

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

Page 1 of 17

LOCTITE EA M-121HP MEDICAL EPOXY

SDS No. : 164639 V002.0 Revision: 25.10.2019 printing date: 16.09.2020 Replaces version from: 03.09.2019

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

1.1. Product identifier LOCTITE EA M-121HP MEDICAL EPOXY

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

Intended use: Part A of 2-K-Epoxy Adhesive

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.	
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

RP Bisphenol F-epichlorohydrin resin, MW<=700

	reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 1,3-butadiene, butyl 2-propenoate and ethenylbenzene 2,2'-[methylenebis(p-phenyleneoxymethylene)]bisoxirane Dodecane-1-thiol
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.

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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
RP Bisphenol F-epichlorohydrin resin, MW<-700		25- 50 %	Skin Irrit. 2 H315
28064-14-4			Skin Sens 1A
20004-14-4			H317
			Eve Irrit 2
			H319
			Aquatic Chronic 2
			H411
reaction product: bisphenol-A-	01-2119456619-26	25- 50 %	Skin Irrit. 2
(epichlorhydrin): epoxy resin (number			H315
average molecular weight≤700)			Skin Sens. 1
25068-38-6			H317
			Eye Irrit. 2
			H319
			Aquatic Chronic 2
			H411
2-Propenoic acid, 2-methyl-, methyl ester,		10- 20 %	Skin Sens. 1
polymer with 1,3-butadiene, butyl 2-			H317
propenoate and ethenylbenzene			Eye Irrit. 2
25101-28-4			H319
2,2'-[methylenebis(p-	218-257-4	0,1-<1%	Aquatic Chronic 2
phenyleneoxymethylene)]bisoxirane			H411
2095-03-6			Skin Irrit. 2
			H315
			Skin Sens. 1
			H317
			Eye Irrit. 2
			H319
Dodecane-1-thiol	203-984-1	0,01 - < 0,1 %	Skin Corr. 1C
112-55-0	01-2119491318-31		H314
			Aquatic Chronic 4
			H413
			Skin Sens. 1A
			H317

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: Immediately wash skin thoroughly with soap and water. Obtain medical attention if irritation persists.

Eye contact: Rinse immediately with plenty of running water (for 10 minutes). Seek medical attention if necessary.

Ingestion: Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

4.2. Most important symptoms and effects, both acute and delayed SKIN: Redness, inflammation.

SKIN: Rash, Urticaria.

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: Foam, extinguishing powder, carbon dioxide. Water spray jet

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. Danger of decomposition if exposed to heat. See section 10.

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

Ensure adequate ventilation. Avoid contact with skin and eyes. 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 Ensure adequate ventilation.Soak up with inert absorbent.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. Extract when the product is heated. Avoid skin and eye contact. 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

Store in sealed original container. Protect against contamination. Ensure that storage and workrooms are adequately ventilated. Store in a cool, dry place. Refer to Technical Data Sheet

7.3. Specific end use(s) Part A of 2-K-Epoxy Adhesive

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for

Great Britain

Ingredient [Regulated substance]	ррт	mg/m ³	Value type	Short term exposure limit category / Remarks	Regulatory list
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [SILICA, AMORPHOUS, RESPIRABLE DUST]		2,4	Time Weighted Average (TWA):		EH40 WEL
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [SILICA, AMORPHOUS, INHALABLE DUST]		6	Time Weighted Average (TWA):		EH40 WEL

Occupational Exposure Limits

Valid for

Ireland

Ingredient [Regulated substance]	ррт	mg/m ³	Value type	Short term exposure limit category / Remarks	Regulatory list
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [SILICA, AMORPHOUS, TOTAL INHALABLE DUST]		6	Time Weighted Average (TWA):		IR_OEL
Silane, dichlorodimethyl-, reaction products with silica 68611-44-9 [SILICA, AMORPHOUS, RESPIRABLE DUST]		2,4	Time Weighted Average (TWA):		IR_OEL
Dodecane-1-thiol 112-55-0 [DODECYL MERCAPTAN]	0,1		Time Weighted Average (TWA):		IR_OEL

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure	Value Remarks			Remarks	
		periou	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)				0,996 mg/kg		
reaction product: bisphenol-A- (epichlorhydrin) 25068-38-6	sediment (marine water)				0,1 mg/kg		
reaction product: bisphenol-A- (epichlorhydrin) 25068-38-6	Soil				0,196 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				

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	

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 liquid

Odor Odour threshold

pН Melting point Solidification temperature Initial boiling point Flash point Evaporation rate Flammability Explosive limits Vapour pressure Relative vapour density: Density

