

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

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SDS No.: 178207

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LOCTITE EA 3430 known as Loctite 3430

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

### 1.1. Product identifier

LOCTITE EA 3430 known as Loctite 3430

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

Intended use:

Epoxy adhesive

### 1.3. Details of the supplier of the safety data sheet

Henkel Ltd

Adhesives

Wood Lane End

HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 (1442) 278000

SDSinfo.Adhesive@henkel.com

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

#### 1.4. Emergency telephone number

24 Hours Emergency Tel: +44 (0)1442 278497

## **SECTION 2: Hazards identification**

### 2.1. Classification of the substance or mixture

### Classification (CLP):

Skin 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 reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular

weight≤700)

Bisphenol-F epichlorhydrin resin; MW<700 Bisphenol A diglycidyl ether polymer

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:** "\*\*\*" \*\*\*For consumer use only: P101 If medical advice is needed, have product

container or label at hand. P102 Keep out of reach of children. P501 Dispose of

contents/container in accordance with national regulation.\*\*\*

**Precautionary statement:** P273 Avoid release to the environment.

**Prevention** P280 Wear protective gloves.

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

**Response** P302+P352 IF ON SKIN: Wash with plenty of soap and water. 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.

Following substances are present in a concentration >= 0.1% and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

This mixture does not contain any substances in concentration ≥ the concentration limit that are assessed to be a PBT, vPvB or ED.

### **SECTION 3: Composition/information on ingredients**

### 3.2. Mixtures

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

Hazardous components CAS-No.	Concentration	Classification	Specific Conc. Limits, M- factors and ATEs	Add. Information
EC Number REACH-Reg No.				
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	20- 40 %	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411 Eye Irrit. 2, H319	Skin Irrit. 2; H315; C >= 5 % Eye Irrit. 2; H319; C >= 5 %	
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5 01-2119454392-40	20- 40 %	Skin Irrit. 2, Dermal, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411		
Bisphenol A diglycidyl ether polymer 25085-99-8	20- 40 %	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411 Eye Irrit. 2, H319		

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

SKIN: Rash, Urticaria.

SKIN: Redness, inflammation.

EYE: Irritation, conjunctivitis.

### 4.3. Indication of any immediate medical attention and special treatment needed

See section: Description of first aid measures

## **SECTION 5: Firefighting measures**

#### 5.1. Extinguishing media

Suitable extinguishing media:

water, carbon dioxide, foam, powder

### Extinguishing media which must not be used for safety reasons:

High pressure waterjet

### 5.2. Special hazards arising from the substance or mixture

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

#### 5.3. Advice for firefighters

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

#### Additional information:

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

### **SECTION 6: Accidental release measures**

#### 6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes.

Wear protective equipment.

Ensure adequate ventilation.

#### 6.2. Environmental precautions

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

#### 6.3. Methods and material for containment and cleaning up

Dispose of contaminated material as waste according to Section 13.

For small spills wipe up with paper towel and place in container for disposal.

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

#### 6.4. Reference to other sections

See advice in section 8

## **SECTION 7: Handling and storage**

#### 7.1. Precautions for safe handling

Avoid skin and eye contact.

See advice in section 8

#### Hygiene measures:

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 a cool, well-ventilated place.

Refer to Technical Data Sheet

#### 7.3. Specific end use(s)

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

# $\label{eq:predicted} \textbf{Predicted No-Effect Concentration (PNEC):}$

Name on list	Environmental Compartment	Exposure period	Value			Remarks	
	•	•	mg/l	ppm	mg/kg	others	
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	aqua (freshwater)		0,003 mg/l				
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	aqua (marine water)		0,0003 mg/l				
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	sewage treatment plant (STP)		10 mg/l				
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	sediment (freshwater)				0,294 mg/kg		
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	sediment (marine water)				0,0294 mg/kg		
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	Soil				0,237 mg/kg		
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	aqua (intermittent releases)		0,0254 mg/l				
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	Air						no hazard identified
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	Predator						no potential for bioaccumulation

# **Derived No-Effect Level (DNEL):**

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	Workers	Inhalation	Long term exposure - systemic effects		29,39 mg/m3	no hazard identified
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	Workers	dermal	Long term exposure - systemic effects		104,15 mg/kg	no hazard identified
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	Workers	dermal	Acute/short term exposure - local effects		0,0083 mg/cm2	no hazard identified
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	General population	Inhalation	Long term exposure - systemic effects		8,7 mg/m3	no hazard identified
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	General population	dermal	Long term exposure - systemic effects		62,5 mg/kg	no hazard identified
Reaction product: bisphenol-F- (epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5	General population	oral	Long term exposure - systemic effects		6,25 mg/kg	no hazard identified

#### **Biological Exposure Indices:**

None

#### 8.2. Exposure controls:

Engineering controls:

Ensure good ventilation/extraction.

Respiratory protection:

Ensure adequate ventilation.

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

ventilated area

Filter type: A (EN 14387)

Hand protection:

Chemical-resistant protective gloves (EN 374).

Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):

nitrile rubber (NBR; >= 0.4 mm thickness)

Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time

as per EN 374):

nitrile rubber (NBR; >= 0.4 mm thickness)

This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:

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

Protective eye equipment should conform to EN166.

