicable
Flash point	> 100 °C (> 212 °F); no method
Evaporation rate	No data available / Not applicable
Flammability	No data available / Not applicable
Explosive limits	No data available / Not applicable
Vapour pressure	No data available / Not applicable
Relative vapour density:	No data available / Not applicable
Density ()	1,32 g/cm3
Bulk density	No data available / Not applicable
Solubility	No data available / Not applicable
Solubility (qualitative)	Insoluble
Partition coefficient: n-octanol/water	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Decomposition temperature	No data available / Not applicable
Viscosity (Cone and plate; 25 °C (77 °F))	19.000,00 - 35.000,00 mPa.s
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Oxidising properties	No data available / Not applicable

9.2. Other information

No data available / Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity
Reacts with oxidants, acids and lyes
Reaction with amines

10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
See section reactivity

10.4. Conditions to avoid
Temperatures over appr. 100°C
No decomposition if used according to specifications.

10.5. Incompatible materials
See section reactivity.

10.6. Hazardous decomposition products
No decomposition if used according to specifications.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity:

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	LD50	> 2.000 mg/kg	rat	OECD Guideline 420 (Acute Oral Toxicity)
Neodecanoic acid, oxiranylmethyl ester 26761-45-5	LD50	> 2.000 mg/kg	rat	OECD Guideline 420 (Acute Oral Toxicity)
Titanium dioxide 13463-67-7	LD50	> 5.000 mg/kg	rat	OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure)
Triphenyl phosphite 101-02-0	LD50	1.590 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)

Acute dermal toxicity:

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Neodecanoic acid, oxiranylmethyl ester 26761-45-5	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Titanium dioxide 13463-67-7	LD50	>= 10.000 mg/kg	hamster	not specified
Triphenyl phosphite 101-02-0	LD50	> 2.000 - < 5.000 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
Triphenyl phosphite 101-02-0	Acute toxicity estimate (ATE)	2.500 mg/kg		Expert judgement

Acute inhalative toxicity:

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

Hazardous substances CAS-No.	Value type	Value	Test atmosphere	Exposure time	Species	Method
Titanium dioxide 13463-67-7	LC50	> 6,82 mg/l	dust	4 h	rat	not specified
Triphenyl phosphite 101-02-0	LC50	> 6,7 mg/l	dust/mist	1 h	rat	equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)

Skin corrosion/irritation:

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

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	moderately irritating	24 h	rabbit	Draize Test
Titanium dioxide 13463-67-7	not irritating	4 h	rabbit	equivalent or similar to 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
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	not irritating		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
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Neodecanoic acid, oxiranylmethyl ester 26761-45-5	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)
Triphenyl phosphite 101-02-0	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Triphenyl phosphite 101-02-0	sensitising	Guinea pig maximisation test	guinea pig	EPA OPPTS 870.2600 (Skin Sensitisation)

Germ cell mutagenicity:

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

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 472 (Genetic Toxicology: Escherichia coli, Reverse Mutation Assay)
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)

Carcinogenicity

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

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	not carcinogenic	dermal	2 y daily	mouse	male	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	not carcinogenic	oral: gavage	2 y daily	rat	male/female	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
Titanium dioxide 13463-67-7	not carcinogenic	inhalation	24 m 6 h/d; 5 d/w	rat	male/female	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.

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	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)
Titanium dioxide 13463-67-7	NOAEL P > 1.000 mg/kg NOAEL F1 > 1.000 mg/kg		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.

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	NOAEL 50 mg/kg	oral: gavage	14 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Titanium dioxide 13463-67-7	NOAEL 1.000 mg/kg	oral: gavage	90 d daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Triphenyl phosphite 101-02-0	NOAEL 15 mg/kg	oral: gavage	16 weeks daily	rat	equivalent or similar to OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reprod./Develop. Tox. Screening Test)

Aspiration hazard:

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.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	LC50	1,75 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Neodecanoic acid, oxiranylmethyl ester 26761-45-5	LC50	9,61 mg/l	96 h	Oncorhynchus mykiss	EPA OTS 797.1400 (Fish Acute Toxicity Test)
Titanium dioxide 13463-67-7	LC50		48 h	Leuciscus idus	OECD Guideline 203 (Fish, Acute Toxicity Test)
Triphenyl phosphite 101-02-0	LC50	> 16 mg/l	96 h	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)

Toxicity (Daphnia):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	EC50	1,7 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Neodecanoic acid, oxiranylmethyl ester 26761-45-5	EC50	4,8 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Titanium dioxide 13463-67-7	EC50		48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Triphenyl phosphite 101-02-0	EC50	> 1 - 5 mg/l	48 h	Daphnia sp.	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Chronic toxicity to aquatic invertebrates

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	NOEC	0,3 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

Toxicity (Algae):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	EC50	> 11 mg/l	72 h	Scenedesmus capricornutum	OECD Guideline 201 (Alga, Growth Inhibition Test)
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	NOEC	4,2 mg/l	72 h	Scenedesmus capricornutum	OECD Guideline 201 (Alga, Growth Inhibition Test)
Neodecanoic acid, oxiranylmethyl ester 26761-45-5	NOEC	1 mg/l	96 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Titanium dioxide 13463-67-7	EC50		72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)

Toxicity to microorganisms

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	IC50	> 100 mg/l	3 h	activated sludge, industrial	other guideline:
Neodecanoic acid, oxiranylmethyl ester 26761-45-5	EC 50	> 100 mg/l			OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Titanium dioxide 13463-67-7	EC0		24 h	Pseudomonas fluorescens	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
Triphenyl phosphite 101-02-0	EC 50	> 100 mg/l	3 h		OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

12.2. Persistence and degradability

The product is not biodegradable.

