



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

Page 1 of 16

LOCTITE PC 7229 known as 7229 PNEU W/COMP 10KG DE GB

SDS No. : 178311
V003.0

Revision: 07.02.2020

printing date: 04.04.2021

Replaces version from: 27.03.2019

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

1.1. Product identifier

LOCTITE PC 7229 known as 7229 PNEU W/COMP 10KG DE GB

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

Intended use:

Epoxy resin

1.3. Details of the supplier of the safety data sheet

Henkel AG & Co. KGaA

Henkelstr. 67

40589 Düsseldorf

Germany

Phone: +49 211 797 0

Fax-no.: +49 211 798 2009

ua-productsafety.de@henkel.com

1.4. Emergency telephone number

The Henkel information service also provides an around-the-clock telephone service on phone no.+49-(0)211-797-3350 for exceptional cases.

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 3
H412 Harmful 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 \leq 700)

Bisphenol-F epichlorhydrin resin; MW<700
Oxirane, [[(2-ethylhexyl)oxy]methyl]-

Signal word:	Warning
Hazard statement:	H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H412 Harmful 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

General chemical description:

Part A of two part adhesive

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

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	01-2119456619-26	10- 20 %	Skin Irrit. 2 H315 Skin Sens. 1 H317 Eye Irrit. 2 H319 Aquatic Chronic 2 H411
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	01-2119454392-40	10- 20 %	Skin Irrit. 2; Dermal H315 Skin Sens. 1A H317 Aquatic Chronic 2 H411
Oxirane, [[(2-ethylhexyl)oxy]methyl]- 2461-15-6	219-553-6 01-2119962196-31	1- < 5 %	Skin Sens. 1 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:

Rinse with running water and soap.

Obtain medical attention if irritation persists.

Eye contact:

Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.

Ingestion:

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

4.2. Most important symptoms and effects, both acute and delayed

EYE: Irritation, conjunctivitis.

SKIN: Rash, Urticaria.

SKIN: Redness, inflammation.

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

See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Carbon dioxide, foam, powder

Extinguishing media which must not be used for safety reasons:

None known

5.2. Special hazards arising from the substance or mixture

Oxides of carbon, oxides of nitrogen, irritating organic vapors.

Sulphur oxides

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.

Ensure adequate ventilation.

Wear protective equipment.

6.2. Environmental precautions

Do not let product enter drains.

6.3. Methods and material for containment and cleaning up

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

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

Dispose of contaminated material as waste according to Section 13.

6.4. Reference to other sections

See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Use only in well-ventilated areas.

Avoid skin and eye contact.

Prolonged or repeated skin contact should be avoided to minimise any risk of sensitisation.

See advice in section 8

Hygiene measures:

- 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 only in the original container.
- Protect against contamination.
- Store in a cool, well-ventilated place.
- Refer to Technical Data Sheet

7.3. Specific end use(s)

Epoxy resin

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational Exposure Limits**

Valid for
Germany

Ingredient [Regulated substance]	ppm	mg/m ³	Value type	Short term exposure limit category / Remarks	Regulatory list
Aluminium oxide 1344-28-1			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Aluminium oxide 1344-28-1		10	Exposure limit(s):	2	TRGS 900
Aluminium oxide 1344-28-1		1,25	Exposure limit(s):		TRGS 900
Silicon carbide 409-21-2			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Silicon carbide 409-21-2		10	Exposure limit(s):	2	TRGS 900
Silicon carbide 409-21-2		1,25	Exposure limit(s):		TRGS 900

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
reaction product: bisphenol-A- (epichlorhydrin) 25068-38-6	aqua (freshwater)		0,006 mg/l				
reaction product: bisphenol-A- (epichlorhydrin) 25068-38-6	aqua (marine water)		0,001 mg/l				
reaction product: bisphenol-A- (epichlorhydrin) 25068-38-6	sewage treatment plant (STP)		10 mg/l				
reaction product: bisphenol-A- (epichlorhydrin) 25068-38-6	sediment (freshwater)				0,341 mg/kg		
reaction product: bisphenol-A- (epichlorhydrin) 25068-38-6	sediment (marine water)				0,034 mg/kg		
reaction product: bisphenol-A- (epichlorhydrin) 25068-38-6	Soil				0,065 mg/kg		
reaction product: bisphenol-A- (epichlorhydrin) 25068-38-6	oral				11 mg/kg		
reaction product: bisphenol-A- (epichlorhydrin) 25068-38-6	aqua (intermittent releases)		0,018 mg/l				
Reaction product: bisphenol-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-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	
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	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	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	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	oral	Long term exposure - systemic effects		6,25 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		8,3 µg/cm2	no hazard identified

