



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

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LOCTITE PC 7282

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V003.1

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

1.1. Product identifier

LOCTITE PC 7282

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

Intended use:

Coating

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

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

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	Category 4
H332 Harmful if inhaled.	
Route of Exposure: Inhalation	
Skin irritation	Category 2
H315 Causes skin irritation.	
Serious eye irritation	Category 2
H319 Causes serious eye irritation.	
Respiratory sensitizer	Category 1
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Carcinogenicity	Category 2
H351 Suspected of causing cancer.	
Specific target organ toxicity - single exposure	Category 3
H335 May cause respiratory irritation.	
Target organ: respiratory tract irritation	
Specific target organ toxicity - repeated exposure	Category 2
H373 May cause damage to organs through prolonged or repeated exposure.	

2.2. Label elements**Label elements (CLP):****Hazard pictogram:****Contains**

Poly[oxy(methyl-1,2-ethanediyl)], a-hydro-w-hydroxy-, polymer with 1,1'-methylenebis[isocyanatobenzene]

4,4'-methylenediphenyl diisocyanate

MDI homopolymer

Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate

Signal word:

Danger

Hazard statement:

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated exposure.

Supplemental information

As from 24 August 2023 adequate training is required before industrial or professional use.

Further information: <https://www.feica.eu/PUinfo>

**Precautionary statement:
Prevention**

P260 Do not breathe mist/spray.

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

P284 [In case of inadequate ventilation] wear respiratory protection.

**Precautionary statement:
Response**

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

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P311 Call a POISON CENTER or doctor.

2.3. Other hazards

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

Following substances are present in a concentration \geq the concentration limit for depiction in Section 3 and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

This mixture does not contain any substances in a concentration \geq the concentration limit for depiction in Section 3 that are assessed to be a PBT, vPvB or ED.

SECTION 3: Composition/information on ingredients**3.2. Mixtures**

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

Hazardous components CAS-No. EC Number REACH-Reg No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
Poly[oxy(methyl-1,2-ethanediyl)], a-hydro-w-hydroxy-, polymer with 1,1'-methylenebis[isocyanatobenzene] 39420-98-9	60- 100 %	Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319 Acute Tox. 4, Inhalation, H332 Resp. Sens. 1, H334 STOT SE 3, H335 Carc. 2, H351 STOT RE 2, H373		
4,4'- methylenediphenyl diisocyanate 101-68-8 202-966-0 01-2119457014-47	10- 30 %	Carc. 2, H351 Acute Tox. 4, Inhalation, H332 STOT RE 2, H373 Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315 Resp. Sens. 1, H334 Skin Sens. 1, H317	Eye Irrit. 2; H319; C >= 5 % Skin Irrit. 2; H315; C >= 5 % Resp. Sens. 1; H334; C >= 0,1 % STOT SE 3; H335; C >= 5 %	
propylene carbonate 108-32-7 203-572-1 01-2119537232-48	5- 10 %	Eye Irrit. 2, H319		
MDI homopolymer 25686-28-6 500-040-3 500-040-3 01-2119457013-49	3- 7 %	Acute Tox. 4, Inhalation, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 Carc. 2, H351 STOT RE 2, Inhalation, H373	Resp. Sens. 1; H334; C >= 0,1 % Eye Irrit. 2; H319; C >= 5 % Skin Irrit. 2; H315; C >= 5 % STOT SE 3; H335; C >= 5 %	
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate 905-806-4 01-2119457015-45	3- 7 %	Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319 Acute Tox. 4, Inhalation, H332 Resp. Sens. 1, H334 STOT SE 3, H335 Carc. 2, H351 STOT RE 2, H373	Eye Irrit. 2; H319; C >= 5 % Skin Irrit. 2; H315; C >= 5 % Resp. Sens. 1; H334; C >= 0,1 % STOT SE 3; H335; C >= 5 %	

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:

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

Inhalation:

Fresh air, oxygen supply, warmth; seek specialist medical attention.

Delayed effects possible after inhalation.

Skin contact:

IF ON SKIN: Wash with plenty of soap and water.

In case of adverse health effects seek medical advice.

Eye contact:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion:

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

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

EYE: Irritation, conjunctivitis.

SKIN: Redness, inflammation.

SKIN: Rash, Urticaria.

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

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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

See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

All common extinguishing agents are suitable.

Extinguishing media which must not be used for safety reasons:

High pressure waterjet

5.2. Special hazards arising from the substance or mixture

In case of fire toxic gases can be released.

5.3. Advice for firefighters

Wear self-contained breathing apparatus.

Wear protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear protective equipment.

Avoid contact with skin and eyes.

Keep unprotected persons away.

Danger of slipping on spilled product.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Remove with liquid-absorbing material (sand, peat, sawdust).

Dispose of contaminated material as waste according to Section 13.

6.4. Reference to other sections

See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Hygiene measures:

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

Take off contaminated clothing and wash before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Ensure good ventilation/extraction.

Store in a dry place.

Store in sealed original container.

Temperatures between + 10 °C and + 30 °C

Protect from freezing.