Liquid Pale yellow, to, Off white Faint, Epoxy No data available / Not applicable

Not available. No data available / Not applicable No data available / Not applicable > 149,0 °C (> 300.2 °F) > 96,11 °C (> 205 °F); Setaflash Closed Cup No data available / Not applicable 1,1 g/cm3

(20 °C (68 °F))	
Bulk density	No data available / Not applicable
Solubility	No data available / Not applicable
Solubility (qualitative)	Not miscible or difficult to mix
(20 °C (68 °F); Solvent: Water)	
Solubility (qualitative)	Partially miscible
(20 °C (68 °F); Solvent: ketones)	
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	Not determined
0	
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

Strong oxidizing agents. Reacts with alcohols and amines. Reaction with strong bases Reaction with strong acids. Reaction with some curing agents may produce an exothermic reaction which in large masses could cause runaway polymerization.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

Danger of decomposition if exposed to heat. Avoid mixing resin (Part A) and curing agent (Part B) unless you plan to use immediately. Failure to observe these precautions may result in excessive heat build-up causing an exotherm. The exotherm has the potential for release of toxic gasses.

10.5. Incompatible materials

See section reactivity.

10.6. Hazardous decomposition products

Hydrocarbons carbon oxides. Rapid polymerisation may generate excessive heat and pressure. See section 5.

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	Value	Value	Species	Method
CAS-No.	type		_	
RP Bisphenol F-	LD50	> 5.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
epichlorohydrin resin,				
MW<=700				
28064-14-4				
reaction product:	LD50	> 2.000 mg/kg	rat	OECD Guideline 420 (Acute Oral Toxicity)
bisphenol-A-				
(epichlorhydrin); epoxy				
resin (number average				
molecular weight≤700)				
25068-38-6				
2-Propenoic acid, 2-	LD50	> 10.000 mg/kg	mouse	not specified
methyl-, methyl ester,				
polymer with 1,3-				
butadiene, butyl 2-				
propenoate and				
ethenylbenzene				
25101-28-4				
2,2'-[methylenebis(p-	LD50	> 2.000 mg/kg	rat	OECD Guideline 420 (Acute Oral Toxicity)
phenyleneoxymethylene)]				
bisoxirane				
2095-03-6				
Dodecane-1-thiol	LD50	> 5.000 mg/kg	rat	not specified
112-55-0				

Acute dermal toxicity:

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

Hazardous substances	Value	Value	Species	Method
CAS-No.	type		_	
RP Bisphenol F-	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
epichlorohydrin resin,				
MW<=700				
28064-14-4				
reaction product:	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
bisphenol-A-				
(epichlorhydrin); epoxy				
resin (number average				
molecular weight≤700)				
25068-38-6				
2,2'-[methylenebis(p-	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
phenyleneoxymethylene)]				
bisoxirane				
2095-03-6				
Dodecane-1-thiol	LD50	> 2.000 mg/kg	rat	equivalent or similar to OECD Guideline 402 (Acute
112-55-0				Dermal Toxicity)

Acute inhalative toxicity:

No data available.

Skin corrosion/irritation:

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

Hazardous substances	Result	Exposure	Species	Method
CAS-No.		time		
RP Bisphenol F-	irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
epichlorohydrin resin,	-			
MW<=700				
28064-14-4				
reaction product:	moderately	24 h	rabbit	Draize Test
bisphenol-A-	irritating			
(epichlorhydrin); epoxy	-			
resin (number average				
molecular weight≤700)				
25068-38-6				
Dodecane-1-thiol	Category 1C	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
112-55-0	(corrosive)			

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)

Respiratory or skin sensitization:

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

Hazardous substances	Result	Test type	Species	Method
CAS-No.				
RP Bisphenol F-	sensitising	Mouse local lymphnode	mouse	OECD Guideline 429 (Skin Sensitisation:
epichlorohydrin resin,		assay (LLNA)		Local Lymph Node Assay)
MW<=700				
28064-14-4				
reaction product:	sensitising	Mouse local lymphnode	mouse	OECD Guideline 429 (Skin Sensitisation:
bisphenol-A-		assay (LLNA)		Local Lymph Node Assay)
(epichlorhydrin); epoxy				
resin (number average				
molecular weight ≤700)				
25068-38-6				
2,2'-[methylenebis(p-	sensitising	Mouse local lymphnode	mouse	OECD Guideline 429 (Skin Sensitisation:
phenyleneoxymethylene)]		assay (LLNA)		Local Lymph Node Assay)
bisoxirane				
2095-03-6				
Dodecane-1-thiol	sensitising	Mouse local lymphnode	mouse	OECD Guideline 429 (Skin Sensitisation:
112-55-0		assay (LLNA)		Local Lymph Node Assay)