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	not readily biodegradable.	aerobic	5 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Neodecanoic acid, oxiranylmethyl ester 26761-45-5	under test conditions no biodegradation observed	aerobic	7 - 8 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Triphenyl phosphite 101-02-0	readily biodegradable	aerobic	84 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

Cured adhesives are immobile.

Hazardous substances CAS-No.	LogPow	Temperature	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	3,242	25 °C	EU Method A.8 (Partition Coefficient)
Neodecanoic acid, oxiranylmethyl ester 26761-45-5	4,4	20 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Triphenyl phosphite 101-02-0	6,62	25 °C	QSAR (Quantitative Structure Activity Relationship)

12.5. Results of PBT and vPvB assessment

Hazardous substances CAS-No.	PBT / vPvB
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Neodecanoic acid, oxiranylmethyl ester 26761-45-5	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Titanium dioxide 13463-67-7	According to Annex XIII of regulation (EC) 1907/2006 a PBT and vPvB assessment shall not be conducted for inorganic substances.

12.6. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:
Dispose of in accordance with local and national regulations.
Do not empty into drains / surface water / ground water.

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

ADR	3082
RID	3082
ADN	3082
IMDG	3082
IATA	3082

14.2. UN proper shipping name

ADR	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
RID	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
ADN	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
IATA	Environmentally hazardous substance, liquid, n.o.s. (Epoxy 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	not applicable
RID	not applicable
ADN	not applicable
IMDG	Marine pollutant
IATA	not applicable

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), 197 (IATA), 969 (IMDG) may be applied, which can result in a deviation from the transport classification for packed goods.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

SECTION 15: Regulatory information

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

VOC content < 3 %
(2010/75/EC)

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text
of all abbreviations indicated by codes in this safety data sheet are as follows:

H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H341 Suspected of causing genetic defects.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.

Further information:

This Safety Data Sheet has been produced for sales from Henkel to parties purchasing from Henkel, is based on Regulation (EC) No 1907/2006 and provides information in accordance with applicable regulations of the European Union only. In that respect, no statement, warranty or representation of any kind is given as to compliance with any statutory laws or regulations of any other jurisdiction or territory other than the European Union. When exporting to territories other than the European Union, please consult with the respective Safety Data Sheet of the concerned territory to ensure compliance or liaise with Henkel´s Product Safety and Regulatory Affairs Department (ua-productsafety.de@henkel.com) prior to export to other territories than the European Union.

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.

SDS No. : 328947
V003.0

LOCTITE EA E04 50ML EN/DE

Revision: 06.07.2020
printing date: 17.11.2020
Replaces version from: 28.04.2020

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

1.1. Product identifier
LOCTITE EA E04 50ML EN/DE

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
Wood Lane End
HP2 4RQ Hemel Hempstead

Great Britain

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

ua-productsafety.uk@henkel.com

1.4. Emergency telephone number
24 Hours Emergency Tel: +44 (0)1442 278497

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Acute toxicity	Category 4
H302 Harmful if swallowed.	
Route of Exposure: Oral	
Skin corrosion	Sub-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.	
Toxic to reproduction	Category 2
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.	
Acute hazards to the aquatic environment	Category 1
H400 Very toxic to aquatic life.	
Chronic hazards to the aquatic environment	Category 1
H410 Very toxic to aquatic life with long lasting effects.	

2.2. Label elements

Label elements (CLP):

Hazard pictogram:

Contains Nonylphenol, branched

2-piperazin-1-ylethylamine

Diethylenetriamine
2-(2-aminoethylamino)ethanol

3,6-diazaoctanethylenediamin

Signal word: Danger

Hazard statement:
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement: Prevention
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement: Response
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

2.3. Other hazards

None if used properly.
Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General chemical description:
2-Component epoxy putty