7.3. Specific end use(s)

Coating

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
4,4'-Methylenediphenyl diisocyanate 101-68-8			Skin designation:	Can be absorbed through the skin.	TRGS 900
4,4'-Methylenediphenyl diisocyanate 101-68-8			STEL (Short Term Exposure Limit) factor:	1 Substance listed with both Peak factor and STEL factor. The Peak factor is supplied with the AGW values.	TRGS 900
4,4'-Methylenediphenyl diisocyanate 101-68-8		0,05	Exposure limit(s):	2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
4,4'-Methylenediphenyl diisocyanate 101-68-8			Short Term Exposure Classification:	Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages.	TRGS 900
Propylene carbonate 108-32-7			Short Term Exposure Classification:	Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages.	TRGS 900
Propylene carbonate 108-32-7	2	8,5	Exposure limit(s):	1 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
4,4'-methylenediphenyl diisocyanate 101-68-8	aqua (freshwater)		0,0037 mg/l				
4,4'-methylenediphenyl diisocyanate 101-68-8	aqua (intermittent releases)		0,037 mg/l				
4,4'-methylenediphenyl diisocyanate 101-68-8	aqua (marine water)		0,00037 mg/l				
4,4'-methylenediphenyl diisocyanate 101-68-8	sediment (freshwater)				11,7 mg/kg		
4,4'-methylenediphenyl diisocyanate 101-68-8	sediment (freshwater)				1,17 mg/kg		
4,4'-methylenediphenyl diisocyanate 101-68-8	Soil				2,33 mg/kg		
4,4'-methylenediphenyl diisocyanate 101-68-8	Predator						no potential for bioaccumulation
Propylene carbonate 108-32-7	aqua (marine water)		0,09 mg/l				
Propylene carbonate 108-32-7	aqua (freshwater)		0,9 mg/l				
Propylene carbonate 108-32-7	sewage treatment plant (STP)		7400 mg/l				
Propylene carbonate 108-32-7	Freshwater - intermittent		9 mg/l				
Propylene carbonate 108-32-7	Soil				0,81 mg/kg		
Propylene carbonate 108-32-7	Marine water - intermittent		0,9 mg/l				
4,4'-Methylenediphenyl diisocyanate, homopolymer 25686-28-6	aqua (freshwater)		1 mg/l				
4,4'-Methylenediphenyl diisocyanate, homopolymer 25686-28-6	aqua (marine water)		0,1 mg/l				
4,4'-Methylenediphenyl diisocyanate, homopolymer 25686-28-6	Soil				1 mg/kg		
4,4'-Methylenediphenyl diisocyanate, homopolymer 25686-28-6	sewage treatment plant (STP)		1 mg/l				
4,4'-Methylenediphenyl diisocyanate, homopolymer 25686-28-6	aqua (intermittent releases)		10 mg/l				
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	aqua (freshwater)		1 mg/l				
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	aqua (marine water)		0,1 mg/l				
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	aqua (intermittent releases)		10 mg/l				
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	Soil				1 mg/kg		
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	sewage treatment plant (STP)		1 mg/l				

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
4,4'-methylenediphenyl diisocyanate 101-68-8	Workers	inhalation	Long term exposure - local effects		0,05 mg/m3	no potential for bioaccumulation
4,4'-methylenediphenyl diisocyanate 101-68-8	Workers	inhalation	Acute/short term exposure - local effects		0,1 mg/m3	no potential for bioaccumulation
4,4'-methylenediphenyl diisocyanate 101-68-8	General population	inhalation	Long term exposure - local effects		0,025 mg/m3	no potential for bioaccumulation
4,4'-methylenediphenyl diisocyanate 101-68-8	General population	inhalation	Acute/short term exposure - local effects		0,05 mg/m3	no potential for bioaccumulation
Propylene carbonate 108-32-7	Workers	inhalation	Long term exposure - systemic effects		70,53 mg/m3	
Propylene carbonate 108-32-7	Workers	inhalation	Long term exposure - local effects		20 mg/m3	
Propylene carbonate 108-32-7	Workers	dermal	Long term exposure - systemic effects		20 mg/kg	
Propylene carbonate 108-32-7	Workers	dermal	Long term exposure - local effects		10 mg/cm2	
Propylene carbonate 108-32-7	General population	inhalation	Long term exposure - systemic effects		17,4 mg/m3	
Propylene carbonate 108-32-7	General population	inhalation	Long term exposure - local effects		10 mg/m3	
Propylene carbonate 108-32-7	General population	dermal	Long term exposure - systemic effects		10 mg/kg	
Propylene carbonate 108-32-7	General population	oral	Long term exposure - systemic effects		10 mg/kg	
4,4'-Methylenediphenyl diisocyanate, homopolymer 25686-28-6	Workers	inhalation	Long term exposure - local effects		0,05 mg/m3	
4,4'-Methylenediphenyl diisocyanate, homopolymer 25686-28-6	Workers	inhalation	Acute/short term exposure - local effects		0,1 mg/m3	
4,4'-Methylenediphenyl diisocyanate, homopolymer 25686-28-6	General population	inhalation	Long term exposure - local effects		0,025 mg/m3	
4,4'-Methylenediphenyl diisocyanate, homopolymer 25686-28-6	General population	inhalation	Acute/short term exposure - local effects		0,05 mg/m3	
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	Workers	inhalation	Acute/short term exposure - local effects		0,1 mg/m3	
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	Workers	inhalation	Long term exposure - local effects		0,05 mg/m3	
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	General population	inhalation	Acute/short term exposure - local effects		0,05 mg/m3	
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	General population	inhalation	Long term exposure - local effects		0,025 mg/m3	