Biological Exposure Indices:

Ingredient [Regulated substance]	Parameters	Biological specimen	Sampling time	Conc.	Basis of biol. exposure index	Remark	Additional Information
Aluminium oxide 1344-28-1	Aluminum	Urine	Sampling time: End of shift.	200 µg/l	DE BAT		

8.2. Exposure controls:

Engineering controls:
Ensure good ventilation/extraction.

Respiratory protection:

Ensure adequate ventilation.

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

Filter type: A (EN 14387)

Hand protection:

Chemical-resistant protective gloves (EN 374).

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

nitrile rubber (NBR; >= 0.4 mm thickness)

Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):

nitrile rubber (NBR; >= 0.4 mm thickness)

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

Eye protection:

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

Protective eye equipment should conform to EN166.

Skin protection:

Wear suitable protective clothing.

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

Advices to personal protection equipment:

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	paste paste, solid grey
Odor	mild
Odour threshold	No data available / Not applicable
pH	No data available / Not applicable
Melting point	No data available / Not applicable
Solidification temperature	No data available / Not applicable
Initial boiling point	> 200 °C (> 392 °F)
Flash point	> 100 °C (> 212 °F); None
Evaporation rate	No data available / Not applicable
Flammability	No data available / Not applicable
Explosive limits	No data available / Not applicable
Vapour pressure (50 °C (122 °F))	< 700 mbar
Relative vapour density:	No data available / Not applicable
Density (ρ)	2,3337 g/cm ³
Bulk density	No data available / Not applicable
Solubility	No data available / Not applicable
Solubility (qualitative) (Solvent: Water)	Not miscible
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	No data available / Not applicable

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**

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

Irritating organic vapours.

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Acute oral toxicity:**

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	LD50	> 2.000 mg/kg	rat	OECD Guideline 420 (Acute Oral Toxicity)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	LD50	> 5.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Oxirane, [[(2- ethylhexyl)oxy]methyl]- 2461-15-6	LD50	7.800 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 CAS-No.	Value type	Value	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Oxirane, [[(2-ethylhexyl)oxy]methyl]- 2461-15-6	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)

Acute inhalative toxicity:

No data available.

Skin corrosion/irritation:

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

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	moderately irritating	24 h	rabbit	Draize Test
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

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

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
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	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

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

Hazardous substances CAS-No.	Result	Test type	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)

Germ cell mutagenicity:

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

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 472 (Genetic Toxicology: Escherichia coli, Reverse Mutation Assay)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial 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
reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight \leq 700) 25068-38-6	NOAEL P \geq 50 mg/kg NOAEL F1 \geq 750 mg/kg NOAEL F2 \geq 750 mg/kg	Two generation study	oral: gavage	rat	OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
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 \leq 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.

SECTION 12: Ecological information

General ecological information:

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

12.1. Toxicity

Toxicity (Fish):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	LC50	1,75 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
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)

Toxicity (Daphnia):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	EC50	1,7 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	EC50	2,55 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Chronic toxicity to aquatic invertebrates

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
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)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	NOEC	0,3 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

Toxicity (Algae):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight \leq 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 \leq 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)

Toxicity to microorganisms

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight \leq 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

The product is not biodegradable.

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight \leq 700) 25068-38-6	not readily biodegradable.	aerobic	5 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	not readily biodegradable.	aerobic	0 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
Oxirane, [[(2-ethylhexyl)oxy]methyl]- 2461-15-6	not readily biodegradable.	aerobic	0 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

Cured adhesives are immobile.

Hazardous substances CAS-No.	LogPow	Temperature	Method
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	3,242	25 °C	EU Method A.8 (Partition Coefficient)
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	2,7 - 3,6		OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Oxirane, [[(2-ethylhexyl)oxy]methyl]- 2461-15-6	3,83		OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)

12.5. Results of PBT and vPvB assessment

Hazardous substances CAS-No.	PBT / vPvB
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Oxirane, [[(2-ethylhexyl)oxy]methyl]- 2461-15-6	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:

Dispose of in accordance with local and national regulations.

