

Trade name: Hardener S for cds-AGL SlotRestore rigid/eco

Version: 4 / GB

Date revised: 18.12.2025

Substance number: 19493

Replaces Version: 3 / GB

Print date: 18.12.2025

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

1.1. Product identifier

Hardener S for cds-AGL SlotRestore rigid/eco

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

Use of the substance/preparation

Coating material

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

cds Polymere GmbH & Co. KG

Gau-Bickelheimer Str. 72

55576 Sprendlingen/Rhh.

Telephone no. +49(6701) 9350-0

Fax no. +49(6701) 9350-50

Information provided info@cds-polymere.de

by / telephone

1.4. Emergency telephone number

Emergency CONTACT (24-Hour-Number): GBK GmbH +49 (0)6132-84463

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

Classification (Regulation (EC) No. 1272/2008)

Skin Corr. 1B	H314
Eye Dam. 1	H318
Skin Sens. 1	H317
Repr. 2	H361fd
STOT RE 2	H373
Aquatic Chronic 2	H411

The product is classified and labelled in accordance with Regulation (EC) No 1272/2008

For explanation of abbreviations see section 16.

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008

Hazard pictograms



Signal word

Danger

Hazard statements

H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.

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H373 May cause damage to organs through prolonged or repeated exposure.
 H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 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.
 P310 Immediately call a POISON CENTER or doctor.

Hazardous component(s) to be indicated on label (Regulation (EC) No. 1272/2008)

contains 2-piperazin-1-ylethylamine; Polyoxypropylenediamine ; Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols; 3,6,9-triazaundecamethylenediamine; polymeric polyamidoamine; Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

2.3. Other hazards

No special hazards have to be mentioned.

The product contains no PBT substances. The product contains no vPvB substances. This product does not contain a substance that has endocrine disrupting properties with respect to human. The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

SECTION 3: Composition/information on ingredients**3.2. Mixtures****Hazardous ingredients****Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine**

CAS No.	68082-29-1		
EINECS no.	500-191-5		
Registration no.	01-2119972320-44-XXXX		
Concentration	>= 50		%
Classification (Regulation (EC) No. 1272/2008)			
	Eye Dam. 1	H318	
	Skin Irrit. 2	H315	
	Skin Sens. 1	H317	
	Aquatic Chronic 2	H411	

polymeric polyamidoamine

Registration no.	POLYMER		
Concentration	>= 10	< 25	%
Classification (Regulation (EC) No. 1272/2008)			
	Skin Corr. 1C	H314	
	Eye Dam. 1	H318	
	Aquatic Acute 1	H400	
	Aquatic Chronic 1	H410	
	Skin Sens. 1	H317	

Concentration limits (Regulation (EC) No. 1272/2008)

Aquatic Chronic	H410	M = 1
1		
Aquatic Acute 1	H400	M = 1

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Polyoxypropylenediamine

CAS No. 9046-10-0
 EINECS no. 618-561-0
 Registration no. 01-2119557899-12-XXXX
 Concentration \geq 10 < 25 %
 Classification (Regulation (EC) No. 1272/2008)
 Skin Corr. 1C H314
 Eye Dam. 1 H318
 Aquatic Chronic 3 H412

Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols

EINECS no. 701-443-9
 Registration no. 01-2119980970-27-XXXX
 Concentration \geq 2,5 < 10 %
 Classification (Regulation (EC) No. 1272/2008)
 Skin Irrit. 2 H315
 Skin Sens. 1A H317
 Aquatic Chronic 2 H411

2-piperazin-1-ylethylamine

CAS No. 140-31-8
 EINECS no. 205-411-0
 Registration no. 01-2119471486-30-XXXX
 Concentration \geq 2,5 < 10 %
 Classification (Regulation (EC) No. 1272/2008)
 Acute Tox. 3 H311
 Repr. 2 H361
 STOT RE 1 H372
 Skin Corr. 1B H314
 Eye Dam. 1 H318
 Acute Tox. 4 H302
 Skin Sens. 1 H317
 Aquatic Chronic 3 H412