Biological Exposure Indices:

Ingredient [Regulated substance]	Parameters	Biological specimen	Sampling time	Conc.	Basis of biol. exposure index	Remark	Additional Information
4,4'-Methylenediphenyl diisocyanate 101-68-8	4,4-Diaminodiphenylmethane	Creatinine in urine	Sampling time: End of shift.	10 µg/g	DE BAT	BAT values reflect the total physical load of workplace substances absorbed through inhalation, dermally, etc. With occupational exposure to MDI, parameter 4,4'-Diaminodiphenylmethane (MDA) in the urine covers all components of a complex MDI mixture, since both monomers and oligomers of the MDI are degraded independent of the exposure path of the monomeric MDI. In contrast, the MAK value for MDI takes into account only the monomer MDI portion.	

8.2. Exposure controls:**Engineering controls:**

Use only in well ventilated areas.

Draw off vapors and fumes directly at the point of generation or release. In the case of regular work use bench-mounted extraction equipment.

Respiratory protection:

In case of aerosol formation, we recommend wearing of appropriate respiratory protection equipment with ABEK P2 filter (EN 14387).

This recommendation should be matched to local conditions.

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:

Goggles which can be tightly sealed.

Protective eye equipment should conform to EN166.

Skin protection:

Wear protective equipment.

Protective clothing that covers arms and legs.

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

Advices to personal protection equipment:

Use only personal protection that's CE-labelled according to Directive 89/686/EEC (Europe) or to Regulation No. 819 of 19 August 1994 (Norway), or equivalent.

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	yellowish
Odor	musty
Melting point	Not applicable, Product is a liquid
Initial boiling point	Currently under determination
Flammability	Currently under determination
Explosive limits	Currently under determination
Flash point	Currently under determination
Auto-ignition temperature	Currently under determination
Decomposition temperature	Currently under determination
pH	Currently under determination
Viscosity (kinematic)	Currently under determination
Viscosity, dynamic (; 25 °C (77 °F))	400 - 800 mPa.s no method
Solubility (qualitative)	Currently under determination
Partition coefficient: n-octanol/water	Not applicable
	Mixture
Vapour pressure	Currently under determination
Density (20 °C (68 °F))	1,09 - 1,13 g/cm ³ no method
Relative vapour density:	Currently under determination
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 water, alcohols, amines.

Reacts with water: Pressure built up in closed vessel (CO₂).

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

Humidity

10.5. Incompatible materials

See section reactivity.

10.6. Hazardous decomposition products

At higher temperatures isocyanate may be released.

Carbon dioxide is generated under contact with moisture, leading to pressure in the cans. Danger of cans bursting!

SECTION 11: Toxicological information

General toxicological information:

Persons suffering from allergic reactions to isocyanates should avoid contact with the product.

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 CAS-No.	Value type	Value	Species	Method
Poly[oxy(methyl-1,2-ethanediyl)], a-hydro-w-hydroxy-, polymer with 1,1'-methylenebis[isocyanatobenzene] 39420-98-9	LD50	> 10.000 mg/kg	rat	not specified
4,4'-methylenediphenyl diisocyanate 101-68-8	LD50	> 2.000 mg/kg	rat	other guideline:
propylene carbonate 108-32-7	LD50	> 5.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
MDI homopolymer 25686-28-6	LD50	> 5.000 mg/kg	rat	OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	LD50	> 2.000 mg/kg	rat	other guideline:

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
Poly[oxy(methyl-1,2-ethanediyl)], a-hydro-w-hydroxy-, polymer with 1,1'-methylenebis[isocyanatobenzene] 39420-98-9	LD50	> 9.400 mg/kg	rabbit	not specified
4,4'-methylenediphenyl diisocyanate 101-68-8	LD50	> 9.400 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
propylene carbonate 108-32-7	LD50	> 3.000 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
MDI homopolymer 25686-28-6	LD50	> 9.400 mg/kg	rabbit	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	LD50	> 9.400 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)

Acute inhalative toxicity:

No substance data available.