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.

Disposal must be made according to official regulations.

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**
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.2. UN proper shipping name**
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.3. Transport hazard class(es)**
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.4. Packing group**
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.5. Environmental hazards**
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.6. Special precautions for user**
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**
not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

VOC content < 3,00 %
(2010/75/EC)

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

National regulations/information (Germany):

WGK: WGK = 2, significantly water endangering mixture. Classification according to the mixture rules in German AwSV regulation annex 1, number 5.2 from 18. April 2017.

Storage class according to TRGS 510: 11

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.

Further information:

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

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

Dear Customer,

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

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



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

Page 1 of 21

LOCTITE PC 7229 known as 7229 PNEU W/COMP 10KG DE GB

SDS No. : 152838
V003.0

Revision: 07.02.2020

printing date: 04.04.2021

Replaces version from: 27.03.2019

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

1.1. Product identifier

LOCTITE PC 7229 known as 7229 PNEU W/COMP 10KG DE GB

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 AG & Co. KGaA
Henkelstr. 67
40589 Düsseldorf

Germany

Phone: +49 211 797 0
Fax-no.: +49 211 798 2009

ua-productsafety.de@henkel.com

1.4. Emergency telephone number

The Henkel information service also provides an around-the-clock telephone service on phone no.+49-(0)211-797-3350 for exceptional cases.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Acute toxicity H332 Harmful if inhaled. Route of Exposure: Inhalation	Category 4
Skin corrosion H314 Causes severe skin burns and eye damage.	Category 1B
Serious eye damage H318 Causes serious eye damage.	Category 1
Skin sensitizer H317 May cause an allergic skin reaction.	Category 1

2.2. Label elements

Label elements (CLP):

Hazard pictogram:



Contains

Formaldehyde, polymer with benzenamine, hydrogenated

4,4'-Methylenebis(cyclohexylamine)
Diethylenetriamine

Signal word: Danger

Hazard statement: H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H332 Harmful if inhaled.

Precautionary statement: P261 Avoid breathing vapors.
Prevention P280 Wear protective gloves/protective clothing/eye protection/face protection.

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

Part B of a two part adhesive

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

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	01-2119983522-33	5- < 10 %	Acute Tox. 4; Oral H302 Skin Corr. 1C H314 STOT RE 2 H373 Aquatic Chronic 3 H412 Eye Dam. 1 H318 Skin Sens. 1 H317
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	217-168-8 01-2119541673-38	5- < 10 %	Acute Tox. 4; Oral H302 Skin Corr. 1B H314 Skin Sens. 1 H317 STOT RE 2; Oral H373 Eye Dam. 1 H318
1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with bisphenol A diglycidyl ether homopolymer 68411-71-2	270-141-2	1- < 5 %	Acute Tox. 4 H302
Manganese dioxide 1313-13-9	215-202-6	1- < 5 %	Acute Tox. 4; Inhalation H332 Acute Tox. 4; Oral H302 STOT RE 2; Inhalation H373
Diethylenetriamine 111-40-0	203-865-4 01-2119473793-27	1- < 3 %	Acute Tox. 4; Oral H302 Acute Tox. 4; Dermal H312 Skin Corr. 1B H314 Skin Sens. 1 H317 Acute Tox. 2; Inhalation H330 STOT SE 3 H335 Eye Dam. 1 H318
phenol 108-95-2	203-632-7 01-2119471329-32	0,1- < 1 %	Muta. 2 H341 STOT RE 2 H373 Skin Corr. 1B H314 Acute Tox. 3; Dermal H311 Acute Tox. 3; Oral H301 Acute Tox. 3; Inhalation H331 Aquatic Chronic 2 H411

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.
Seek medical advice.

Eye contact:

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

Ingestion:

Rinse out mouth, drink 1-2 glasses of water, do not induce vomiting.
Seek medical advice.

4.2. Most important symptoms and effects, both acute and delayed

Causes burns.

SKIN: Rash, Urticaria.

RESPIRATORY: Irritation, coughing, shortness of breath, chest tightness.