Skin protection:

Wear suitable protective clothing.

Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:

The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions. Personal protective equipment should conform to the relevant EN standard.

## **SECTION 9: Physical and chemical properties**

## 9.1. Information on basic physical and chemical properties

 $\begin{array}{lll} \mbox{Physical state} & & \mbox{liquid} \\ \mbox{Delivery form} & & \mbox{liquid} \\ \mbox{Colour} & & \mbox{transparent} \\ \mbox{Odor} & & \mbox{odourless} \\ \mbox{Solidification temperature} & & < 5 \ ^{\circ}\text{C} \ (< 41 \ ^{\circ}\text{F}) \end{array}$ 

Initial boiling point > 250 °C (> 482 °F)no method Flammability The product is not flammable.

Explosive limits Not applicable, The product is not flammable.

Flash point > 100,0 °C (> 212 °F) Auto-ignition temperature > 300 °C (> 572 °F)

Decomposition temperature Currently under determination

pH Not applicable, Product is non-soluble (in water).

Viscosity (kinematic) 18.800 mm2/s

(25 °C (77 °F); )

Viscosity, dynamic 19.000 - 25.000 mPa.s LCT STM 740; cone & plate

(Cone and plate; 25 °C (77 °F); speed of viscosity

rotation: 1 min-1; Shear gradient: 10 s-1)

Solubility (qualitative) Not soluble

(20 °C (68 °F); Solvent: Water)

Partition coefficient: n-octanol/water Currently under determination

Vapour pressure < 1,33 hPa

(21 °C (69.8 °F))

Density 1,17 g/cm3 None

(25 °C (77 °F))

Relative vapour density: > 1

(20 °C)

Particle characteristics

Not applicable

Product is a liquid

### 9.2. Other information

Other information not applicable for this product

### **SECTION 10: Stability and reactivity**

#### 10.1. Reactivity

Reaction with strong acids. Reacts with strong oxidants.

#### 10.2. Chemical stability

Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

See section reactivity

#### 10.4. Conditions to avoid

Stable under normal conditions of storage and use.

#### 10.5. Incompatible materials

See section reactivity.

## 10.6. Hazardous decomposition products

carbon oxides.

## **SECTION 11: Toxicological information**

#### 1.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

### Acute oral toxicity:

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

Hazardous substances	Value	Value	Species	Method
CAS-No.	type			
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)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	LD50	> 5.000 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
Bisphenol A diglycidyl ether polymer 25085-99-8	LD50	> 2.000 mg/kg	rat	not specified

### 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			
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)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	LD50	> 2.000 mg/kg	rat	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
Bisphenol A diglycidyl ether polymer 25085-99-8	LD50	> 2.000 mg/kg	rabbit	not specified

### 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		
reaction product:	not irritating	4 h	rabbit	not specified
bisphenol-A-				
(epichlorhydrin); epoxy				
resin (number average				
molecular weight≤700)				
25068-38-6				
Bisphenol-F	irritating	4 h	rabbit	equivalent or similar to OECD Guideline 404 (Acute
epichlorhydrin resin;				Dermal Irritation / Corrosion)
MW<700				
9003-36-5				

# 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)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	not irritating		rabbit	equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion)

### Respiratory or skin sensitization:

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

Hazardous substances	Result	Test type	Species	Method
CAS-No.				
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				
Bisphenol-F	sensitising	Mouse local lymphnode	mouse	OECD Guideline 429 (Skin Sensitisation:
epichlorhydrin resin;		assay (LLNA)		Local Lymph Node Assay)
MW<700				
9003-36-5				

### 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 /	Metabolic	Species	Method
CAS-No.		Route of	activation /		
		administration	Exposure time		
reaction product:	negative	bacterial reverse	with and without		OECD Guideline 472 (Genetic
bisphenol-A-		mutation assay (e.g			Toxicology: Escherichia coli,
(epichlorhydrin); epoxy		Ames test)			Reverse Mutation Assay)
resin (number average					-
molecular weight≤700)					
25068-38-6					
Bisphenol-F	positive	bacterial reverse	with and without		OECD Guideline 471
epichlorhydrin resin;		mutation assay (e.g			(Bacterial Reverse Mutation
MW<700		Ames test)			Assay)
9003-36-5					

## 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		
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	NOAEL P >= $50 \text{ mg/kg}$ NOAEL F1 >= $750 \text{ mg/kg}$ NOAEL F2 >= $750 \text{ mg/kg}$	Two generation study	oral: gavage	rat	OECD Guideline 416 (Two- Generation Reproduction Toxicity Study)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	NOAEL P > 750 mg/kg NOAEL F1 750 mg/kg NOAEL F2 750 mg/kg	two- generation study	oral: gavage	rat	OECD Guideline 416 (Two- Generation Reproduction Toxicity Study)

### 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)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	NOAEL 250 mg/kg	oral: gavage	13 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

### Aspiration hazard:

No data available.