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
4,4'-methylenediphenyl diisocyanate 101-68-8	irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
propylene carbonate 108-32-7	not irritating	24 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
MDI homopolymer 25686-28-6	irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	irritating		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
propylene carbonate 108-32-7	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
4,4'-methylenediphenyl diisocyanate 101-68-8	sensitising	Buehler test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
4,4'-methylenediphenyl diisocyanate 101-68-8	sensitising	Respiratory sensitisation	guinea pig	not specified
propylene carbonate 108-32-7	not sensitising	Patch-Test	human	Patch Test
MDI homopolymer 25686-28-6	sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
MDI homopolymer 25686-28-6	sensitising	Respiratory sensitisation	rat	not specified
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	sensitising	Skin sensitisation	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
4,4'-methylenediphenyl diisocyanate 101-68-8	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		EU Method B.13/14 (Mutagenicity)
propylene carbonate 108-32-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
propylene carbonate 108-32-7	negative	DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro	without		OECD Guideline 482 (Genetic Toxicology: DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells In Vitro)
MDI homopolymer 25686-28-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		EU Method B.13/14 (Mutagenicity)
4,4'-methylenediphenyl diisocyanate 101-68-8	negative	inhalation		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
propylene carbonate 108-32-7	negative	intraperitoneal		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
MDI homopolymer 25686-28-6	negative	inhalation: aerosol		rat	OECD Guideline 489 (In Vivo Mammalian Alkaline Comet Assay)
MDI homopolymer 25686-28-6	negative	inhalation		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	negative	inhalation		rat	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
4,4'-methylenediphenyl diisocyanate 101-68-8	carcinogenic	inhalation: aerosol	2 y 6 h/d	rat	male/female	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
MDI homopolymer 25686-28-6	carcinogenic	inhalation: aerosol	2 y 6 h/d, 5 d/w	rat	male/female	equivalent or similar OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
Reaction mass of 4,4'- Methylenediphenyl diisocyanate and o-(p- isocyanatobenzyl)phenyl isocyanate	carcinogenic	inhalation: aerosol	2 y 6 h/d	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
MDI homopolymer 25686-28-6	NOAEL P 2.03 mg/m3 NOAEL F1 2.03 mg/m3	screening	inhalation	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

STOT-single exposure:

No data available.

STOT-repeated exposure::

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

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
4,4'-methylenediphenyl diisocyanate 101-68-8	NOAEL 0,0002 mg/l	inhalation: aerosol	main: 2 y; satellite:1 y 6 h/d; 5 d/w	rat	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
propylene carbonate 108-32-7	NOAEL 0,1 mg/l	inhalation	13 weeks (93 days) 6 h/d; 5 d/w	rat	OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day)
propylene carbonate 108-32-7	NOAEL > 5.000 mg/kg	oral: gavage	90 days 5 days/week	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
MDI homopolymer 25686-28-6	NOAEL 0.2 mg/m3	inhalation: aerosol	2 y 6 h/d; 5 d/w	rat	equivalent or similar to OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

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, soil or bodies of 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
4,4'-methylenediphenyl diisocyanate 101-68-8	LL50	> 100 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
propylene carbonate 108-32-7	LC50	5.300 mg/l	96 h	Leuciscus idus	DIN 38412-15
MDI homopolymer 25686-28-6	LC50	> 1.000 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	LC50	Toxicity > Water solubility	96 h	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)

Toxicity (Daphnia):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
4,4'-methylenediphenyl diisocyanate 101-68-8	EC50	> 100 mg/l	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)
propylene carbonate 108-32-7	EC50	> 500 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
MDI homopolymer 25686-28-6	EC50	129,7 mg/l	24 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	EC50	Toxicity > Water solubility	24 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
4,4'-methylenediphenyl diisocyanate 101-68-8	NOEC	10 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
MDI homopolymer 25686-28-6	NOEC	10 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	NOEC	Toxicity > Water solubility	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
4,4'-methylenediphenyl diisocyanate 101-68-8	EL50	> 100 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
4,4'-methylenediphenyl diisocyanate 101-68-8	NOELR	100 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
propylene carbonate 108-32-7	EC50	> 900 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
propylene carbonate 108-32-7	NOEC	900 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
MDI homopolymer 25686-28-6	EC50	> 1.640 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
MDI homopolymer 25686-28-6	NOEC	1.640 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	EC50	Toxicity > Water solubility	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	NOELR	Toxicity > Water solubility	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	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
4,4'-methylenediphenyl diisocyanate 101-68-8	EC50	> 1.000 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
propylene carbonate 108-32-7	EC10	> 10.000 mg/l	17 h		not specified
MDI homopolymer 25686-28-6	EC50	> 100 mg/l	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	EC50	Toxicity > Water solubility	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

12.2. Persistence and degradability

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
4,4'- methylenediphenyl diisocyanate 101-68-8	not readily biodegradable.	aerobic	0 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
propylene carbonate 108-32-7	inherently biodegradable	aerobic	> 70 %		OECD Guideline 302 B (Inherent biodegradability: Zahn- Wellens/EMPA Test)
propylene carbonate 108-32-7	readily biodegradable	aerobic	98 %		OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)
MDI homopolymer 25686-28-6	not readily biodegradable.	aerobic	> 0 - < 60 %	28 d	OECD 301 A - F
MDI homopolymer 25686-28-6	not inherently biodegradable	aerobic	0 %	28 d	OECD Guideline 302 C (Inherent Biodegradability: Modified MITI Test (II))
Reaction mass of 4,4'- Methylenediphenyl diisocyanate and o-(p- isocyanatobenzyl)phenyl isocyanate	not inherently biodegradable	aerobic	0 %	28 day	OECD Guideline 302 C (Inherent Biodegradability: Modified MITI Test (II))