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

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Nonylphenol, branched 84852-15-3	284-325-5 01-2119510715-45	25- 50 %	Repr. 2 H361fd Acute Tox. 4; Oral H302 Skin Corr. 1B H314 Aquatic Acute 1 H400 Aquatic Chronic 1 H410 ===== EU. REACH Candidate List of Substances of Very High Concern for Authorization (SVHC) M factor (Acute Aquat Tox): 10 M factor (Chron Aquat Tox): 10
2-piperazin-1-ylethylamine 140-31-8	205-411-0 01-2119471486-30	10- 20 %	Acute Tox. 3; Dermal H311 Acute Tox. 4; Oral H302 Skin Corr. 1B H314 Aquatic Chronic 3 H412 Skin Sens. 1 H317 Repr. 2 H361
Phenol, 2-nonyl-, branched 91672-41-2	294-048-1	0,25- < 2,5 %	Acute Tox. 4; Oral H302 Skin Corr. 1B H314 Repr. 2 H361fd Aquatic Acute 1 H400 Aquatic Chronic 1 H410 M factor (Chron Aquat Tox): 10
Dinonylphenol 1323-65-5	215-356-4	0,25- < 2,5 %	Aquatic Acute 1 H400 Aquatic Chronic 1 H410 Repr. 2 H361fd Acute Tox. 4; Oral H302 Skin Corr. 1B H314 Eye Dam. 1 H318 M factor (Acute Aquat Tox): 10 M factor (Chron Aquat Tox): 10
Diethylenetriamine 111-40-0	203-865-4 01-2119473793-27	0,1- < 1 %	Acute Tox. 4; Oral H302 Acute Tox. 4; Dermal H312 Skin Corr. 1B H314 Skin Sens. 1 H317 Acute Tox. 2; Inhalation H330 STOT SE 3 H335 Eye Dam. 1 H318
phenol 108-95-2	203-632-7 01-2119471329-32	0,1- < 1 %	Muta. 2 H341 STOT RE 2 H373

			Skin Corr. 1B H314 Acute Tox. 3; Dermal H311 Acute Tox. 3; Oral H301 Acute Tox. 3; Inhalation H331 Aquatic Chronic 2 H411
2-(2-aminoethylamino)ethanol 111-41-1	203-867-5 01-2119456894-24	0,1- < 0,3 %	Repr. 1B H360Df Skin Sens. 1 H317 Skin Corr. 1B H314
3,6-diazaoctanethylenediamin 112-24-3	203-950-6 01-2119487919-13	0,1- < 1 %	Acute Tox. 4; Oral H302 Acute Tox. 4; Dermal H312 Skin Sens. 1 H317 Skin Corr. 1B H314 Aquatic Chronic 3 H412

For full text of the H - statements and other abbreviations see section 16 "Other information".
Substances without classification may have community workplace exposure limits available.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:
Symptoms of poisoning may occur even after several hours, continue medical observation for at least 48 hours after the accident.

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

Skin contact:
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.

INGESTION: Nausea, vomiting, diarrhea, abdominal pain.

4.3. Indication of any immediate medical attention and special treatment needed
See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
All common extinguishing agents are suitable.

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

5.2. Special hazards arising from the substance or mixture
In the event of a fire, carbon monoxide (CO), carbon dioxide (CO2) and nitrogen oxides (NOx) can be released.

5.3. Advice for firefighters
Wear protective equipment.
Wear self-contained breathing apparatus.

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.
Ensure adequate ventilation.
Wear protective equipment.

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

6.3. Methods and material for containment and cleaning up
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.
Dispose of contaminated material as waste according to Section 13.

6.4. Reference to other sections
See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Ventilate working rooms throughly. Avoid naked flames, sparking and sources of ignition. Switch off electrical devices. Do not smoke, do not weld.
Avoid skin and eye contact.
Do not inhale vapors and fumes.
See advice in section 8

Hygiene measures:
Wash hands before work breaks and after finishing work.
Do not eat, drink or smoke while working.
Good industrial hygiene practices should be observed.

7.2. Conditions for safe storage, including any incompatibilities
Ensure good ventilation/extraction.
Keep container tightly sealed.
Store in a cool, frost-free 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/m³	Value type	Short term exposure limit category / Remarks	Regulatory list
Talc (Mg3H2(SiO3)4) 14807-96-6 [TALC, RESPIRABLE DUST]		1	Time Weighted Average (TWA):		EH40 WEL
Silicon dioxide 112945-52-5 [SILICA, AMORPHOUS, INHALABLE DUST]		6	Time Weighted Average (TWA):		EH40 WEL
Silicon dioxide 112945-52-5 [SILICA, AMORPHOUS, RESPIRABLE DUST]		2,4	Time Weighted Average (TWA):		EH40 WEL
2,2'-Iminodi(ethylamine) 111-40-0 [2,2'-IMINODI(ETHYLAMINE)]			Skin designation:	Can be absorbed through the skin.	EH40 WEL
2,2'-Iminodi(ethylamine) 111-40-0 [2,2'-IMINODI(ETHYLAMINE)]	1	4,3	Time Weighted Average (TWA):		EH40 WEL
Phenol 108-95-2 [PHENOL]			Skin designation:	Can be absorbed through the skin.	EH40 WEL
Phenol 108-95-2 [PHENOL]	4	16	Short Term Exposure Limit (STEL):		EH40 WEL
Phenol 108-95-2 [PHENOL]	2	7,8	Time Weighted Average (TWA):		EH40 WEL
Phenol 108-95-2 [PHENOL]	2	8	Time Weighted Average (TWA):	Indicative	ECTLV
Phenol 108-95-2 [PHENOL]	4	16	Short Term Exposure Limit (STEL):	Indicative	ECTLV