### 11.2 Information on other hazards

not applicable

## **SECTION 12: Ecological information**

### General ecological information:

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

### 12.1. Toxicity

### **Toxicity (Fish):**

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

Hazardous substances	Value	Value	Exposure time	Species	Method
CAS-No.	type				
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)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	LC50	5,7 mg/l	96 h	Leuciscus idus	OECD Guideline 203 (Fish, Acute Toxicity Test)
Bisphenol A diglycidyl ether polymer 25085-99-8	LC50	2 mg/l	96 h	not specified	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	Value	Value	Exposure time	Species	Method
CAS-No.	type				
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	EC50	1,7 mg/l	48 h	1	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	EC50	2,55 mg/l	48 h	1	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Bisphenol A diglycidyl ether polymer 25085-99-8	EC50	2 mg/l	48 h	1	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	Value	Exposure time	Species	Method
0120 1101	type NOEC	0,3 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	NOEC	0,3 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Bisphenol A diglycidyl ether polymer 25085-99-8	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	Value	Value	Exposure time	Species	Method
CAS-No.	type				
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)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	EC50	1,8 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Bisphenol A diglycidyl ether polymer 25085-99-8	EC50	> 11 mg/l	72 h	not specified	OECD Guideline 201 (Alga, Growth Inhibition Test)
Bisphenol A diglycidyl ether polymer 25085-99-8	NOEC	4,2 mg/l	72 h	not specified	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
CAS-No.	type				
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:
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	IC50	> 100 mg/l	3 h	activated sludge, industrial	other guideline:

## 12.2. Persistence and degradability

Hazardous substances	Result	Test type	Degradability	Exposure	Method
CAS-No.				time	
reaction product: bisphenol-A-	not readily biodegradable.	aerobic	5 %	28 d	OECD Guideline 301 F (Ready
(epichlorhydrin); epoxy resin					Biodegradability: Manometric
(number average molecular					Respirometry Test)
weight≤700)					
25068-38-6					
Bisphenol-F epichlorhydrin	not readily biodegradable.	aerobic	0 %	28 d	OECD Guideline 301 D (Ready
resin; MW<700					Biodegradability: Closed Bottle
9003-36-5					Test)
Bisphenol A diglycidyl ether	not readily biodegradable.	aerobic	5 %	28 d	OECD Guideline 301 F (Ready
polymer					Biodegradability: Manometric
25085-99-8					Respirometry Test)

## 12.3. Bioaccumulative potential

No data available.

## 12.4. Mobility in soil

Hazardous substances	LogPow	Temperature	Method
CAS-No.			
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)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	2,7 - 3,6		OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC 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≤700)	
25068-38-6	
Bisphenol-F epichlorhydrin resin; MW<700	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
9003-36-5	Bioaccumulative (vPvB) criteria.

### 12.6. Endocrine disrupting properties

not applicable

#### 12.7. Other adverse effects

No data available.

## **SECTION 13: Disposal considerations**

### 13.1. Waste treatment methods

Product disposal:

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

Dispose of in accordance with local and national regulations.

#### Disposal of uncleaned packages:

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

## Waste code

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

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

### **SECTION 14: Transport information**

### 14.1. UN number or ID number

ADR	3082
RID	3082
ADN	3082
IMDG	3082
IATA	3082

## 14.2. UN proper shipping name

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

resin, Bisphenol-A Epichlorhydrin resin)

### 14.3. Transport hazard class(es)

ADR	9
RID	ç
ADN	ç
IMDG	9
IATA	9

### 14.4. Packing group

ADR	III
RID	III
ADN	III
IMDG	III
ΙΔΤΔ	Ш

#### 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), A197 (IATA), 2.10.2.7 (IMDG) may be applied, which can result in a deviation from the transport classification for packed goods.

### 14.7. Maritime transport in bulk according to IMO instruments

not applicable

### **SECTION 15: Regulatory information**

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

Ozone Depleting Substance (ODS) (Regulation (EC) No 1005/2009): Not applicable Prior Informed Consent (PIC) (Regulation (EU) No 649/2012): Not applicable Persistent organic pollutants (Regulation (EU) 2019/1021): Not applicable

VOC content < 3,00 %

(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:

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.

ED: Substance identified as having endocrine disrupting properties

EU OEL:

Substance with a Union workplace exposure limit

EU EXPLD 1:

Substance listed in Annex I, Reg (EC) No. 2019/1148

EU EXPLD 2

Substance listed in Annex II, Reg (EC) No. 2019/1148

SVHC:

Substance of very high concern (REACH Candidate List)

PBT:

Substance fulfilling persistent, bioaccumulative and toxic criteria

PBT/vPvB: Substance fulfilling persistent, bioaccumulative and toxic plus very persistent and very

bioaccumulative criteria

vPvB: Substance fulfilling very persistent and very bioaccumulative criteria

#### **Further information:**

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This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

#### Dear Customer,

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

Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.