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

See section: Description of first aid measures

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media:**

Carbon dioxide, foam, powder

Extinguishing media which must not be used for safety reasons:

None known

5.2. Special hazards arising from the substance or mixture

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

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

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

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

Dispose of contaminated material as waste according to Section 13.

6.4. Reference to other sections

See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Use only in well-ventilated areas.

Avoid skin and eye contact.

Prolonged or repeated skin contact should be avoided to minimise any risk of sensitisation.

See advice in section 8

Hygiene measures:

Good industrial hygiene practices should be observed.

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool, well-ventilated place.

Refer to Technical Data Sheet

7.3. Specific end use(s)

Epoxy Hardener

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Germany

Ingredient [Regulated substance]	ppm	mg/m ³	Value type	Short term exposure limit category / Remarks	Regulatory list
Aluminium oxide 1344-28-1			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Aluminium oxide 1344-28-1		10	Exposure limit(s):	2	TRGS 900
Aluminium oxide 1344-28-1		1,25	Exposure limit(s):		TRGS 900
Silicon carbide 409-21-2			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Silicon carbide 409-21-2		10	Exposure limit(s):	2	TRGS 900
Silicon carbide 409-21-2		1,25	Exposure limit(s):		TRGS 900
Manganese dioxide 1313-13-9		0,2	Exposure limit(s):	8 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Manganese dioxide 1313-13-9			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Manganese dioxide 1313-13-9		0,02	Exposure limit(s):	8 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Manganese dioxide 1313-13-9			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Manganese dioxide 1313-13-9 [MANGANESE AND INORGANIC MANGANESE COMPOUNDS (AS MN) (RESPIRABLE FRACTION)]		0,05	Time Weighted Average (TWA):	Indicative	ECTLV
Manganese dioxide 1313-13-9 [MANGANESE AND INORGANIC MANGANESE COMPOUNDS (AS MN) (INHALABLE FRACTION)]		0,2	Time Weighted Average (TWA):	Indicative	ECTLV
Linear low density polyethylene 9002-88-4			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Linear low density polyethylene 9002-88-4		1,25	Exposure limit(s):		TRGS 900
Linear low density polyethylene 9002-88-4		10	Exposure limit(s):	2	TRGS 900
Phenol 108-95-2 [PHENOL]	2	8	Time Weighted Average (TWA):	Indicative	ECTLV
Phenol 108-95-2 [PHENOL]	4	16	Short Term Exposure Limit (STEL):	Indicative	ECTLV
Phenol 108-95-2			Skin designation:	Can be absorbed through the skin.	TRGS 900
Phenol 108-95-2	2	8	Exposure limit(s):	2	TRGS 900
Phenol 108-95-2			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	aqua (freshwater)		0,015 mg/l				
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	aqua (marine water)		0,002 mg/l				
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	aqua (intermittent releases)		0,15 mg/l				
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	sewage treatment plant (STP)		1,9 mg/l				
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	sediment (freshwater)				15 mg/kg		
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	sediment (marine water)				1,5 mg/kg		
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Soil				1,8 mg/kg		
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	aqua (intermittent releases)		0,08 mg/l				
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	sediment (freshwater)				137 mg/kg		
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	aqua (marine water)		0,008 mg/l				
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	sediment (marine water)				13,7 mg/kg		
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	sewage treatment plant (STP)		3,2 mg/l				
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Soil				27,2 mg/kg		
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	aqua (freshwater)		0,08 mg/l				
2,2'-iminodiethylamine 111-40-0	aqua (freshwater)		0,56 mg/l				
2,2'-iminodiethylamine 111-40-0	aqua (marine water)		0,056 mg/l				
2,2'-iminodiethylamine 111-40-0	aqua (intermittent releases)		0,32 mg/l				
2,2'-iminodiethylamine 111-40-0	sediment (freshwater)				1072 mg/kg		
2,2'-iminodiethylamine 111-40-0	sediment (marine water)				107,2 mg/kg		
2,2'-iminodiethylamine 111-40-0	sewage treatment plant (STP)		6 mg/l				
2,2'-iminodiethylamine 111-40-0	Soil				7,97 mg/kg		
2,2'-iminodiethylamine 111-40-0	Air						no hazard identified
phenol 108-95-2	aqua (freshwater)		0,008 mg/l				
phenol 108-95-2	aqua (marine water)		0,001 mg/l				
phenol 108-95-2	sediment (freshwater)				0,091 mg/kg		
phenol 108-95-2	sediment (marine water)				0,009 mg/kg		
phenol 108-95-2	Soil				0,136 mg/kg		
phenol 108-95-2	sewage treatment plant (STP)		2,1 mg/l				

phenol 108-95-2	Predator						no potential for bioaccumulation
phenol 108-95-2	aqua (intermittent releases)		0,031 mg/l				