12.3. Bioaccumulative potential

Hazardous substances CAS-No.	Bioconcentratio n factor (BCF)	Exposure time	Temperature	Species	Method
4,4'- methylenediphenyl diisocyanate 101-68-8	92 - 200	28 d		Cyprinus carpio	OECD Guideline 305 E (Bioaccumulation: Flow-through Fish Test)
MDI homopolymer 25686-28-6	> 92 - 200	28 d		Cyprinus carpio	OECD Guideline 305 E (Bioaccumulation: Flow-through Fish Test)
Reaction mass of 4,4'- Methylenediphenyl diisocyanate and o-(p- isocyanatobenzyl)phenyl isocyanate	92 - 200	28 d		Cyprinus carpio	OECD Guideline 305 E (Bioaccumulation: Flow-through Fish Test)

12.4. Mobility in soil

Hazardous substances CAS-No.	LogPow	Temperature	Method
4,4'-methylenediphenyl diisocyanate 101-68-8	4,51	22 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
propylene carbonate 108-32-7	-0,41		not specified
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	4,51	22 °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
4,4'-methylenediphenyl diisocyanate 101-68-8	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
propylene carbonate 108-32-7	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
MDI homopolymer 25686-28-6	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very 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:

In consultation with the responsible local authority, must be subjected to special treatment.

Waste code

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.

080409

SECTION 14: Transport information

14.1. UN number or ID number

ADR	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
IATA	Not dangerous goods

14.2. UN proper shipping name

ADR	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
IATA	Not dangerous goods

14.3. Transport hazard class(es)

ADR	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
IATA	Not dangerous goods

14.4. Packing group

ADR	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
IATA	Not dangerous goods

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
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 (2010/75/EU)	0 %

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

National regulations/information (Germany):

WGK: WGK 1: slightly hazardous to water (Ordinance on facilities for handling substances that are hazardous to water (AwSV))
Classification according to AwSV, Annex 1 (5.2)

BG regulations, rules, infos: BG data sheet: BGI 524 Hazardous substances: polyurethane production and processing / isocyanates (M 044)

Storage class according to TRGS 510: 10

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.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure.

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:

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 (SDSinfo.Adhesive@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 amendedPage 1 of 16

LOCTITE PC 7282

SDS No. : 573349

V003.1

Revision: 30.11.2022

printing date: 24.12.2022

Replaces version from: 29.11.2022

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

1.1. Product identifier

LOCTITE PC 7282

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

Intended use:

Coating

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

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

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):

Serious eye irritation

Category 2

H319 Causes serious eye irritation.

Specific target organ toxicity - repeated exposure

Category 2

H373 May cause damage to organs through prolonged or repeated exposure.

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

diethylmethylbenzenediamine

Signal word:	Warning
Hazard statement:	H319 Causes serious eye irritation. H373 May cause damage to organs through prolonged or repeated exposure. H411 Toxic to aquatic life with long lasting effects.
Supplemental information	Contains: dibutyltin dilaurate May produce an allergic reaction.
Precautionary statement: Prevention	P260 Do not breathe mist/spray. P273 Avoid release to the environment. P280 Wear protective gloves/eye protection.

2.3. Other hazards

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

Following substances are present in a concentration \geq the concentration limit for depiction in Section 3 and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

This mixture does not contain any substances in a concentration \geq the concentration limit for depiction in Section 3 that are assessed to be a PBT, vPvB or ED.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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

Hazardous components CAS-No. EC Number REACH-Reg No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
Diethylene glycol 111-46-6 203-872-2 01-2119457857-21	5- 15 %	Acute Tox. 4, Oral, H302		
diethylmethylbenzenediamine 68479-98-1 270-877-4 01-2119486805-25	5- 15 %	Acute Tox. 4, Oral, H302 STOT RE 2, H373 Eye Irrit. 2, H319 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Acute Tox. 4, Dermal, H312	M acute = 1 M chronic = 1	
dibutyltin dilaurate 77-58-7 201-039-8 01-2119496068-27	0,1- < 0,3 %	Acute Tox. 4, Oral, H302 Aquatic Chronic 1, H410 Aquatic Acute 1, H400 STOT RE 1, H372 STOT SE 1, H370 Repr. 1B, H360FD Muta. 2, H341 Skin Sens. 1, H317 Eye Irrit. 2, H319	M acute = 1 M chronic = 1 =====	oral:ATE = 500 mg/kg

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, consult doctor if complaint persists.

Skin contact:

Rinse with running water and soap. Apply replenishing cream. Change all contaminated clothing. If necessary, see a dermatologist.

Eye contact:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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.

An allergic reaction cannot be excluded after repeated skin contact.

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

See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

All common extinguishing agents are suitable.

Extinguishing media which must not be used for safety reasons:

High pressure waterjet

5.2. Special hazards arising from the substance or mixture

In case of fire toxic gases can be released.