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
RP Bisphenol F- epichlorohydrin resin, MW<=700 28064-14-4	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
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)
Dodecane-1-thiol 112-55-0	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Dodecane-1-thiol 112-55-0	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
RP Bisphenol F- epichlorohydrin resin, MW<=700 28064-14-4	negative	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
RP Bisphenol F- epichlorohydrin resin, MW<=700 28064-14-4	negative	oral: gavage		rat	OECD Guideline 486 (Unscheduled DNA Synthesis (UDS) Test with Mammalian Liver Cells in vivo)
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	negative	oral: gavage		mouse	not specified
Dodecane-1-thiol 112-55-0	negative	oral: gavage		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
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)

Reproductive toxicity:

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

Hazardous substances	Result / Value	Test type	Route of	Species	Method
CAS-No.			application	-	
RP Bisphenol F-	NOAEL P > 750 mg/kg	two-	oral: gavage	rat	OECD Guideline 416 (Two-
epichlorohydrin resin,		generation			Generation Reproduction
MW<=700	NOAEL F1 750 mg/kg	study			Toxicity Study)
28064-14-4					
	NOAEL F2 750 mg/kg				
reaction product:	NOAEL P >= 50 mg/kg	Two	oral: gavage	rat	OECD Guideline 416 (Two-
bisphenol-A-		generation			Generation Reproduction
(epichlorhydrin); epoxy	NOAEL F1 >= 750 mg/kg	study			Toxicity Study)
resin (number average					
molecular weight≤700)	NOAEL F2 >= 750 mg/kg				
25068-38-6					

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	Result / Value	Route of	Exposure time /	Species	Method
CAS-No.		application	Frequency of		
			treatment		
RP Bisphenol F-	NOAEL 250 mg/kg	oral: gavage	13 w	rat	OECD Guideline 408
epichlorohydrin resin,			daily		(Repeated Dose 90-Day
MW<=700					Oral Toxicity in Rodents)
28064-14-4					
reaction product:	NOAEL 50 mg/kg	oral: gavage	14 w	rat	OECD Guideline 408
bisphenol-A-			daily		(Repeated Dose 90-Day
(epichlorhydrin); epoxy					Oral Toxicity in Rodents)
resin (number average					
molecular weight≤700)					
25068-38-6					

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	Value	Value	Exposure time	Species	Method
CAS-No.	type				
RP Bisphenol F-	LC50	5,7 mg/l	96 h	Ide, silver or golden orfe	OECD Guideline 203 (Fish,
epichlorohydrin resin,				(Leuciscus idus)	Acute Toxicity Test)
MW<=700					
28064-14-4					
reaction product: bisphenol-A-	LC50	1,75 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish,
(epichlorhydrin); epoxy resin					Acute Toxicity Test)
(number average molecular					
weight <2700)					
25068-38-6					
2,2'-[methylenebis(p-	LC50	> 1 - 10 mg/l	96 h	not specified	OECD Guideline 203 (Fish,
phenyleneoxymethylene)]biso					Acute Toxicity Test)
xirane					
2095-03-6					
Dodecane-1-thiol	LC50		96 h	Oncorhynchus mykiss	EPA OTS 797.1400 (Fish
112-55-0					Acute Toxicity Test)

Toxicity (Daphnia):

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

Hazardous substances	Value	Value	Exposure time	Species	Method
CAS-No.	type				
RP Bisphenol F-	EC50	3,5 mg/l	48 h	Daphnia magna	OECD Guideline 202
epichlorohydrin resin,					(Daphnia sp. Acute
MW<=700					Immobilisation Test)
28064-14-4					
reaction product: bisphenol-A-	EC50	1,7 mg/l	48 h	Daphnia magna	OECD Guideline 202
(epichlorhydrin); epoxy resin					(Daphnia sp. Acute
(number average molecular					Immobilisation Test)
weight <2700)					
25068-38-6					
2,2'-[methylenebis(p-	EC50	> 1 - 10 mg/l	48 h	Daphnia magna	OECD Guideline 202
phenyleneoxymethylene)]biso					(Daphnia sp. Acute
xirane					Immobilisation Test)
2095-03-6					
Dodecane-1-thiol	EC50		48 h	Daphnia magna	OECD Guideline 202
112-55-0					(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	Value	Value	Exposure time	Species	Method
CAS-No.	type				
RP Bisphenol F-	NOEC	0,3 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia
epichlorohydrin resin,					magna, Reproduction Test)
MW<=700					
28064-14-4					
reaction product: bisphenol-A-	NOEC	0,3 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia
(epichlorhydrin); epoxy resin					magna, Reproduction Test)
(number average molecular					
weight <2700)					
25068-38-6					