# Safety Data Sheet according to (EC) No 1907/2006 as amended Page 1 of 21

SDS No.: 205861 V004.2

Revision: 25.10.2022

printing date: 28.11.2022

Replaces version from: 18.08.2022

# LOCTITE EA 3430 known as Loctite 3430

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

#### 1.1. Product identifier

LOCTITE EA 3430 known as Loctite 3430

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

Intended use: Epoxy Hardener

#### 1.3. Details of the supplier of the safety data sheet

Henkel Ltd Adhesives Wood Lane End

HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 (1442) 278000

ua-productsafety.uk@henkel.com

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

### 1.4. Emergency telephone number

24 Hours Emergency Tel: +44 (0)1442 278497

## **SECTION 2: Hazards identification**

#### 2.1. Classification of the substance or mixture

### Classification (CLP):

Acute toxicity Category 4

H302 Harmful if swallowed. Route of Exposure: Oral

Skin corrosion Sub-category 1A

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.

Chronic hazards to the aquatic environment Category 2

H411 Toxic to aquatic life with long lasting effects.

#### 2.2. Label elements

#### Label elements (CLP):

Hazard pictogram:



**Contains** 2,2'-[1,2-ethanediylbis(oxy)]bis(ethanethiol)

3,3'-Oxybis(ethyleneoxy)bis(propylamine)

N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular

weight≤700)

Signal word: Danger

Hazard statement: H302 Harmful if swallowed.

> H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction.

H411 Toxic to aquatic life with long lasting effects.

"\*\*\*" \*\*\*For consumer use only: P101 If medical advice is needed, have product **Precautionary statement:** 

container or label at hand. P102 Keep out of reach of children. P501 Dispose of

contents/container in accordance with national regulation.\*\*\*

P273 Avoid release to the environment. **Precautionary statement:** 

Prevention P280 Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. **Precautionary statement:** Response

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.

### 2.3. Other hazards

None if used properly.

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

Following substances are present in a concentration >= 0,1% and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

This mixture does not contain any substances in concentration ≥ the concentration limit that are assessed to be a PBT, vPvB or ED.

### **SECTION 3: Composition/information on ingredients**

#### 3.2. Mixtures

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

Hazardous components CAS-No. EC Number	Concentration	Classification	Specific Conc. Limits, M- factors and ATEs	Add. Information
REACH-Reg No.  2,2'-[1,2- ethanediylbis(oxy)]bis(ethanethio 1)  14970-87-7  239-044-2  01-2120768482-47	10- 20 %	Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Acute Tox. 3, Oral, H301 Acute Tox. 4, Inhalation, H332	M acute = 1 M chronic = 1	
3,3'- Oxybis(ethyleneoxy)bis(propyla mine) 4246-51-9 224-207-2 01-2119963377-26	5- < 10 %	Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317	dermal:ATE = 2.500 mg/kg	
N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine 10563-29-8 234-148-4 01-2119970376-29	5-< 10 %	Acute Tox. 4, Oral, H302 Skin Corr. 1A, H314 Skin Sens. 1B, H317		
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	1-< 5 %	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411 Eye Irrit. 2, H319	Skin Irrit. 2; H315; C >= 5 % Eye Irrit. 2; H319; C >= 5 %	
Benzyldimethylamine 103-83-3 203-149-1 01-2119529232-48	0,1-< 1 %	Acute Tox. 4, Dermal, H312 Skin Corr. 1B, H314 Flam. Liq. 3, H226 Aquatic Chronic 2, H411 Acute Tox. 4, Oral, H302 Acute Tox. 3, Inhalation, H331		

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

SKIN: Rash, Urticaria.

INGESTION: Nausea, vomiting, diarrhea, abdominal pain.

Causes burns.

#### 4.3. Indication of any immediate medical attention and special treatment needed

See section: Description of first aid measures

### **SECTION 5: Firefighting measures**

#### 5.1. Extinguishing media

#### Suitable extinguishing media:

water, carbon dioxide, foam, powder

### Extinguishing media which must not be used for safety reasons:

High pressure waterjet

#### 5.2. Special hazards arising from the substance or mixture

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

### 5.3. Advice for firefighters

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

#### **Additional information:**

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

### **SECTION 6: Accidental release measures**

#### 6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes.

Wear protective equipment.

Ensure adequate ventilation.

Keep away from sources of ignition.

### 6.2. Environmental precautions

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

#### 6.3. Methods and material for containment and cleaning up

Dispose of contaminated material as waste according to Section 13.

For small spills wipe up with paper towel and place in container for disposal.

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

#### 6.4. Reference to other sections

See advice in section 8

## **SECTION 7: Handling and storage**

#### 7.1. Precautions for safe handling

Avoid skin and eye contact.

See advice in section 8

#### Hygiene measures:

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.

Store in a cool, well-ventilated place.