5.3. Advice for firefighters

Wear self-contained breathing apparatus.

Wear protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear protective equipment.

Avoid contact with skin and eyes.

Keep unprotected persons away.

Danger of slipping on spilled product.

6.2. Environmental precautions

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

Inform authorities in the event of product spillage to water courses or sewage systems.

6.3. Methods and material for containment and cleaning up

Remove with liquid-absorbing material (sand, peat, sawdust).

Dispose of contaminated material as waste according to Section 13.

6.4. Reference to other sections

See advice in section 8

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Hygiene measures:

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

7.2. Conditions for safe storage, including any incompatibilities

Ensure good ventilation/extraction.

Store in a cool, dry place.

Store in sealed original container.

Temperatures between + 10 °C and + 30 °C

Protect from freezing.

7.3. Specific end use(s)

Coating

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
2,2'-Oxydiethanol 111-46-6	10	44	Exposure limit(s):	4 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
2,2'-Oxydiethanol 111-46-6			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	
2,2'-Oxydiethanol 111-46-6	aqua (freshwater)		10 mg/l				
2,2'-Oxydiethanol 111-46-6	aqua (marine water)		1 mg/l				
2,2'-Oxydiethanol 111-46-6	sewage treatment plant (STP)		199,5 mg/l				
2,2'-Oxydiethanol 111-46-6	aqua (intermittent releases)		10 mg/l				
2,2'-Oxydiethanol 111-46-6	sediment (freshwater)				20,9 mg/kg		
2,2'-Oxydiethanol 111-46-6	sediment (marine water)				2,09 mg/kg		
2,2'-Oxydiethanol 111-46-6	Soil				1,53 mg/kg		
2,2'-Oxydiethanol 111-46-6	Air						no hazard identified
2,2'-Oxydiethanol 111-46-6	Predator						no potential for bioaccumulation
Diethylmethylbenzenediamine 68479-98-1	aqua (freshwater)		0,001 mg/l				
Diethylmethylbenzenediamine 68479-98-1	sediment (freshwater)				0,029 mg/kg		
Diethylmethylbenzenediamine 68479-98-1	aqua (marine water)		0,0001 mg/l				
Diethylmethylbenzenediamine 68479-98-1	sediment (marine water)				0,0029 mg/kg		
Diethylmethylbenzenediamine 68479-98-1	Soil				0,0056 mg/kg		
Diethylmethylbenzenediamine 68479-98-1	sewage treatment plant (STP)		17 mg/l				
Diethylmethylbenzenediamine 68479-98-1	aqua (intermittent releases)		0,005 mg/l				
Diethylmethylbenzenediamine 68479-98-1	oral				2 mg/kg		
dibutyltin dilaurate 77-58-7	aqua (freshwater)		0,000463 mg/l				
dibutyltin dilaurate 77-58-7	aqua (marine water)		0,000046 mg/l				
dibutyltin dilaurate 77-58-7	aqua (intermittent releases)		0,005 mg/l				
dibutyltin dilaurate 77-58-7	sewage treatment plant (STP)		100 mg/l				
dibutyltin dilaurate 77-58-7	sediment (freshwater)				0,05 mg/kg		
dibutyltin dilaurate 77-58-7	sediment (marine water)				0,005 mg/kg		
dibutyltin dilaurate 77-58-7	Soil				0,0407 mg/kg		
dibutyltin dilaurate 77-58-7	oral				0,2 mg/kg		

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
2,2'-Oxydiethanol 111-46-6	Workers	inhalation	Long term exposure - systemic effects		44 mg/m3	no hazard identified
2,2'-Oxydiethanol 111-46-6	Workers	inhalation	Long term exposure - local effects		60 mg/m3	no hazard identified
2,2'-Oxydiethanol 111-46-6	Workers	dermal	Long term exposure - systemic effects		43 mg/kg	no hazard identified
2,2'-Oxydiethanol 111-46-6	General population	inhalation	Long term exposure - systemic effects		12 mg/m3	no hazard identified
2,2'-Oxydiethanol 111-46-6	General population	inhalation	Long term exposure - local effects		12 mg/m3	no hazard identified
2,2'-Oxydiethanol 111-46-6	General population	dermal	Long term exposure - systemic effects		21 mg/kg	no hazard identified
Diethylmethylbenzenediamine 68479-98-1	Workers	inhalation	Long term exposure - systemic effects		0,13 mg/m3	
Diethylmethylbenzenediamine 68479-98-1	Workers	dermal	Long term exposure - systemic effects		1 mg/kg	
Diethylmethylbenzenediamine 68479-98-1	General population	oral	Long term exposure - systemic effects		0,1 mg/kg	
Diethylmethylbenzenediamine 68479-98-1	General population	dermal	Long term exposure - systemic effects		1 mg/kg	
Diethylmethylbenzenediamine 68479-98-1	General population	inhalation	Long term exposure - systemic effects		0,1 mg/m3	
dibutyltin dilaurate 77-58-7	Workers	dermal	Acute/short term exposure - systemic effects		2,08 mg/kg	
dibutyltin dilaurate 77-58-7	Workers	Dermal	Long term exposure - systemic effects		0,43 mg/kg	
dibutyltin dilaurate 77-58-7	Workers	inhalation	Long term exposure - systemic effects		0,02 mg/m3	
dibutyltin dilaurate 77-58-7	General population	dermal	Acute/short term exposure - systemic effects		0,5 mg/kg	
dibutyltin dilaurate 77-58-7	General population	inhalation	Acute/short term exposure - systemic effects		0,04 mg/m3	
dibutyltin dilaurate 77-58-7	General population	oral	Acute/short term exposure - systemic effects		0,02 mg/kg	
dibutyltin dilaurate 77-58-7	General population	dermal	Long term exposure - systemic effects		0,16 mg/kg	
dibutyltin dilaurate 77-58-7	General population	inhalation	Long term exposure - systemic effects		0,005 mg/m3	
dibutyltin dilaurate 77-58-7	General population	oral	Long term exposure - systemic effects		0,003 mg/kg	