Toxicity (Algae):

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

Hazardous substances	Value	Value	Exposure time	Species	Method
CAS-No.	type				
RP Bisphenol F- epichlorohydrin resin, MW<=700 28064-14-4	EC50	9,4 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
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)

Toxicity to microorganisms

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

Hazardous substances	Value	Value	Exposure time	Species	Method
RP Bisphenol F- epichlorohydrin resin, MW<=700 28064-14-4	IC50	> 100 mg/l	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
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:

12.2. Persistence and degradability

The product is not biodegradable.

Hazardous substances	Result	Test type	Degradability	Exposure	Method
CAS-No.		••	0	time	
RP Bisphenol F- epichlorohydrin resin, MW<=700 28064-14-4	not readily biodegradable.	aerobic	5 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
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)
2,2'-[methylenebis(p- phenyleneoxymethylene)]biso xirane 2095-03-6	not readily biodegradable.	aerobic	< 10 %	28 d	OECD 301 A - F
Dodecane-1-thiol 112-55-0	not readily biodegradable.	aerobic	39,2 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)

12.3. Bioaccumulative potential

No data available.

Hazardous substances	Bioconcentratio	Exposure time	Temperature	Species	Method
CAS-No.	n factor (BCF)				
RP Bisphenol F-	31			not specified	not specified
epichlorohydrin resin,					
MW<=700					
28064-14-4					
Dodecane-1-thiol	234			calculation	QSAR (Quantitative Structure
112-55-0					Activity Relationship)

12.4. Mobility in soil

Cured adhesives are immobile.

Hazardous substances	LogPow	Temperature	Method
CAS-No.			
RP Bisphenol F-	3,242		OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC
epichlorohydrin resin,			Method)
MW<=700			
28064-14-4			
reaction product: bisphenol-A-	3,242	25 °C	EU Method A.8 (Partition Coefficient)
(epichlorhydrin); epoxy resin			
(number average molecular			
weight <2700)			
25068-38-6			
Dodecane-1-thiol	> 6,5	25 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC
112-55-0			Method)

12.5. Results of PBT and vPvB assessment

Hazardous substances	PBT / vPvB
CAS-No.	
reaction product: bisphenol-A-(epichlorhydrin);	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
epoxy resin (number average molecular	Bioaccumulative (vPvB) criteria.
weight \leq 700)	
25068-38-6	

12.6. 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:

Disposal must be made according to official regulations.

Packaging that cannot be cleaned are to be disposed of in the same manner as the product.

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
		2002
		3082
	ADN	3082
	IMDG	3082
	IATA	3082
14.2.	UN proper shi	pping name
	ADR	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
	RID	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy
	ADN	resin) 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 haz	card class(es)
	ADR	9
	RID	9
	ADN	9
	IMDG	9
	IATA	9
14.4	Dealth	
14.4.	Packing group	
	ADR	III
	RID	III
	ADN	III
	IMDG	III
	IATA	III
14.5.	Environmenta	l hazards
		not applicable
		not applicable
		not applicable
	IMDG	Norino pollutent
		not applicable
	IATA	not applicable
14.6.	Special precau	itions for user
	ADR	not applicable Tunnelcode:
	RID	not applicable
	ADN	not applicable
	IMDG	not applicable
	IATA	not applicable
	The transport c containers with kg for solid sub 969 (IMDG) m goods.	classifications in this section apply generally to packed and bulk goods alike. For a net volume of no more than 5 L for liquid substances or a net mass of no more than 5 ostances per individual or inner package, the exemptions SP 375 (ADR), 197 (IATA), hay be applied, which can result in a deviation from the transport classification for packed

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:

H314 Causes severe skin burns and eye damage.

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.

H413 May cause long lasting harmful effects to aquatic life.

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.

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.



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

Page 1 of 17

LOCTITE EA M-121HP MEDICAL EPOXY

SDS No.: 157227 V002.0 Revision: 25.10.2019 printing date: 16.09.2020 Replaces version from: 29.05.2019

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

1.1. Product identifier LOCTITE EA M-121HP MEDICAL EPOXY

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

Part B of 2-Component Epoxy Adhesive.