Refer to Technical Data Sheet

#### 7.3. Specific end use(s)

Epoxy Hardener

# **SECTION 8: Exposure controls/personal protection**

## 8.1. Control parameters

## **Occupational Exposure Limits**

Valid for

Great Britain

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	
2,2'-[1,2-Ethanediylbis(oxy)]bis(ethanethiol)	aqua		0,00076	FF			
14970-87-7	(freshwater)		mg/l				
2,2'-[1,2-Ethanediylbis(oxy)]bis(ethanethiol)	aqua (marine		0,000076				
14970-87-7 2,2'-[1,2-Ethanediylbis(oxy)]bis(ethanethiol)	water)		mg/l				
2,2-[1,2-Ethanediyibis(0xy)]bis(ethanethioi)	sewage treatment plant		6,74 mg/l				
14570 07 7	(STP)						
2,2'-[1,2-Ethanediylbis(oxy)]bis(ethanethiol)	sediment				0,0047		
14970-87-7	(freshwater)				mg/kg		
2,2'-[1,2-Ethanediylbis(oxy)]bis(ethanethiol)	sediment				0,00047		
14970-87-7 2,2'-[1,2-Ethanediylbis(oxy)]bis(ethanethiol)	(marine water)				mg/kg 0,0005		
2,2-[1,2-Ethanediyibis(0xy)]bis(ethanethioi)	5011				mg/kg		
2,2'-[1,2-Ethanediylbis(oxy)]bis(ethanethiol)	aqua		0.0076		mg/kg		
14970-87-7	(intermittent		mg/l				
	releases)						
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	aqua		0,22 mg/l				
4246-51-9 3,3'-Oxybis(ethyleneoxy)bis(propylamine)	(freshwater) agua (marine		0,022 mg/l	1	_		+
4246-51-9	water)		0,022 IIIg/I				
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	aqua		2,2 mg/l				
4246-51-9	(intermittent		, 8				
	releases)						
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	sewage		125 mg/l				
4246-51-9	treatment plant (STP)						
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	sediment				1,1 mg/kg		
4246-51-9	(freshwater)				1,1 mg/kg		
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	sediment				0,11 mg/kg		
4246-51-9	(marine water)						
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Soil				0,091		
4246-51-9 N'-(3-Aminopropyl)-N,N-dimethylpropane-	0.000		0.2		mg/kg		
1,3-diamine	aqua (freshwater)		9,2 μg/l				
10563-29-8	(======						
N'-(3-Aminopropyl)-N,N-dimethylpropane-	aqua (marine		0,92 µg/l				
1,3-diamine	water)						
N'-(3-Aminopropyl)-N,N-dimethylpropane-	o gua		92 μg/l				
1,3-diamine	aqua (intermittent		92 μg/1				
10563-29-8	releases)						
N'-(3-Aminopropyl)-N,N-dimethylpropane-	Sewage		18,1 mg/l				
1,3-diamine	treatment plant						
N'-(3-Aminopropyl)-N,N-dimethylpropane-	sediment				0,0336		
1,3-diamine	(freshwater)				mg/kg		
10563-29-8	(II esii water)						
N'-(3-Aminopropyl)-N,N-dimethylpropane-	sediment				0,00336		
1,3-diamine	(marine water)				mg/kg		
N'-(3-Aminopropyl)-N,N-dimethylpropane-	Soil				0,00132		
1,3-diamine	3011				mg/kg		
10563-29-8					88		
Benzyldimethylamine	aqua		0,0048				
103-83-3	(freshwater)		mg/l	1			
Benzyldimethylamine 103-83-3	aqua (marine water)		0,00048 mg/l				
Benzyldimethylamine	aqua		0,0134				
103-83-3	(intermittent		mg/l				
	releases)		Ŭ				
Benzyldimethylamine	sewage		534 mg/l				
103-83-3	treatment plant						
Benzyldimethylamine	(STP) sediment		+		0,071	-	
103-83-3	(freshwater)				mg/kg		
Benzyldimethylamine	sediment				0,0071		
103-83-3	(marine water)				mg/kg		
Benzyldimethylamine	Soil				0,0114		

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103-83-3		mg/kg	

## **Derived No-Effect Level (DNEL):**

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
2,2'-[1,2-Ethanediylbis(oxy)]bis(ethanethiol) 14970-87-7	Workers	inhalation	Long term exposure - systemic effects		1,23 mg/m3	
2,2'-[1,2-Ethanediylbis(oxy)]bis(ethanethiol) 14970-87-7	Workers	dermal	Long term exposure - systemic effects		1,75 mg/kg	
2,2'-[1,2-Ethanediylbis(oxy)]bis(ethanethiol) 14970-87-7	General population	inhalation	Long term exposure - systemic effects		0,22 mg/m3	
2,2'-[1,2-Ethanediylbis(oxy)]bis(ethanethiol) 14970-87-7	General population	oral	Long term exposure - systemic effects		0,125 mg/kg	
2,2'-[1,2-Ethanediylbis(oxy)]bis(ethanethiol) 14970-87-7	General population	dermal	Long term exposure - systemic effects		0,625 mg/kg	
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	Workers	inhalation	Long term exposure - systemic effects		59 mg/m3	
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	Workers	inhalation	Acute/short term exposure - systemic effects		176 mg/m3	
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	Workers	inhalation	Long term exposure - local effects		13 mg/m3	
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	Workers	dermal	Long term exposure - systemic effects		8,3 mg/kg	
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	General population	inhalation	Long term exposure - systemic effects		17 mg/m3	
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	General population	inhalation	Acute/short term exposure - systemic effects		52 mg/m3	
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	General population	inhalation	Long term exposure - local effects		0,5 mg/m3	
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	General population	inhalation	Acute/short term exposure - local effects		6,5 mg/m3	
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	General population	dermal	Long term exposure - systemic effects		5 mg/kg	
3,3'-Oxybis(ethyleneoxy)bis(propylamine) 4246-51-9	General population	oral	Long term exposure - systemic effects		5 mg/kg	
N'-(3-Aminopropyl)-N,N-dimethylpropane- 1,3-diamine 10563-29-8	Workers	inhalation	Long term exposure - systemic effects		0,35 mg/m3	
N'-(3-Aminopropyl)-N,N-dimethylpropane- 1,3-diamine 10563-29-8	Workers	dermal	Long term exposure - systemic effects		0,05 mg/kg	
N'-(3-Aminopropyl)-N,N-dimethylpropane- 1,3-diamine 10563-29-8	General population	inhalation	Long term exposure - systemic effects		0,65 mg/m3	
N'-(3-Aminopropyl)-N,N-dimethylpropane- 1,3-diamine 10563-29-8	General population	oral	Long term exposure - systemic effects		0,2 mg/kg	
Benzyldimethylamine 103-83-3	Workers	dermal	Long term exposure - systemic effects		2,3 mg/kg	
Benzyldimethylamine 103-83-3	Workers	inhalation	Long term exposure - systemic effects		14,6 mg/m3	
Benzyldimethylamine 103-83-3	Workers	inhalation	Long term exposure - local effects		1 mg/m3	
Benzyldimethylamine 103-83-3	General population	dermal	Long term exposure - systemic effects		1,25 mg/kg	