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Workers	inhalation	Long term exposure - systemic effects		0,2 mg/m3	
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Workers	inhalation	Acute/short term exposure - systemic effects		2 mg/m3	
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Workers	dermal	Long term exposure - systemic effects		2 mg/kg	
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Workers	dermal	Acute/short term exposure - systemic effects		6 mg/kg	
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Workers	inhalation	Long term exposure - systemic effects		1 mg/m3	
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Workers	dermal	Long term exposure - systemic effects		0,1 mg/kg	
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	General population	inhalation	Long term exposure - systemic effects		0,21 mg/m3	
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	General population	oral	Long term exposure - systemic effects		0,06 mg/kg	
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	General population	dermal	Long term exposure - systemic effects		0,06 mg/kg	
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Workers	inhalation	Acute/short term exposure - systemic effects		1 mg/m3	
2,2'-iminodiethylamine 111-40-0	Workers	dermal	Long term exposure - systemic effects		11,4 mg/kg	no hazard identified
2,2'-iminodiethylamine 111-40-0	Workers	dermal	Long term exposure - local effects		1,1 mg/kg	no hazard identified
2,2'-iminodiethylamine 111-40-0	Workers	Inhalation	Acute/short term exposure - systemic effects		92,1 mg/m3	no hazard identified
2,2'-iminodiethylamine 111-40-0	Workers	Inhalation	Acute/short term exposure - local effects		2,6 mg/m3	no hazard identified
2,2'-iminodiethylamine 111-40-0	Workers	Inhalation	Long term exposure - systemic effects		15,4 mg/m3	no hazard identified
2,2'-iminodiethylamine 111-40-0	Workers	Inhalation	Long term exposure - local effects		0,87 mg/m3	no hazard identified
2,2'-iminodiethylamine 111-40-0	General population	dermal	Acute/short term exposure - systemic effects		4,88 mg/kg	no hazard identified
2,2'-iminodiethylamine 111-40-0	General population	Inhalation	Acute/short term exposure - systemic effects		27,5 mg/m3	no hazard identified
2,2'-iminodiethylamine 111-40-0	General population	dermal	Long term exposure - systemic effects		4,88 mg/kg	no hazard identified
2,2'-iminodiethylamine 111-40-0	General population	Inhalation	Long term exposure - systemic effects		4,6 mg/m3	no hazard identified
phenol 108-95-2	Workers	dermal	Long term exposure - systemic effects		1,23 mg/kg	no potential for bioaccumulation
phenol 108-95-2	Workers	Inhalation	Long term exposure - systemic effects		8 mg/m3	no potential for bioaccumulation
phenol 108-95-2	Workers	Inhalation	Acute/short term exposure - local effects		16 mg/m3	no potential for bioaccumulation

phenol 108-95-2	General population	Inhalation	Long term exposure - systemic effects		1,32 mg/m ³	no potential for bioaccumulation
phenol 108-95-2	General population	dermal	Long term exposure - systemic effects		0,4 mg/kg	no potential for bioaccumulation
phenol 108-95-2	General population	oral	Long term exposure - systemic effects		0,4 mg/kg	no potential for bioaccumulation

Biological Exposure Indices:

Ingredient [Regulated substance]	Parameters	Biological specimen	Sampling time	Conc.	Basis of biol. exposure index	Remark	Additional Information
Aluminium oxide 1344-28-1	Aluminum	Urine	Sampling time: End of shift.	200 µg/l	DE BAT		
Manganese dioxide 1313-13-9	Manganese	Blood	Sampling time: End of shift at end of work week.	20 µg/l	DE BAT		
Phenol 108-95-2	phenol	Urine	Sampling time: End of shift.	300 mg/l	DE BAT		
Phenol 108-95-2	Phenol with hydrolysis	Creatinine in urine	Sampling time: End of shift.	120 mg/g	DE BGW		

8.2. Exposure controls:

Engineering controls:

Ensure good ventilation/extraction.