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 corrosion	Category 1B
H314 Causes severe skin burns and eye damage.	
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

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

	3,6,9-triazaundecamethylenediamine
	3,6-diazaoctanethylenediamin
Signal word:	Danger
Hazard statement:	H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H411 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: Accelerator for epoxy systems Base substances of preparation: organic amine

Hazardous components	EC Number	content	Classification
CAS-No.	REACH-Reg No.		
C18 Fatty acid dimer, tall oil fatty acid,	500-191-5	50- 100 %	Skin Irrit. 2
triethylenetetramine polymer	01-2119972320-44		H315
68082-29-1			Eye Dam. 1
			H318
			Skin Sens. 1A
			H317
			Aquatic Chronic 2
			H411
3,6,9-triazaundecamethylenediamine	203-986-2	10- 20 %	Acute Tox. 4; Dermal
112-57-2	01-2119487290-37		H312
			Acute Tox. 4; Oral
			H302
			Skin Sens. 1
			H317
			Aquatic Chronic 2
			H411
			Skin Corr. 1B
			H314
3,6-diazaoctanethylenediamin	203-950-6	5 - < 10 %	Acute Tox. 4; Oral
112-24-3	01-2119487919-13		H302
			Acute Tox. 4; Dermal
			H312
			Skin Sens. 1
			H317
			Skin Corr. 1B
			H314
			Aquatic Chronic 3
			H412

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

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

Causes burns.

SKIN: Rash, Urticaria.

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

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Foam, extinguishing powder, carbon dioxide. Water spray jet

5.2. Special hazards arising from the substance or mixture

Danger of decomposition if exposed to heat. In the event of a fire, carbon monoxide (CO), carbon dioxide (CO2) and nitrogen oxides (NOx) can be released. See section 10.

5.3. Advice for firefighters

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

Additional information:

Dispose of combustion residues and contaminated fire-fighting water in accordance with statutory regulations., In case of fire, keep containers cool with water spray.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Avoid contact with skin and eyes. Wear protective equipment. See advice in section 8

6.2. Environmental precautions

Do not empty into drains / surface water / ground water.

6.3. Methods and material for containment and cleaning up

Ensure adequate ventilation.

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). 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. Extract when the product is heated. See advice in section 8

Hygiene measures:

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

7.2. Conditions for safe storage, including any incompatibilities

Store in sealed original container. Protect against contamination. Ensure that storage and workrooms are adequately ventilated. Store in a cool, dry place. Keep away from heat and direct sunlight. Refer to Technical Data Sheet

7.3. Specific end use(s)

Part B of 2-Component Epoxy Adhesive.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for Great Britain

None

Occupational Exposure Limits

Valid for Ireland

None

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value			Remarks	
	compartment	periou	mg/l	ppm	mg/kg	others	
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	aqua (freshwater)		0,00434 mg/l	FF			
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	aqua (marine water)		0,00043 mg/l				
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	aqua (intermittent releases)		0,0434 mg/l				
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	sewage treatment plant (STP)		3,84 mg/l				
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	sediment (freshwater)				434,02 mg/kg		
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	sediment (marine water)				43,4 mg/kg		
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	Soil				86,78 mg/kg		
3,6,9-triazaundecamethylenediamine 112-57-2	Soil				0,683 mg/kg		
3,6,9-triazaundecamethylenediamine 112-57-2	aqua (freshwater)		0,0068 mg/l				
3,6,9-triazaundecamethylenediamine 112-57-2	aqua (marine water)		0,00068 mg/l				
3,6,9-triazaundecamethylenediamine 112-57-2	sediment (freshwater)				3,43 mg/kg		
3,6,9-triazaundecamethylenediamine 112-57-2	sediment (marine water)				0,343 mg/kg		
3,6,9-triazaundecamethylenediamine 112-57-2	sewage treatment plant (STP)		9,73 mg/l				
3,6-diazaoctanethylenediamin 112-24-3	aqua (intermittent releases)		0,2 mg/l				
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		

Derived No-Effect Level (DNEL):