Benzyldimethylamine 103-83-3	General population	oral	Long term exposure - systemic effects	1,25 mg/kg	
Benzyldimethylamine 103-83-3	General population	inhalation	Long term exposure - systemic effects	43,75 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

Physical state liquid
Delivery form liquid
Colour Clear
Odor characteristic
Solidification temperature <5 °C (<41 °F)

Initial boiling point > 230 °C (> 446 °F)no method Flammability The product is not flammable.

Explosive limits Not applicable, The product is not flammable.

Flash point > 100,0 °C (> 212 °F); no method

Auto-ignition temperature  $> 224 \,^{\circ}\text{C} \, (> 435.2 \,^{\circ}\text{F})$ 

Decomposition temperature

pН

(25 °C (77 °F); Conc.: 100 g/l)

Viscosity (kinematic) (25 °C (77 °F); )

Viscosity, dynamic

(Cone and plate; 25 °C (77 °F); Shear

gradient: 10 s-1)

Solubility (qualitative) (Solvent: Acetone)

Solubility (qualitative)

(20 °C (68 °F); Solvent: Water) Partition coefficient: n-octanol/water

Vapour pressure (21 °C (69.8 °F))

Density

(25 °C (77 °F))

Relative vapour density:

(20 °C)

Particle characteristics

Currently under determination

9,1

20.000 mm2/s

19.000 - 26.000 mPa.s LCT STM 740; cone & plate

viscosity

Soluble

Partially soluble

Currently under determination

< 700 mbar;no method

1,1 g/cm3 None

> 1

Not applicable Product is a liquid

#### 9.2. Other information

Other information not applicable for this product

## **SECTION 10: Stability and reactivity**

#### 10.1. Reactivity

Reacts with strong oxidants.

Acids.

Reaction with strong acids.

Strong bases.

### 10.2. Chemical stability

Stable under recommended storage conditions.

#### 10.3. Possibility of hazardous reactions

See section reactivity

### 10.4. Conditions to avoid

Stable under normal conditions of storage and use.

#### 10.5. Incompatible materials

See section reactivity.

### 10.6. Hazardous decomposition products

carbon oxides.

Rapid polymerisation may generate excessive heat and pressure.

May produce fumes when heated to decomposition. Fumes may contain carbon monoxide and other toxic fumes.

# **SECTION 11: Toxicological information**

### 1.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

## Acute oral toxicity:

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

Hazardous substances	Value	Value	Species	Method
CAS-No.	type			
2,2'-[1,2-	LD50	> 50 - 300	rat	OECD Guideline 423 (Acute Oral toxicity)
ethanediylbis(oxy)]bis(eth		mg/kg		
anethiol)				
14970-87-7				
3,3'-	LD50	3.160 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Oxybis(ethyleneoxy)bis(p				-
ropylamine)				
4246-51-9				
N'-(3-Aminopropyl)-N,N-	LD50	1.669 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
dimethylpropane-1,3-				
diamine				
10563-29-8				
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				
Benzyldimethylamine	LD50	353 mg/kg	rat	equivalent or similar to OECD Guideline 401 (Acute Oral
103-83-3				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
2,2'-[1,2- ethanediylbis(oxy)]bis(eth anethiol) 14970-87-7	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
3,3'- Oxybis(ethyleneoxy)bis(p ropylamine) 4246-51-9	Acute toxicity estimate (ATE)	2.500 mg/kg		Expert judgement
3,3'- Oxybis(ethyleneoxy)bis(p ropylamine) 4246-51-9	LD50	> 2.150 mg/kg	rat	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
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)
Benzyldimethylamine 103-83-3	LD50	1.477 mg/kg	rabbit	not specified