Respiratory protection:

Ensure adequate ventilation.

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

Filter type: A (EN 14387)

Hand protection:

Chemical-resistant protective gloves (EN 374).

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

nitrile rubber (NBR; >= 0.4 mm thickness)

Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):

nitrile rubber (NBR; >= 0.4 mm thickness)

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

Eye protection:

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

Protective eye equipment should conform to EN166.

Skin protection:

Wear suitable protective clothing.

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

Advices to personal protection equipment:

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

Personal protective equipment should conform to the relevant EN standard.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	paste paste black
Odor	mild
Odour threshold	No data available / Not applicable
pH	No data available / Not applicable
Melting point	No data available / Not applicable
Solidification temperature	No data available / Not applicable
Initial boiling point	404 °C (759.2 °F)
Flash point	250 °C (482 °F)
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 (ρ)	1,7911 g/cm ³
Bulk density	No data available / Not applicable
Solubility	No data available / Not applicable
Solubility (qualitative) (Solvent: Water)	Slight
Solubility (qualitative) (Solvent: Acetone)	Partially soluble
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	No data available / Not applicable
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

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

None if used for intended purpose.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity:

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

Hazardous substances CAS-No.	Value type	Value	Species	Method
4,4'- Methylenebis(cyclohexyla mine) 1761-71-3	LD50	380 mg/kg	rat	EPA OPP 81-1 (Acute Oral Toxicity)
Diethylenetriamine 111-40-0	LD50	1.553 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
phenol 108-95-2	LD50	140 mg/kg	Human	not specified
phenol 108-95-2	Acute toxicity estimate (ATE)	140 mg/kg		Expert judgement

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
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Acute toxicity estimate (ATE)	> 2.000 mg/kg	rabbit	Expert judgement
4,4'- Methylenebis(cyclohexyla mine) 1761-71-3	LD50	2.110 mg/kg	rabbit	not specified
Diethylenetriamine 111-40-0	LD50	1.045 mg/kg	rabbit	not specified
phenol 108-95-2	LD50	660 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)

Acute inhalative toxicity:

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

Hazardous substances CAS-No.	Value type	Value	Test atmosphere	Exposure time	Species	Method
Diethylenetriamine 111-40-0	NOEL	0,07 mg/l			rat	OECD Guideline 403 (Acute Inhalation Toxicity)
Diethylenetriamine 111-40-0	Acute toxicity estimate (ATE)	0,07 mg/l	dust/mist			Expert judgement
phenol 108-95-2	LC50	> 0,9 mg/l	dust/mist	8 h	rat	equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)
phenol 108-95-2	Acute toxicity estimate (ATE)	1 mg/l	dust/mist	4 h		Expert judgement

Skin corrosion/irritation:

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

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Category 1C (corrosive)		Corrositex Biobarrier Membrane (reconstituted collagen matrix)	OECD Guideline 435 (In Vitro Membrane Barrier Test Method for Skin Corrosion)
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	corrosive	2,75 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Diethylenetriamine 111-40-0	corrosive	15 min	rabbit	BASF Test
phenol 108-95-2	corrosive	3 min		OECD Guideline 431 (In Vitro Skin Corrosion: Reconstructed Human Epidermis (RHE) Test Method)

Serious eye damage/irritation:

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

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Category 1 (irreversible effects on the eye)		rabbit	not specified
Diethylenetriamine 111-40-0	corrosive	30 s	rabbit	not specified
phenol 108-95-2	corrosive		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

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

Hazardous substances CAS-No.	Result	Test type	Species	Method
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	sensitising	Buehler test	guinea pig	Buehler test
Diethylenetriamine 111-40-0	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
phenol 108-95-2	not sensitising	Buehler test	guinea pig	OECD Guideline 406 (Skin Sensitisation)