Name on list	Application	Route of	Health Effect	Exposure	Value	Remarks
C19 Eatty and dimonstrall all fatters 1	Area	Exposure	Long torm	Time	2.0 ma/2	
triethylenetetramine polymer 68082-29-1	workers	innalation	exposure - systemic effects		3,9 mg/m3	
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	Workers	dermal	Long term exposure - systemic effects		1,1 mg/kg	
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	General population	inhalation	Long term exposure - systemic effects		0,97 mg/m3	
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	General population	dermal	Long term exposure - systemic effects		0,56 mg/kg	
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	General population	oral	Long term exposure - systemic effects		0,56 mg/kg	
3,6,9-triazaundecamethylenediamine 112-57-2	Workers	dermal	Long term exposure - systemic effects		0,74 mg/kg	
3,6,9-triazaundecamethylenediamine 112-57-2	Workers	inhalation	Long term exposure - systemic effects		1,29 mg/m3	
3,6,9-triazaundecamethylenediamine 112-57-2	Workers	inhalation	Acute/short term exposure - systemic effects		6940 mg/m3	
3,6,9-triazaundecamethylenediamine 112-57-2	General population	dermal	Long term exposure - systemic effects		0,32 mg/kg	
3,6,9-triazaundecamethylenediamine 112-57-2	General population	inhalation	Long term exposure - systemic effects		0,38 mg/m3	
3,6,9-triazaundecamethylenediamine 112-57-2	General population	oral	Long term exposure - systemic effects		0,53 mg/kg	
3,6,9-triazaundecamethylenediamine 112-57-2	General population	oral	Acute/short term exposure - systemic effects		26 mg/kg	
3,6,9-triazaundecamethylenediamine 112-57-2	General population	inhalation	Acute/short term exposure - systemic effects		2071 mg/m3	
3,6,9-triazaundecamethylenediamine 112-57-2	General population	dermal	Acute/short term exposure - systemic effects		10 mg/kg	
3,6,9-triazaundecamethylenediamine 112-57-2	General population	dermal	Acute/short term exposure - local effects		1,29 mg/cm2	
3,6,9-triazaundecamethylenediamine 112-57-2	General population	dermal	Long term exposure - local effects		0,56 mg/cm2	
3,6,9-triazaundecamethylenediamine 112-57-2	Workers	dermal	Long term exposure - local effects		0,036 mg/cm2	
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): Isobutylene-isoprene rubber (IIR; ≥ 0.7 mm thickness) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Isobutylene-isoprene rubber (IIR; ≥ 0.7 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	liquid
	Amber
Odor	mild
Odour threshold	No data available / Not applicable
nH	No data available / Not applicable
Melting point	No data available / Not applicable
Solidification temperature	No data available / Not applicable
Initial boiling point	No data available / Not applicable
Flash point	$> 150 \ ^{\circ}C \ (> 302 \ ^{\circ}F);$ None
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	1,0 g/cm3
(20 °C (68 °F))	
Bulk density	No data available / Not applicable
Solubility	No data available / Not applicable
Solubility (qualitative)	Partially miscible
(20 °C (68 °F); Solvent: Water)	

Partition coefficient: n-octanol/water Auto-ignition temperature Decomposition temperature Viscosity Viscosity (kinematic) Explosive properties Oxidising properties

9.2. Other information

No data available / Not applicable

SECTION 10: Stability and reactivity

No data available / Not applicable No data available / Not applicable

No data available / Not applicable

No data available / Not applicable

No data available / Not applicable No data available / Not applicable

No data available / Not applicable

10.1. Reactivity

Reaction with strong oxidants. Reaction with strong acids. Reaction with strong bases Reaction with some curing agents may produce an exothermic reaction which in large masses could cause runaway polymerization.

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. Danger of decomposition if exposed to heat. Do not heat mixed adhesive unless you plan to use immediately. Failure to observe these precautions may result in excessive heat build-up causing an exotherm. Exposure to light. Exposure to air or moisture over prolonged periods.

10.5. Incompatible materials

See section reactivity.

10.6. Hazardous decomposition products

Hydrocarbons At higher temperature carbon oxides and nitrogen oxides may be generated. At higher temperature ammonia or amine derivatives may be generated. At higher temperatures toxic gases may be generated. See section 5.

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	Value	Value	Species	Method
CAS-No.	type			
C18 Fatty acid dimer, tall	LD50	> 2.000 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
oil fatty acid,				
triethylenetetramine				
polymer				
68082-29-1				
3,6,9-	LD50	1.716 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
triazaundecamethylenedia				
mine				
112-57-2				
3,6-	LD50	1.591 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
diazaoctanethylenediamin				
112-24-3				

Acute dermal toxicity:

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

Hazardous substances	Value	Value	Species	Method
CAS-No.	type			
C18 Fatty acid dimer, tall	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
oil fatty acid,				
triethylenetetramine				
polymer				
68082-29-1				
3,6,9-	LD50	1.260 mg/kg	rabbit	not specified
triazaundecamethylenedia				
mine				
112-57-2				
3,6-	LD50	1.465 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
diazaoctanethylenediamin				
112-24-3				

Acute inhalative toxicity:

No data available.