Biological Exposure Indices:

None

8.2. Exposure controls:

Engineering controls:

Ensure good ventilation/extraction.

Respiratory protection:

In case of aerosol formation, we recommend wearing of appropriate respiratory protection equipment with ABEK P2 filter (EN 14387).

This recommendation should be matched to local conditions.

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:

Goggles which can be tightly sealed.

Protective eye equipment should conform to EN166.

Skin protection:

Wear protective equipment.

Protective clothing that covers arms and legs.

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

Advices to personal protection equipment:

Use only personal protection that's CE-labelled according to Directive 89/686/EEC (Europe) or to Regulation No. 819 of 19 August 1994 (Norway), or equivalent.

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	blue
Odor	amine-like
Melting point	Not applicable, Product is a liquid
Initial boiling point	Currently under determination
Flammability	Currently under determination
Explosive limits	Currently under determination
Flash point	Currently under determination
Auto-ignition temperature	Currently under determination
Decomposition temperature	Currently under determination
pH	Currently under determination
Viscosity (kinematic)	Currently under determination
Viscosity, dynamic (; 25 °C (77 °F))	400 - 800 mPa.s no method
Solubility (qualitative)	Currently under determination
Partition coefficient: n-octanol/water	Not applicable

Vapour pressure

Density

(20 °C (68 °F))

Relative vapour density:

Particle characteristics

Mixture

Currently under determination

0,98 - 1,02 g/cm³ no method

Currently under determination

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**

None if used for intended purpose.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

None if used for intended purpose.

10.5. Incompatible materials

None if used properly.

10.6. Hazardous decomposition products

No decomposition if used according to specifications.

SECTION 11: Toxicological information**General toxicological information:**

Persons suffering from allergic reactions to amines should avoid contact with the product.

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 CAS-No.	Value type	Value	Species	Method
Diethylene glycol 111-46-6	LD50	1.120 mg/kg	Human	not specified
diethylmethylbenzenedia mine 68479-98-1	LD50	738 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
dibutyltin dilaurate 77-58-7	Acute toxicity estimate (ATE)	500 mg/kg		Expert judgement
dibutyltin dilaurate 77-58-7	LD50	500 - 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 CAS-No.	Value type	Value	Species	Method
Diethylene glycol 111-46-6	LD50	13.300 mg/kg	rabbit	not specified
dibutyltin dilaurate 77-58-7	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
Diethylene glycol 111-46-6	not irritating		Human, three dimensional epidermis model	OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method)
diethylmethylbenzenedia mine 68479-98-1	not irritating		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
dibutyltin dilaurate 77-58-7	not corrosive		Human, EpiSkinTM (SM), Reconstructed Human Epidermis (RHE)	OECD Guideline 431 (In Vitro Skin Corrosion: Reconstructed Human Epidermis (RHE) Test Method)
dibutyltin dilaurate 77-58-7	not irritating		Human, EpiSkinTM (SM), Reconstructed Human Epidermis (RHE)	other guideline:
dibutyltin dilaurate 77-58-7	not corrosive		Corrositex Biobarrier Membrane (reconstituted collagen matrix)	OECD Guideline 435 (In Vitro Membrane Barrier Test Method for Skin 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
Diethylene glycol 111-46-6	not irritating		rabbit	not specified
dibutyltin dilaurate 77-58-7	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
Diethylene glycol 111-46-6	not sensitising	Guinea pig maximisation test	guinea pig	EU Method B.6 (Skin Sensitisation)
dibutyltin dilaurate 77-58-7	Sensitizing	Guinea pig maximisation 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
Diethylene glycol 111-46-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
dibutyltin dilaurate 77-58-7	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
dibutyltin dilaurate 77-58-7	positive	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
dibutyltin dilaurate 77-58-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Diethylene glycol 111-46-6	negative	intraperitoneal		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
diethylmethylbenzenedia mine 68479-98-1	negative	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
dibutyltin dilaurate 77-58-7	positive	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Carcinogenicity

No data available.

Reproductive toxicity:

No data available.

STOT-single exposure:

No data available.