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
Diethylenetriamine 111-40-0	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Diethylenetriamine 111-40-0	negative	in vitro mammalian chromosome aberration test	with and without		Chromosome Aberration Test
phenol 108-95-2	positive	in vitro mammalian cell micronucleus test	with and without		OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)
phenol 108-95-2	negative without metabolic activation	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Diethylenetriamine 111-40-0	negative	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Diethylenetriamine 111-40-0	negative	oral: gavage		mouse	not specified
phenol 108-95-2	positive	intraperitoneal		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Carcinogenicity

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

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

Reproductive toxicity:

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

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
Diethylenetriamine 111-40-0	NOAEL P 100 mg/kg NOAEL F1 30 mg/kg	screening	oral: gavage	rat	OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)
phenol 108-95-2	NOAEL P 71 mg/kg NOAEL F1 70 mg/kg NOAEL F2 1.000 mg/l	two-generation study	oral: drinking water	rat	OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)

STOT-single exposure:

No data available.

STOT-repeated exposure::

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

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
4,4'- Methylenebis(cyclohexyla mine) 1761-71-3	NOAEL 15 - 50 mg/kg	oral: gavage	52 d daily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Diethylenetriamine 111-40-0	NOAEL 70 - 80 mg/kg	oral: feed	90 d daily	rat	not specified
Diethylenetriamine 111-40-0	NOAEL 0,55 mg/l	inhalation: vapour	15 d 6 h/d	rat	not specified
phenol 108-95-2	NOAEL 71 mg/kg	oral: drinking water	90 d daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

Aspiration hazard:

No data available.

SECTION 12: Ecological information

General ecological information:

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

12.1. Toxicity

Toxicity (Fish):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	LC50	96 mg/l	96 h	Poecilia reticulata	OECD Guideline 203 (Fish, Acute Toxicity Test)
4,4'- Methylenebis(cyclohexylamin e) 1761-71-3	LC50	> 100 mg/l	96 h	Leuciscus idus	DIN 38412-15
Manganese dioxide 1313-13-9	LC50		96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Diethylenetriamine 111-40-0	LC50	430 mg/l	96 h	Poecilia reticulata	EU Method C.1 (Acute Toxicity for Fish)
Diethylenetriamine 111-40-0	NOEC	> 10 mg/l	28 d	Gasterosteus aculeatus	OECD Guideline 210 (fish early lite stage toxicity test)
phenol 108-95-2	LC50	8,9 mg/l	96 h	Oncorhynchus mykiss	EPA-660 (Methods for Acute Toxicity Tests with Fish, Macroinvertebrates and Amphibians)
phenol 108-95-2	NOEC	0,077 mg/l	60 d	Cirrhinus mrigala	OECD Guideline 215 (Fish, Juvenile Growth Test)

Toxicity (Daphnia):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	EC50	15,4 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
4,4'- Methylenebis(cyclohexylamin e) 1761-71-3	EC50	7,07 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Manganese dioxide 1313-13-9	EC50		48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Diethylenetriamine 111-40-0	EC50	64,6 mg/l	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)
phenol 108-95-2	EC50	3,1 mg/l	48 h	Ceriodaphnia dubia	other guideline:

Chronic toxicity to aquatic invertebrates

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
4,4'- Methylenebis(cyclohexylamin e) 1761-71-3	NOEC	4 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Diethylenetriamine 111-40-0	NOEC	5,6 mg/l	21 d	Daphnia magna	EU Method C.20 (Daphnia magna Reproduction Test)
phenol 108-95-2	NOEC	0,16 mg/l	16 d	Daphnia magna	other guideline:

Toxicity (Algae):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	EC10	1,2 mg/l	72 h	Desmodesmus subspicatus	EU Method C.3 (Algal Inhibition test)
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	EC50	43,94 mg/l	72 h	Desmodesmus subspicatus	EU Method C.3 (Algal Inhibition test)
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	EC50	> 140 - 200 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	DIN 38412-09
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	EC10	100 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	DIN 38412-09
Manganese dioxide 1313-13-9	EC50		72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Manganese dioxide 1313-13-9	NOEC		72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Diethylenetriamine 111-40-0	EC50	1.164 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Diethylenetriamine 111-40-0	NOEC	10 mg/l	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
phenol 108-95-2	EC50	61,1 mg/l	96 h	Pseudokirchneriella subcapitata (reported as Selenastrum capricornutum)	other guideline:

Toxicity to microorganisms

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	EC20	> 1.000 mg/l	3 h	activated sludge, industrial	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Manganese dioxide 1313-13-9	EC50		3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Diethylenetriamine 111-40-0	NOEC	6 mg/l	3 h	anaerobic bacteria	not specified
phenol 108-95-2	EC50	766 mg/l	3 h	activated sludge, industrial	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

12.2. Persistence and degradability

The product is not biodegradable.