Skin corrosion/irritation:

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

Hazardous substances	Result	Exposure	Species	Method
CAS-No.		time		
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine	irritating		In vitro	OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method)
polymer 68082-29-1				
3,6,9-	corrosive	4 h	rabbit	Draize Test
triazaundecamethylenedia				
mine				
112-57-2				
3,6-	corrosive		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
diazaoctanethylenediamin 112-24-3				

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
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	Category 1 (irreversible effects on the eye)		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

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

Hazardous substances	Recult	Test type	Species	Method
CAS No	Kesuit	Test type	species	Method
CA5-100.				
C18 Fatty acid dimer, tall	sensitising	Mouse local lymphnode	mouse	OECD Guideline 429 (Skin Sensitisation:
oil fatty acid,	C C	assay (LLNA)		Local Lymph Node Assay)
triethylenetetramine				
polymer				
68082-29-1				
3,6,9-	sensitising	Buehler test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
triazaundecamethylenedia				
mine				
112-57-2				
3,6-	sensitising	Buehler test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
diazaoctanethylenediamin	-			
112-24-3				

Germ cell mutagenicity:

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

Hazardous substances	Result	Type of study / Boute of	Metabolic	Species	Method
CA5-N0.		administration	Exposure time		
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
3,6,9- triazaundecamethylenedia mine 112-57-2	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
3,6,9- triazaundecamethylenedia mine 112-57-2	ambiguous	sister chromatid exchange assay in mammalian cells	with and without		OECD Guideline 479 (Genetic Toxicology: In Vitro Sister Chromatid Exchange Assay in Mammalian Cells)
3,6,9- triazaundecamethylenedia mine 112-57-2	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)
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)
3,6,9- triazaundecamethylenedia mine 112-57-2	negative	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

No data available.

Reproductive toxicity:

No data available.

STOT-single exposure:

No data available.

STOT-repeated exposure::

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

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
3,6,9- triazaundecamethylenedia mine 112-57-2	LOAEL 50 mg/kg	oral: gavage	26 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
3,6,9- triazaundecamethylenedia mine 112-57-2	NOAEL 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	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	Value	Value	Exposure time	Species	Method
CAS-No.	type				
C18 Fatty acid dimer, tall oil	LC50	7,07 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish,
fatty acid, triethylenetetramine					Acute Toxicity Test)
polymer					
68082-29-1					
3,6,9-	LC50	420 mg/l	96 h	Poecilia reticulata	OECD Guideline 203 (Fish,
triazaundecamethylenediamin					Acute Toxicity Test)
e					
112-57-2					
3,6-diazaoctanethylenediamin	LC50	570 mg/l	96 h	Poecilia reticulata	OECD Guideline 203 (Fish,
112-24-3					Acute Toxicity Test)

Toxicity (Daphnia):

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

Hazardous substances	Value	Value	Exposure time	Species	Method
CAS-No.	type				
C18 Fatty acid dimer, tall oil	EC50	7,07 mg/l	48 h	Daphnia magna	OECD Guideline 202
fatty acid, triethylenetetramine					(Daphnia sp. Acute
polymer					Immobilisation Test)
68082-29-1					
3,6,9-	EC50	24,1 mg/l	48 h	Daphnia magna	OECD Guideline 202
triazaundecamethylenediamin					(Daphnia sp. Acute
e					Immobilisation Test)
112-57-2					
3,6-diazaoctanethylenediamin	EC50	31 mg/l	48 h	Daphnia magna	OECD Guideline 202
112-24-3					(Daphnia sp. Acute
					Immobilisation Test)

Chronic toxicity to aquatic invertebrates

No data available.