STOT-repeated exposure::

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

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
Diethylene glycol 111-46-6	NOAEL 936 mg/kg	oral: feed	4 weeks daily	rat	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
diethylmethylbenzenedia mine 68479-98-1	NOAEL 8 mg/kg	oral: feed	90 days daily	rat	EU Method B.26 (Sub- Chronic Oral Toxicity Test: Repeated Dose 90- Day Oral Toxicity Study 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, soil or bodies of 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
Diethylene glycol 111-46-6	LC50	75.200 mg/l	96 h	Pimephales promelas	other guideline:
Diethylene glycol 111-46-6	NOEC	15.380 mg/l	7 d	Pimephales promelas	other guideline:
diethylmethylbenzenediamine 68479-98-1	LC50	> 106 mg/l	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
dibutyltin dilaurate 77-58-7	LC50	3,1 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)

Toxicity (Daphnia):

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

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Diethylene glycol 111-46-6	EC50	> 10.000 mg/l	24 h	Daphnia magna	DIN 38412, part 11
diethylmethylbenzenediamine 68479-98-1	EC50	0,5 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
dibutyltin dilaurate 77-58-7	EC50	0,463 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
Diethylene glycol 111-46-6	NOEC	8.590 mg/l	7 d	Ceriodaphnia dubia	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
Diethylene glycol 111-46-6	EC50	> 1.000 mg/l	72 h	not specified	OECD Guideline 201 (Alga, Growth Inhibition Test)
Diethylene glycol 111-46-6	NOEC	> 100 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
dibutyltin dilaurate 77-58-7	IC50	> 3 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	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
Diethylene glycol 111-46-6	EC20	> 1.995 mg/l	30 min	activated sludge, domestic	ISO 8192 (Test for Inhibition of Oxygen Consumption by Activated Sludge)
diethylmethylbenzenediamine 68479-98-1	EC10	170 mg/l	24 h		not specified
dibutyltin dilaurate 77-58-7	EC50	> 1.000 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

12.2. Persistence and degradability

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
Diethylene glycol 111-46-6	inherently biodegradable	aerobic	100 %	14 d	EU Method C.9 (Biodegradation: Zahn-Wellens Test)
Diethylene glycol 111-46-6	readily biodegradable	aerobic	61 - 77 %	30 d	EU Method C.4-E (Determination of the "Ready" Biodegradability Closed Bottle Test)
diethylmethylbenzenediamine 68479-98-1		aerobic	0 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
dibutyltin dilaurate 77-58-7	not readily biodegradable.	anaerobic	23 %	39 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)

12.3. Bioaccumulative potential

Hazardous substances CAS-No.	Bioconcentration factor (BCF)	Exposure time	Temperature	Species	Method
Diethylene glycol 111-46-6	100	3 d		Leuciscus idus melanotus	other guideline:
dibutyltin dilaurate 77-58-7	31 - 155			Cyprinus carpio	OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)

12.4. Mobility in soil

Hazardous substances CAS-No.	LogPow	Temperature	Method
Diethylene glycol 111-46-6	-1,98		QSAR (Quantitative Structure Activity Relationship)
dibutyltin dilaurate 77-58-7	4,44	20,8 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

12.5. Results of PBT and vPvB assessment

Hazardous substances CAS-No.	PBT / vPvB
Diethylene glycol 111-46-6	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
diethylmethylbenzenediamine 68479-98-1	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
dibutyltin dilaurate 77-58-7	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very 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:

In consultation with the responsible local authority, must be subjected to special treatment.

Waste code

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.

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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. (Diethyltoluene diamine)
RID	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Diethyltoluene diamine)
ADN	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Diethyltoluene diamine)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Diethyltoluene diamine)
IATA	Environmentally hazardous substance, liquid, n.o.s. (Diethyltoluene diamine)

14.3. Transport hazard class(es)

ADR	9
RID	9
ADN	9
IMDG	9
IATA	9

14.4. Packing group

ADR	III
RID	III
ADN	III
IMDG	III
IATA	III

14.5. Environmental hazards

ADR	not applicable
RID	not applicable
ADN	not applicable
IMDG	Marine pollutant
IATA	not applicable

14.6. Special precautions for user

ADR	not applicable Tunnelcode:
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

The transport classifications in this section apply generally to packed and bulk goods alike. For containers with a net volume of no more than 5 L for liquid substances or a net mass of no more than 5 kg for solid substances per individual or inner package, the exemptions SP 375 (ADR), 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):	dibutyltin dilaurate CAS 77-58-7
Persistent organic pollutants (Regulation (EU) 2019/1021):	Not applicable
VOC content (2010/75/EU)	0 %

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

National regulations/information (Germany):

WGK:	WGK 3: highly hazardous to water (Ordinance on facilities for handling substances that are hazardous to water (AwSV)) Classification according to AwSV, Annex 1 (5.2)
Storage class according to TRGS 510:	10

SECTION 16: Other information

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

H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H341 Suspected of causing genetic defects.
H360FD May damage fertility. May damage the unborn child.
H370 Causes damage to organs.
H372 Causes damage to organs through prolonged or repeated exposure.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

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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