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	not readily biodegradable.	aerobic	0 %	28 d	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Diethylenetriamine 111-40-0	inherently biodegradable	aerobic	83 %	28 d	EU Method C.9 (Biodegradation: Zahn-Wellens Test)
Diethylenetriamine 111-40-0	readily biodegradable	aerobic	87 %	21 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
phenol 108-95-2	readily biodegradable	aerobic	62 %	100 h	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))

12.3. Bioaccumulative potential

No data available for the product.

Hazardous substances CAS-No.	Bioconcentration factor (BCF)	Exposure time	Temperature	Species	Method
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	18 - 219	56 d		Cyprinus carpio	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	< 60	60 d	24 °C	Cyprinus carpio	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)
Diethylenetriamine 111-40-0	> 0,3 - < 6,3	42 d		Cyprinus carpio	OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)
phenol 108-95-2	17,5	5 h	25 °C	Danio rerio (reported as Brachydanio rerio)	OECD Guideline 305 E (Bioaccumulation: Flow-through Fish Test)

12.4. Mobility in soil

Cured adhesives are immobile.

Hazardous substances CAS-No.	LogPow	Temperature	Method
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	2,68	21 °C	EU Method A.8 (Partition Coefficient)
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	2,2	23 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Diethylenetriamine 111-40-0	-1,58	20 °C	QSAR (Quantitative Structure Activity Relationship)
phenol 108-95-2	1,47	30 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)

12.5. Results of PBT and vPvB assessment

Hazardous substances CAS-No.	PBT / vPvB
Formaldehyde, polymer with benzenamine, hydrogenated 135108-88-2	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
4,4'-Methylenebis(cyclohexylamine) 1761-71-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Diethylenetriamine 111-40-0	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
phenol 108-95-2	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

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:

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.

Disposal must be made according to official regulations.

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	2735
RID	2735
ADN	2735
IMDG	2735
IATA	2735

14.2. UN proper shipping name

ADR	AMINES, LIQUID, CORROSIVE, N.O.S. (Formaldehyde, polymer with benzenamine, hydrogenated,2,2-Dimethyl-4,4-methylenebis-cyclohexylamine)
RID	AMINES, LIQUID, CORROSIVE, N.O.S. (Formaldehyde, polymer with benzenamine, hydrogenated,2,2-Dimethyl-4,4-methylenebis-cyclohexylamine)
ADN	AMINES, LIQUID, CORROSIVE, N.O.S. (Formaldehyde, polymer with benzenamine, hydrogenated,2,2-Dimethyl-4,4-methylenebis-cyclohexylamine)
IMDG	AMINES, LIQUID, CORROSIVE, N.O.S. (Formaldehyde, polymer with benzenamine, hydrogenated,2,2-Dimethyl-4,4-methylenebis-cyclohexylamine)
IATA	Amines, liquid, corrosive, n.o.s. (Formaldehyde, polymer with benzenamine, hydrogenated,2,2-Dimethyl-4,4-methylenebis-cyclohexylamine)

14.3. Transport hazard class(es)

ADR	8
RID	8
ADN	8
IMDG	8
IATA	8

14.4. Packing group

ADR	II
RID	II
ADN	II
IMDG	II
IATA	II

14.5. Environmental hazards

ADR	not applicable
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

14.6. Special precautions for user

ADR	not applicable Tunnelcode: (E)
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

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

not applicable

SECTION 15: Regulatory information

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

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

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

National regulations/information (Germany):

WGK: WGK = 3, highly water endangering mixture. Classification according to the mixture rules in German AwSV regulation annex 1, number 5.2 from 18. April 2017.

Storage class according to TRGS 510: 8B

SECTION 16: Other information

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

H301 Toxic if swallowed.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H330 Fatal if inhaled.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

Further information:

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

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

Dear Customer,

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

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