Occupational Exposure Limits

Valid for
Ireland

Ingredient [Regulated substance]	ppm	mg/m³	Value type	Short term exposure limit category / Remarks	Regulatory list
Talc (Mg3H2(SiO3)4) 14807-96-6 [TALC, RESPIRABLE DUST]		0,8	Time Weighted Average (TWA):		IR_OEL
Talc (Mg3H2(SiO3)4) 14807-96-6 [TALC, TOTAL INHALABLE DUST]		10	Time Weighted Average (TWA):		IR_OEL
Silicon dioxide 112945-52-5 [SILICA, AMORPHOUS, TOTAL INHALABLE DUST]		6	Time Weighted Average (TWA):		IR_OEL
Silicon dioxide 112945-52-5 [SILICA, AMORPHOUS, RESPIRABLE DUST]		2,4	Time Weighted Average (TWA):		IR_OEL
2,2'-Iminodi(ethylamine) 111-40-0 [DIETHYLENE TRIAMINE]	1	4	Time Weighted Average (TWA):		IR_OEL
2,2'-Iminodi(ethylamine) 111-40-0			Skin designation:	Can be absorbed through the skin.	IR_OEL

[DIETHYLENE TRIAMINE]					
Phenol 108-95-2 [PHENOL]	2	8	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
Phenol 108-95-2 [PHENOL]			Skin designation:	Can be absorbed through the skin.	IR_OEL
Phenol 108-95-2 [PHENOL]	2	8	Time Weighted Average (TWA):	Indicative	ECTLV
Phenol 108-95-2 [PHENOL]	4	16	Short Term Exposure Limit (STEL):	Indicative	ECTLV
Phenol 108-95-2 [PHENOL]	4	16	Short Term Exposure Limit (STEL):	15 minutes Indicative OELV	IR_OEL

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
4-nonylphenol, branched 84852-15-3	aqua (freshwater)		0,000614 mg/l				
4-nonylphenol, branched 84852-15-3	aqua (marine water)		0,000527 mg/l				
4-nonylphenol, branched 84852-15-3	aqua (intermittent releases)		0,00017 mg/l				
4-nonylphenol, branched 84852-15-3	sewage treatment plant (STP)		9,5 mg/l				
4-nonylphenol, branched 84852-15-3	sediment (freshwater)				4,62 mg/kg		
4-nonylphenol, branched 84852-15-3	sediment (marine water)				1,23 mg/kg		
4-nonylphenol, branched 84852-15-3	Soil				2,3 mg/kg		
4-nonylphenol, branched 84852-15-3	oral				2,36 mg/kg		
2-Piperazin-1-ylethylamine 140-31-8	aqua (freshwater)		0,058 mg/l				
2-Piperazin-1-ylethylamine 140-31-8	aqua (marine water)		0,0058 mg/l				
2-Piperazin-1-ylethylamine 140-31-8	sediment (freshwater)				215 mg/kg		
2-Piperazin-1-ylethylamine 140-31-8	sediment (marine water)				21,5 mg/kg		
2-Piperazin-1-ylethylamine 140-31-8	Soil				1 mg/kg		
2-Piperazin-1-ylethylamine 140-31-8	sewage treatment plant (STP)		250 mg/l				
2-Piperazin-1-ylethylamine 140-31-8	aqua (intermittent releases)		0,58 mg/l				
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
phenol 108-95-2	aqua (freshwater)		0,008 mg/l				
phenol 108-95-2	aqua (marine water)		0,001 mg/l				
phenol 108-95-2	sediment (freshwater)				0,091 mg/kg		
phenol 108-95-2	sediment (marine water)				0,009 mg/kg		
phenol 108-95-2	Soil				0,136 mg/kg		
phenol 108-95-2	sewage treatment plant (STP)		2,1 mg/l				
phenol 108-95-2	Predator						no potential for bioaccumulation

phenol 108-95-2	aqua (intermittent releases)		0,031 mg/l				
2-(2-Aminoethylamino)ethanol 111-41-1	aqua (freshwater)		0,022 mg/l				
2-(2-Aminoethylamino)ethanol 111-41-1	aqua (intermittent releases)		0,22 mg/l				
2-(2-Aminoethylamino)ethanol 111-41-1	sewage treatment plant (STP)		82,2 mg/l				
2-(2-Aminoethylamino)ethanol 111-41-1	sediment (freshwater)				0,172 mg/kg		
2-(2-Aminoethylamino)ethanol 111-41-1	sediment (marine water)				0,0172 mg/kg		
2-(2-Aminoethylamino)ethanol 111-41-1	Soil				0,0189 mg/kg		
3,6-diazaoctanethylenediamin 112-24-3	aqua (freshwater)		0,027 mg/l				
3,6-diazaoctanethylenediamin 112-24-3	aqua (marine water)		0,003 mg/l				
3,6-diazaoctanethylenediamin 112-24-3	Sewage treatment plant		0,13 mg/l				
3,6-diazaoctanethylenediamin 112-24-3	sediment (freshwater)				8,572 mg/kg		
3,6-diazaoctanethylenediamin 112-24-3	sediment (marine water)				0,857 mg/kg		
3,6-diazaoctanethylenediamin 112-24-3	Soil				1,25 mg/kg		
3,6-diazaoctanethylenediamin 112-24-3	freshwater - intermittent		0,2 mg/l				
3,6-diazaoctanethylenediamin 112-24-3	marine water - intermittent		0,02 mg/l				