Toxicity (Algae):

Hazardous substances	Value	Value	Exposure time	Species	Method
CAS-No.	type				
C18 Fatty acid dimer, tall oil	EC50	4,34 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga,
fatty acid, triethylenetetramine					Growth Inhibition Test)
polymer					
68082-29-1					
C18 Fatty acid dimer, tall oil	NOEC	0,5 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga,
fatty acid, triethylenetetramine					Growth Inhibition Test)
polymer					
68082-29-1					
3,6,9-	NOEC	0,5 mg/l	72 h	Selenastrum capricornutum	OECD Guideline 201 (Alga,
triazaundecamethylenediamin				(new name: Pseudokirchneriella	Growth Inhibition Test)
e				subcapitata)	
112-57-2					
3,6,9-	EC50	6,8 mg/l	72 h	Selenastrum capricornutum	OECD Guideline 201 (Alga,
triazaundecamethylenediamin				(new name: Pseudokirchneriella	Growth Inhibition Test)
e				subcapitata)	
112-57-2					
3,6-diazaoctanethylenediamin	EC10	< 2,5 mg/l	72 h	Selenastrum capricornutum	OECD Guideline 201 (Alga,
112-24-3				(new name: Pseudokirchneriella	Growth Inhibition Test)
				subcapitata)	
3,6-diazaoctanethylenediamin	EC50	20 mg/l	72 h	Selenastrum capricornutum	OECD Guideline 201 (Alga,
112-24-3				(new name: Pseudokirchneriella	Growth Inhibition Test)
				subcapitata)	

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

Toxicity to microorganisms

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

Hazardous substances	Value	Value	Exposure time	Species	Method
CAS-No.	type				
C18 Fatty acid dimer, tall oil	EC10	130 mg/l	3 h	activated sludge of a	OECD Guideline 209
fatty acid, triethylenetetramine				predominantly domestic sewage	(Activated Sludge,
polymer					Respiration Inhibition Test)
68082-29-1					
3,6,9-	EC 50	1.600 mg/l	1 h		EU Method C.11
triazaundecamethylenediamin					(Biodegradation: Activated
e					Sludge Respiration
112-57-2					Inhibition Test)
3,6-diazaoctanethylenediamin	EC0	137 mg/l	30 min	Pseudomonas putida	DIN 38412, part 27
112-24-3					(Bacterial oxygen
					consumption test)

12.2. Persistence and degradability

The product is not biodegradable.

Hazardous substances	Result	Test type	Degradability	Exposure	Method
C18 Fatty acid dimer, tall oil fatty acid, triethylenetetramine polymer 68082-29-1	not readily biodegradable.	no data	0 - 60 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
3,6,9- triazaundecamethylenediamin e 112-57-2	under test conditions no biodegradation observed	aerobic	0 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle 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

No data available.

12.4. Mobility in soil

Cured adhesives are immobile.

Hazardous substances	LogPow	Temperature	Method
CAS-No.	_	_	
C18 Fatty acid dimer, tall oil	10,34		QSAR (Quantitative Structure Activity Relationship)
fatty acid, triethylenetetramine			
polymer			
68082-29-1			
3,6,9-	-3,16		not specified
triazaundecamethylenediamin			
e			
112-57-2			
3,6-diazaoctanethylenediamin	-2,65		OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake
112-24-3			Flask Method)

12.5. Results of PBT and vPvB assessment

Hazardous substances	PBT / vPvB
CAS-No.	
C18 Fatty acid dimer, tall oil fatty acid,	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
triethylenetetramine polymer	Bioaccumulative (vPvB) criteria.
68082-29-1	
3,6,9-triazaundecamethylenediamine	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
112-57-2	Bioaccumulative (vPvB) criteria.
3,6-diazaoctanethylenediamin	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
112-24-3	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.

Collection and delivery to recycling enterprise or other registered elimination institution.

Disposal of uncleaned packages:

Disposal must be made according to official regulations.

Packaging that cannot be cleaned are to be disposed of in the same manner as the product.

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

2735
2735
2735
2735
2735

14.2. UN proper shipping name

ADR	AMINES, LIQUID, CORROSIVE, N.O.S. (Aliphatic
	amines, Triethylenetetramine, dimer fatty acid(C18) poly amido amine resin)
RID	AMINES, LIQUID, CORROSIVE, N.O.S. (Aliphatic
	amines, Triethylenetetramine, dimer fatty acid(C18) poly amido amine resin)
ADN	AMINES, LIQUID, CORROSIVE, N.O.S. (Aliphatic
	amines, Triethylenetetramine, dimer fatty acid(C18) poly amido amine resin)
IMDG	AMINES, LIQUID, CORROSIVE, N.O.S. (Aliphatic
	amines, Triethylenetetramine, dimer fatty acid(C18) poly amido amine resin)
IATA	Amines, liquid, corrosive, n.o.s. (Aliphatic amines, Triethylenetetramine, dimer fatty
	acid(C18)poly amido amine resin)

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

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:

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.

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.

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.