### Acute inhalative toxicity:

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

Hazardous substances	Value	Value	Test atmosphere	Exposure	Species	Method
CAS-No.	type			time		
2,2'-[1,2-	LC50	1,34 mg/l	dust/mist	4 h	rat	not specified
ethanediylbis(oxy)]bis(eth						
anethiol)						
14970-87-7						
Benzyldimethylamine	LC50	2,052 mg/l	vapour	4 h	rat	not specified
103-83-3			•			

#### 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
3,3'- Oxybis(ethyleneoxy)bis(p ropylamine) 4246-51-9	corrosive		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	not irritating	4 h	rabbit	not specified

### Serious eye damage/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		
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.				
2,2'-[1,2-	not sensitising	Guinea pig maximisation	guinea pig	OECD Guideline 406 (Skin Sensitisation)
ethanediylbis(oxy)]bis(eth		test		
anethiol)				
14970-87-7				
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				

## 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
3,3'- Oxybis(ethyleneoxy)bis(p ropylamine) 4246-51-9	negative	in vitro mammalian cell micronucleus test	with and without		OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
3,3'- Oxybis(ethyleneoxy)bis(p ropylamine) 4246-51-9	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
3,3'- Oxybis(ethyleneoxy)bis(p ropylamine) 4246-51-9	negative	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)

### 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 CAS-No.	Result / Value	Test type	Route of application	Species	Method
3,3'- Oxybis(ethyleneoxy)bis(p ropylamine) 4246-51-9	NOAEL P 600 mg/kg	screening	oral: gavage	rat	OECD Combined Repeated Dose and Reproductive / Developmental Toxicity Screening Test (Precursor Protocol of GL 422)
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)

### 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	Species	Method
		11	treatment		
3,3'- Oxybis(ethyleneoxy)bis(p ropylamine) 4246-51-9	NOAEL < 100 mg/kg	oral: gavage	59 days daily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
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)

## Aspiration hazard:

No data available.

### 11.2 Information on other hazards

not applicable

# **SECTION 12: Ecological information**

### General ecological information:

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

### 12.1. Toxicity

### Toxicity (Fish):

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

Hazardous substances	Value	Value	Exposure time	Species	Method
CAS-No.	type				
ethanediylbis(oxy)]bis(ethanet	LC50	5,7 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
hiol) 14970-87-7					
3,3'- Oxybis(ethyleneoxy)bis(propy lamine) 4246-51-9	LC50	> 215 - 464 mg/l	96 h	Leuciscus idus	DIN 38412-15
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)
Benzyldimethylamine 103-83-3	LC50	37,8 mg/l	96 h	Pimephales promelas	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	Value	Value	Exposure time	Species	Method
CAS-No.	type				
2,2'-[1,2- ethanediylbis(oxy)]bis(ethanet hiol) 14970-87-7	EC50	0,76 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
3,3'- Oxybis(ethyleneoxy)bis(propy lamine) 4246-51-9	EC50	218 mg/l	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)
N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine 10563-29-8	EC50	9,2 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
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)
Benzyldimethylamine 103-83-3	EC50	> 100 mg/l	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)

### 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				
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)
Benzyldimethylamine 103-83-3	NOEC	0,789 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	Value	Value	Exposure time	Species	Method
CAS-No.	type			_	
2,2'-[1,2- ethanediylbis(oxy)]bis(ethanet hiol)	EC50	3,11 mg/l	96 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
14970-87-7 2,2'-[1,2- ethanediylbis(oxy)]bis(ethanet hiol) 14970-87-7	EC10	0,51 mg/l	96 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
3,3'- Oxybis(ethyleneoxy)bis(propy lamine) 4246-51-9	EC50	666 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	DIN 38412-09
Oxybis(ethyleneoxy)bis(propy lamine) 4246-51-9	NOEC	15,6 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	DIN 38412-09
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)
Benzyldimethylamine 103-83-3	EC50	1,34 mg/l	72 h	Desmodesmus subspicatus (reported as Scenedesmus subspicatus)	EU Method C.3 (Algal Inhibition test)
Benzyldimethylamine 103-83-3	NOEC	0,24 mg/l	72 h	Desmodesmus subspicatus (reported as Scenedesmus subspicatus)	EU Method C.3 (Algal 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
CAS-No.  2,2'-[1,2- ethanediylbis(oxy)]bis(ethanet hiol) 14970-87-7	EC50	772,1 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
3,3'- Oxybis(ethyleneoxy)bis(propy lamine) 4246-51-9	EC10	152,5 mg/l	17 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm- 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:
Benzyldimethylamine 103-83-3	EC10	534 mg/l	17 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm- Test)