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
4-nonylphenol, branched 84852-15-3	Workers	dermal	Acute/short term exposure - systemic effects		15 mg/kg	
4-nonylphenol, branched 84852-15-3	Workers	inhalation	Acute/short term exposure - systemic effects		1 mg/m3	
4-nonylphenol, branched 84852-15-3	Workers	dermal	Long term exposure - systemic effects		7,5 mg/kg	
4-nonylphenol, branched 84852-15-3	Workers	inhalation	Long term exposure - systemic effects		0,5 mg/m3	
4-nonylphenol, branched 84852-15-3	General population	dermal	Acute/short term exposure - systemic effects		7,6 mg/kg	
4-nonylphenol, branched 84852-15-3	General population	inhalation	Acute/short term exposure - systemic effects		0,8 mg/m3	
4-nonylphenol, branched 84852-15-3	General population	oral	Acute/short term exposure - systemic effects		0,4 mg/kg	
4-nonylphenol, branched 84852-15-3	General population	dermal	Long term exposure - systemic effects		3,8 mg/kg	
4-nonylphenol, branched 84852-15-3	General population	inhalation	Long term exposure - systemic effects		0,4 mg/m3	
4-nonylphenol, branched 84852-15-3	General population	oral	Long term exposure - systemic effects		0,08 mg/kg	
2-Piperazin-1-ylethylamine 140-31-8	Workers	inhalation	Acute/short term exposure - local effects		80 mg/m3	
2-Piperazin-1-ylethylamine 140-31-8	Workers	inhalation	Long term exposure - local effects		0,015 mg/m3	
2-Piperazin-1-ylethylamine 140-31-8	Workers	Inhalation	Acute/short term exposure - systemic effects		10,6 mg/m3	
2-Piperazin-1-ylethylamine 140-31-8	Workers	dermal	Long term exposure - systemic effects		3,33 mg/kg	
2-Piperazin-1-ylethylamine 140-31-8	Workers	Inhalation	Long term exposure - systemic effects		10,6 mg/m3	
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 -		27,5 mg/m3	no hazard identified

			systemic effects			
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
phenol 108-95-2	Workers	dermal	Long term exposure - systemic effects		1,23 mg/kg	no potential for bioaccumulation
phenol 108-95-2	Workers	Inhalation	Long term exposure - systemic effects		8 mg/m3	no potential for bioaccumulation
phenol 108-95-2	Workers	Inhalation	Acute/short term exposure - local effects		16 mg/m3	no potential for bioaccumulation
phenol 108-95-2	General population	Inhalation	Long term exposure - systemic effects		1,32 mg/m3	no potential for bioaccumulation
phenol 108-95-2	General population	dermal	Long term exposure - systemic effects		0,4 mg/kg	no potential for bioaccumulation
phenol 108-95-2	General population	oral	Long term exposure - systemic effects		0,4 mg/kg	no potential for bioaccumulation
3,6-diazaoctanethylenediamin 112-24-3	Workers	inhalation	Long term exposure - systemic effects		0,54 mg/m3	
3,6-diazaoctanethylenediamin 112-24-3	General population	inhalation	Long term exposure - systemic effects		0,096 mg/m3	
3,6-diazaoctanethylenediamin 112-24-3	General population	oral	Long term exposure - systemic effects		0,14 mg/kg	

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

Appearance	paste viscous black
Odor	amine-like
Odour threshold	No data available / Not applicable
pH	Not available.
Melting point	No data available / Not applicable
Solidification temperature	No data available / Not applicable
Initial boiling point	> 121,1 °C (> 250 °F)
Flash point	> 93,3 °C (> 199.94 °F); Setaflash Closed Cup
Evaporation rate	No data available / Not applicable
Flammability	No data available / Not applicable
Explosive limits	No data available / Not applicable
Vapour pressure	No data available / Not applicable
Relative vapour density:	No data available / Not applicable
Density ()	1,37 g/cm3
Bulk density	No data available / Not applicable
Solubility	No data available / Not applicable
Solubility (qualitative)	Insoluble
Partition coefficient: n-octanol/water	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Decomposition temperature	No data available / Not applicable
Viscosity (Cone and plate; 25 °C (77 °F))	15.500,00 - 33.000,00 mPa.s
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Oxidising properties	No data available / Not applicable

9.2. Other information

No data available / Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity
None if used for intended purpose.

10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
See section reactivity

10.4. Conditions to avoid
No decomposition if used according to specifications.

10.5. Incompatible materials
See section reactivity.

10.6. Hazardous decomposition products
None if used for intended purpose.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity:

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
Nonylphenol, branched 84852-15-3	LD50	1.412 mg/kg	rat	not specified
Dinonylphenol 1323-65-5	LD50	1.412 mg/kg	rat	not specified
Diethylenetriamine 111-40-0	LD50	1.553 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
phenol 108-95-2	LD50	140 mg/kg	Human	not specified
phenol 108-95-2	Acute toxicity estimate (ATE)	140 mg/kg		Expert judgement
2-(2-aminoethylamino)ethanol 111-41-1	LD50	2.150 mg/kg	rat	BASF Test
3,6-diazaoctanethylenediamin 112-24-3	LD50	1.591 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)

Acute dermal toxicity:

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
Nonylphenol, branched 84852-15-3	LD50	> 2.000 mg/kg	rabbit	not specified
2-piperazin-1-ylethylamine 140-31-8	LD50	866 mg/kg	rabbit	Draize Test
Diethylenetriamine 111-40-0	LD50	1.045 mg/kg	rabbit	not specified
phenol 108-95-2	LD50	660 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
2-(2-aminoethylamino)ethanol 111-41-1	LD50	> 2.000 mg/kg	rabbit	BASF Test
3,6-diazaoctanethylenediamin 112-24-3	LD50	1.465 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)

Acute inhalative toxicity:

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

Hazardous substances CAS-No.	Value type	Value	Test atmosphere	Exposure time	Species	Method
Diethylenetriamine 111-40-0	NOEL	0,07 mg/l			rat	OECD Guideline 403 (Acute Inhalation Toxicity)
Diethylenetriamine 111-40-0	Acute toxicity estimate (ATE)	0,07 mg/l	dust/mist			Expert judgement
phenol 108-95-2	LC50	> 0,9 mg/l	dust/mist	8 h	rat	equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)
phenol 108-95-2	Acute toxicity estimate (ATE)	1 mg/l	dust/mist	4 h		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
Nonylphenol, branched 84852-15-3	Category 1B (corrosive)	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
2-piperazin-1-ylethylamine 140-31-8	corrosive	20 min	rabbit	not specified
Diethylenetriamine 111-40-0	corrosive	15 min	rabbit	BASF Test
phenol 108-95-2	corrosive	3 min		OECD Guideline 431 (In Vitro Skin Corrosion: Reconstructed Human Epidermis (RHE) Test Method)
2-(2-aminoethylamino)ethanol 111-41-1	corrosive		rabbit	BASF Test
3,6-diazaoctanethylenediamin 112-24-3	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
Diethylenetriamine 111-40-0	corrosive	30 s	rabbit	not specified
phenol 108-95-2	corrosive		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
2-(2-aminoethylamino)ethanol 111-41-1	irritating		rabbit	BASF Test

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-piperazin-1-ylethylamine 140-31-8	sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Diethylenetriamine 111-40-0	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
phenol 108-95-2	not sensitising	Buehler test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
2-(2-aminoethylamino)ethanol 111-41-1	sensitising	Patch-Test	guinea pig	Patch Test
3,6-diazaoctanethylenediamin 112-24-3	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.

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
2-piperazin-1-ylethylamine 140-31-8	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
2-piperazin-1-ylethylamine 140-31-8	negative	DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro	with and without		not specified
2-piperazin-1-ylethylamine 140-31-8	negative	mammalian cell gene mutation assay	with and without		not specified
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
phenol 108-95-2	positive	in vitro mammalian cell micronucleus test	with and without		OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
phenol 108-95-2	negative without metabolic activation	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
2-(2-aminoethylamino)ethanol 111-41-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
3,6-diazaoctanethylenediamin 112-24-3	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
3,6-diazaoctanethylenediamin 112-24-3	negative	DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro	with and without		OECD Guideline 482 (Genetic Toxicology: DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells In Vitro)
2-piperazin-1-ylethylamine 140-31-8	negative	intraperitoneal		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
phenol 108-95-2	positive	intraperitoneal		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
3,6-diazaoctanethylenediamin 112-24-3	negative	intraperitoneal		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Carcinogenicity

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

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
Diethylenetriamine 111-40-0	not carcinogenic	dermal	lifetime (appr. 587 d) 3 d/w	mouse	male	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
phenol 108-95-2	not carcinogenic	oral: drinking water	103 w daily ad libitum (continous)	mouse	male/female	OECD Guideline 451 (Carcinogenicity Studies)

Reproductive toxicity:

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

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
2-piperazin-1-ylethylamine 140-31-8	NOAEL P 8000 ppm NOAEL F1 8000 ppm	screening	oral: drinking water	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
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)
phenol 108-95-2	NOAEL P 71 mg/kg NOAEL F1 70 mg/kg NOAEL F2 1.000 mg/l	two-generation study	oral: drinking water	rat	OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)

STOT-single exposure:

No data available.

STOT-repeated exposure::

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

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
2-piperazin-1-ylethylamine 140-31-8	NOAEL 2000 ppm	oral: drinking water	>= 28 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
phenol 108-95-2	NOAEL 71 mg/kg	oral: drinking water	90 d daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
2-(2-aminoethylamino)ethanol 111-41-1	LOAEL >= 250 mg/kg	oral: gavage	28 days daily	rat	Guidelines for 28-Day Repeat Dose Toxicity Test (Japan)
2-(2-aminoethylamino)ethanol 111-41-1	NOAEL 1.000 mg/kg		4 weeks 6 hours/day, 5 days/week	rat	EPA Guideline
3,6-diazaoctanethylenediamin 112-24-3	LOAEL 50 mg/kg	oral: gavage	26 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
3,6-diazaoctanethylenediamin 112-24-3	NOAEL 50 mg/kg	oral: gavage	26 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

Aspiration hazard:

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.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Nonylphenol, branched 84852-15-3	LC50	0,135 mg/l	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
Nonylphenol, branched 84852-15-3	NOEC	0,25 mg/l	14 d	Leuciscus idus	OECD Guideline 204 (Fish, Prolonged Toxicity Test: 14-day Study)
Nonylphenol, branched 84852-15-3	NOEC	0,006 mg/l	91 d	Oncorhynchus mykiss	OECD Guideline 210 (fish early lite stage toxicity test)
2-piperazin-1-ylethylamine 140-31-8	LC50	> 100 mg/l	96 h	Salmo gairdneri (new name: Oncorhynchus mykiss)	OECD Guideline 203 (Fish, Acute Toxicity Test)
Phenol, 2-nonyl-, branched 91672-41-2	LC50	0,128 mg/l	96 h	Pimephales promelas	other guideline:
Phenol, 2-nonyl-, branched 91672-41-2	NOEC	0,006 mg/l	91 d	Oncorhynchus mykiss	other guideline:
Dinonylphenol 1323-65-5	LC50	0,23 mg/l	96 h	not specified	OECD Guideline 203 (Fish, Acute Toxicity Test)
Dinonylphenol 1323-65-5	NOEC	0,006 mg/l	91 d	not specified	OECD Guideline 210 (fish early lite stage 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 lite stage toxicity test)
phenol 108-95-2	LC50	8,9 mg/l	96 h	Oncorhynchus mykiss	EPA-660 (Methods for Acute Toxicity Tests with Fish, Macroinvertebrates and Amphibians)
phenol 108-95-2	NOEC	0,077 mg/l	60 d	Cirrhinus mrigala	OECD Guideline 215 (Fish, Juvenile Growth Test)
2-(2-aminoethylamino)ethanol 111-41-1	LC50	> 243 mg/l	48 h	Leuciscus idus	DIN 38412-15
3,6-diazaoctanethylenediamin 112-24-3	LC50	570 mg/l	96 h	Poecilia reticulata	OECD Guideline 203 (Fish, Acute Toxicity Test)

Toxicity (Daphnia):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Nonylphenol, branched 84852-15-3	EC50	0,035 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2-piperazin-1-ylethylamine 140-31-8	EC50	32 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Phenol, 2-nonyl-, branched 91672-41-2	EC50	0,14 mg/l	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)
Dinonylphenol 1323-65-5	EC50	0,085 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)
phenol 108-95-2	EC50	3,1 mg/l	48 h	Ceriodaphnia dubia	other guideline:
2-(2-aminoethylamino)ethanol 111-41-1	EC50	22 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
3,6-diazaoctanethylenediamin 112-24-3	EC50	31 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute

					Immobilisation Test)

Chronic toxicity to aquatic invertebrates

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

Hazardous substances **CAS-No.**	**Value type**	**Value**	**Exposure time**	**Species**	**Method**
Nonylphenol, branched 84852-15-3	NOEC	0,024 mg/l	21 d	Daphnia magna	OECD Guideline 202 (Daphnia sp. Chronic Immobilisation Test)
Phenol, 2-nonyl-, branched 91672-41-2	NOEC	0,024 mg/l	21 d	Daphnia magna	OECD Guideline 202 (Daphnia sp. Chronic Immobilisation Test)
Dinonylphenol 1323-65-5	NOEC	0,024 mg/l	21 d	Daphnia magna	OECD Guideline 202 (Daphnia sp. Chronic Immobilisation Test)
Diethylenetriamine 111-40-0	NOEC	5,6 mg/l	21 d	Daphnia magna	EU Method C.20 (Daphnia magna Reproduction Test)
phenol 108-95-2	NOEC	0,16 mg/l	16 d	Daphnia magna	other guideline:

Toxicity (Algae):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Nonylphenol, branched 84852-15-3	EC50	0,0563 mg/l	72 h	not specified	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-piperazin-1-ylethylamine 140-31-8	NOEC	31 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-piperazin-1-ylethylamine 140-31-8	EC50	495 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Phenol, 2-nonyl-, branched 91672-41-2	EC50	0,53 mg/l	72 h	Pseudokirchneriella subcapitata	ISO 8692 (Water Quality)
Dinonylphenol 1323-65-5	EC50	0,41 mg/l	96 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	EPA OTS 797.1050 (Algal Toxicity, Tiers I and II)
Dinonylphenol 1323-65-5	EC10	0,12 mg/l	96 h	not specified	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)
phenol 108-95-2	EC50	61,1 mg/l	96 h	Pseudokirchneriella subcapitata (reported as Selenastrum capricornutum)	other guideline:
2-(2-aminoethylamino)ethanol 111-41-1	EC50	358 mg/l	72 h	Desmodesmus subspicatus	DIN 38412-09
2-(2-aminoethylamino)ethanol 111-41-1	EC10	156 mg/l	72 h	Desmodesmus subspicatus	DIN 38412-09
3,6-diazaoctanethylenediamin 112-24-3	EC10	< 2,5 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
3,6-diazaoctanethylenediamin 112-24-3	EC50	20 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)

Toxicity to microorganisms

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Nonylphenol, branched 84852-15-3	EC50		3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
2-piperazin-1-ylethylamine 140-31-8	EC10	100 mg/l	17 h		not specified
Phenol, 2-nonyl-, branched 91672-41-2	EC50	950 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Dinonylphenol 1323-65-5	EC10	950 mg/l	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Diethylenetriamine 111-40-0	NOEC	6 mg/l	3 h	anaerobic bacteria	not specified
phenol 108-95-2	EC50	766 mg/l	3 h	activated sludge, industrial	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
2-(2-aminoethylamino)ethanol 111-41-1	EC10	82,2 mg/l	17 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
3,6-diazaoctanethylenediamin 112-24-3	EC0	137 mg/l	30 min	Pseudomonas putida	DIN 38412, part 27 (Bacterial oxygen consumption test)

12.2. Persistence and degradability

The product is not biodegradable.