## 12.2. Persistence and degradability

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
2,2'-[1,2- ethanediylbis(oxy)]bis(ethanet hiol) 14970-87-7	not readily biodegradable.	aerobic	< 10 %	28 d	OECD Guideline 301 A (new version) (Ready Biodegradability: DOC Die Away Test)
3,3'- Oxybis(ethyleneoxy)bis(propy lamine) 4246-51-9	not inherently biodegradable	aerobic	< 20 %	28 d	OECD Guideline 302 B (Inherent biodegradability: Zahn- Wellens/EMPA Test)
3,3'- Oxybis(ethyleneoxy)bis(propy lamine) 4246-51-9	not readily biodegradable.	aerobic	0 %	60 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine 10563-29-8	readily biodegradable		100 %	28 d	OECD Guideline 301 A (new version) (Ready Biodegradability: DOC Die Away 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)
Benzyldimethylamine 103-83-3	not readily biodegradable.	aerobic	0 - 2 %	28 d	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))

# 12.3. Bioaccumulative potential

Hazardous substances CAS-No.	Bioconcentratio n factor (BCF)	Exposure time	Temperature	Species	Method
Benzyldimethylamine 103-83-3	> 2,1 - 22	42 d		Cyprinus carpio	OECD Guideline 305 C (Bioaccumulation: Test for the
103 03 3					Degree of Bioconcentration in
					Fish)

# 12.4. Mobility in soil

Hazardous substances	LogPow	Temperature	Method
CAS-No.			
2,2'-[1,2- ethanediylbis(oxy)]bis(ethanet	1,66	55 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
hiol) 14970-87-7			Includy .
3,3'- Oxybis(ethyleneoxy)bis(propy lamine) 4246-51-9	-1,25	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-diamine 10563-29-8	-0,47	25 °C	other (calculated)
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)
Benzyldimethylamine 103-83-3	1,98		EU Method A.8 (Partition Coefficient)

### 12.5. Results of PBT and vPvB assessment

Hazardous substances	PBT / vPvB
CAS-No.	
2,2'-[1,2-ethanediylbis(oxy)]bis(ethanethiol)	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
14970-87-7	Bioaccumulative (vPvB) criteria.
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
4246-51-9	Bioaccumulative (vPvB) criteria.
N'-(3-Aminopropyl)-N,N-dimethylpropane-1,3-	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
diamine	Bioaccumulative (vPvB) criteria.
10563-29-8	
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≤700)	
25068-38-6	
Benzyldimethylamine	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very
103-83-3	Bioaccumulative (vPvB) criteria.

### 12.6. Endocrine disrupting properties

not applicable

### 12.7. Other adverse effects

No data available.

## **SECTION 13: Disposal considerations**

### 13.1. Waste treatment methods

Product disposal:

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

Dispose of in accordance with local and national regulations.

Disposal of uncleaned packages:

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

### Waste code

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

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

## **SECTION 14: Transport information**

### 14.1. UN number or ID number

ADR	2735
RID	2735
ADN	2735
IMDG	2735
IATA	2735

# 14.2. UN proper shipping name

ADR AMINES, LIQUID, CORROSIVE, N.O.S. (N,N'-Dimethyldipropyltriamine,3,3'-

oxybis(ethyleneoxy)bis(propylamine))

RID AMINES, LIQUID, CORROSIVE, N.O.S. (N,N'-Dimethyldipropyltriamine,3,3'-

oxybis(ethyleneoxy)bis(propylamine))

ADN AMINES, LIQUID, CORROSIVE, N.O.S. (N,N'-Dimethyldipropyltriamine,3,3'-

oxybis(ethyleneoxy)bis(propylamine))

IMDG AMINES, LIQUID, CORROSIVE, N.O.S. (N,N'-Dimethyldipropyltriamine,3,3'-

oxybis(ethyleneoxy)bis(propylamine),2,2'-[1,2-Ethanediylbis(oxy)]bis(ethanethiol))

IATA Amines, liquid, corrosive, n.o.s. (N,N'-Dimethyldipropyltriamine,3,3'-

oxybis(ethyleneoxy)bis(propylamine))

### 14.3. Transport hazard class(es)

ADR	8
RID	8
ADN	8
IMDG	8
IATA	8

### 14.4. Packing group

ADR	II
RID	II
ADN	II
IMDG	II
IATA	II

### 14.5. Environmental hazards

ADR	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. Maritime transport in bulk according to IMO instruments

not applicable

## **SECTION 15: Regulatory information**

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

Ozone Depleting Substance (ODS) (Regulation (EC) No 1005/2009): Not applicable Prior Informed Consent (PIC) (Regulation (EU) No 649/2012): Not applicable Persistent organic pollutants (Regulation (EU) 2019/1021): Not applicable

VOC content < 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:

H226 Flammable liquid and vapour.

H301 Toxic if swallowed.

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

H332 Harmful if inhaled.

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.

ED: Substance identified as having endocrine disrupting properties

EU OEL:

EU EXPLD 1:

Substance with a Union workplace exposure limit

EU EXPLD 1:

Substance listed in Annex I, Reg (EC) No. 2019/1148

EU EXPLD 2

Substance listed in Annex II, Reg (EC) No. 2019/1148

SVHC:

Substance of very high concern (REACH Candidate List)

PBT:

Substance fulfilling persistent, bioaccumulative and toxic criteria

PBT/vPvB: Substance fulfilling persistent, bioaccumulative and toxic plus very persistent and very

bioaccumulative criteria

vPvB: Substance fulfilling very persistent and very bioaccumulative criteria

#### **Further information:**

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