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
Nonylphenol, branched 84852-15-3	not readily biodegradable.	aerobic	48,2 %	35 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
2-piperazin-1-ylethylamine 140-31-8	under test conditions no biodegradation observed	aerobic	0 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Phenol, 2-nonyl-, branched 91672-41-2	not readily biodegradable.	aerobic	48,2 %	35 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Dinonylphenol 1323-65-5	not readily biodegradable.	aerobic	48,2 %	35 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution 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)
phenol 108-95-2	readily biodegradable	aerobic	62 %	100 h	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
2-(2-aminoethylamino)ethanol 111-41-1	readily biodegradable	aerobic	> 60 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
3,6-diazaoctanethylenediamin 112-24-3	not inherently biodegradable	aerobic	0 %	28 d	OECD Guideline 302 B (Inherent biodegradability: Zahn-Wellens/EMPA Test)
3,6-diazaoctanethylenediamin 112-24-3	not readily biodegradable.	aerobic	0 %	162 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)

12.3. Bioaccumulative potential

Hazardous substances CAS-No.	Bioconcentration factor (BCF)	Exposure time	Temperature	Species	Method
Nonylphenol, branched 84852-15-3	231	14 d		Lepomis macrochirus	other guideline:
Phenol, 2-nonyl-, branched 91672-41-2	576	7 day		Cyprinus carpio	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)
Dinonylphenol 1323-65-5	740			Pimephales promelas	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)
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)
phenol 108-95-2	17,5	5 h	25 °C	Danio rerio (reported as Brachydanio rerio)	OECD Guideline 305 E (Bioaccumulation: Flow-through Fish Test)
2-(2-aminoethylamino)ethanol 111-41-1	2,1 - 3,7	42 d	25 °C	Cyprinus carpio	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)

12.4. Mobility in soil

Cured adhesives are immobile.

Hazardous substances CAS-No.	LogPow	Temperature	Method
Nonylphenol, branched 84852-15-3	5,4	23 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
2-piperazin-1-ylethylamine 140-31-8	-1,48		OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Phenol, 2-nonyl-, branched 91672-41-2	5,4	23 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Dinonylphenol 1323-65-5	5,4	23 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Diethylenetriamine 111-40-0	-1,58	20 °C	QSAR (Quantitative Structure Activity Relationship)
phenol 108-95-2	1,47	30 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
2-(2-aminoethylamino)ethanol 111-41-1	-1,46	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
3,6-diazaoctanethylenediamin 112-24-3	-2,65		OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

12.5. Results of PBT and vPvB assessment

Hazardous substances CAS-No.	PBT / vPvB
Nonylphenol, branched 84852-15-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
2-piperazin-1-ylethylamine 140-31-8	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Diethylenetriamine 111-40-0	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
phenol 108-95-2	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
3,6-diazaoctanethylenediamin 112-24-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:
Dispose of in accordance with local and national regulations.
Do not empty into drains / surface water / ground water.

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

ADR	1760
RID	1760
ADN	1760
IMDG	1760
IATA	1760

14.2. UN proper shipping name

ADR	CORROSIVE LIQUID, N.O.S. (Nonylphenol,Aminoethylpiperazine)
RID	CORROSIVE LIQUID, N.O.S. (Nonylphenol,Aminoethylpiperazine)
ADN	CORROSIVE LIQUID, N.O.S. (Nonylphenol,Aminoethylpiperazine)
IMDG	CORROSIVE LIQUID, N.O.S. (Nonylphenol,Aminoethylpiperazine)
IATA	Corrosive liquid, n.o.s. (Nonylphenol,Aminoethylpiperazine)

14.3. Transport hazard class(es)

ADR	8
RID	8
ADN	8
IMDG	8
IATA	8

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	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. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

SECTION 15: Regulatory information

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

VOC content (2010/75/EC)	< 3 %

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:

H301 Toxic if swallowed.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H330 Fatal if inhaled.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H360Df May damage the unborn child. Suspected of damaging fertility.
H361 Suspected of damaging fertility or the unborn child.
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

Further information:

This Safety Data Sheet has been produced for sales from Henkel to parties purchasing from Henkel, is based on Regulation (EC) No 1907/2006 and provides information in accordance with applicable regulations of the European Union only. In that respect, no statement, warranty or representation of any kind is given as to compliance with any statutory laws or regulations of any other jurisdiction or territory other than the European Union. When exporting to territories other than the European Union, please consult with the respective Safety Data Sheet of the concerned territory to ensure compliance or liaise with Henkel´s Product Safety and Regulatory Affairs Department (ua-productsafety.de@henkel.com) prior to export to other territories than the European Union.

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.