ATE dermal 866 mg/kg

3,6,9-triazaundecamethylenediamine

CAS No. 112-57-2
 EINECS no. 203-986-2
 Registration no. 01-2119487290-37-XXXX
 Concentration \geq 2,5 < 5 %
 Classification (Regulation (EC) No. 1272/2008)
 Acute Tox. 4 H302
 Acute Tox. 4 H312
 Skin Corr. 1B H314
 Skin Sens. 1 H317
 Aquatic Chronic 2 H411

ATE oral 1.716 mg/kg
 ATE dermal 1.260 mg/kg

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

Remove contaminated, soaked clothing immediately and dispose of safely. Adhere to personal protective

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measures when giving first aid. Clean body thoroughly (bath, shower). In any case show the physician the Safety Data Sheet.

After inhalation

Ensure supply of fresh air. Remove affected person from danger area. Seek medical advice immediately. Give a Cortison spray at an early stage.

After skin contact

Wash off immediately with soap and water. Seek medical advice immediately.

After eye contact

Separate eyelids, wash the eyes thoroughly with water (15 min.). Take medical treatment.

After ingestion

Call in a physician immediately and show him the Safety Data Sheet. Rinse mouth thoroughly with water. Let plenty of water be drunk in small gulps. Do not induce vomiting.

Adhere to personal protective measures when giving first aid

First aider: Pay attention to self-protection!

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

Until now no symptoms known so far.

4.3. Indication of any immediate medical attention and special treatment needed**Hints for the physician / hazards**

In the case of swallowing with subsequent vomiting, aspiration of the lungs can occur which can lead to chemical pneumonia or asphyxiation.

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

Dry powder

Non suitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

In case of combustion evolution of dangerous gases possible. Carbon monoxide (CO); Carbon dioxide (CO₂); Pyrolysis products

5.3. Advice for firefighters**Special protective equipment for fire-fighting**

Do not inhale explosion and/or combustion gases. In case of combustion use a suitable breathing apparatus. Wear full protective suit.

Other information

Collect contaminated fire-fighting water separately, must not be discharged into the drains. Fire residues and contaminated fire-fighting water must be disposed of in accordance with the local regulations. Observe manufacturer's / distributor's instructions.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Use breathing apparatus if exposed to vapours/dust/aerosol. Avoid contact with skin, eyes and clothing. Refer to protective measures listed in Sections 7 and 8.

6.2. Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers). Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil. Retain and dispose of



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contaminated wash water. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

Pick up with absorbent material. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations. Containers in which spilt substance has been collected must be adequately labelled. Dispose of absorbed material in accordance with the regulations.

6.4. Reference to other sections

Refer to protective measures listed in Sections 7 and 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid formation of aerosols. Perform filling operations only at stations with exhaust ventilation facilities. Provide suitable exhaust ventilation at the processing machines. If workplace limits are exceeded, a respiratory protection approved for this particular job must be worn. Keep container tightly closed.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep in original packaging, tightly closed. Storage rooms must be properly ventilated. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Provide solvent-resistant and impermeable floor.

Hints on storage assembly

Do not store together with foodstuffs.

Further information on storage conditions

Do not keep at temperatures above 20 °C.

7.3. Specific end use(s)

Read attached instructions before use.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Other information

Abbreviations: E = respirable part, A = alveoli absorbable part
There are not known any further control parameters.

Derived No/Minimal Effect Levels (DNEL/DMEL)

2-piperazin-1-ylethylamine

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	10,6	mg/m ³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Acute	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	10,6	mg/m ³

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Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	0,015	mg/m ³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	0,08	mg/m ³
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	3,33	mg/kg/d
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	20	mg/kg/d
Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols		
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	2,87	mg/kg
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	1,21	mg/m ³
3,6,9-triazaundecamethylenediamine		
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	0,25	mg/cm ²
Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	0,82	mg/m ³



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Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	3,9	mg/m ³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	1,1	mg/kg/d

Polyoxypropylenediamine

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	2,5	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	5,29	mg/m ³

Predicted No Effect Concentration (PNEC)

2-piperazin-1-ylethylamine

Type of value	PNEC	
Type	Freshwater	
Concentration	0,058	mg/l

Type of value	PNEC	
Type	Marine	
Concentration	0,0058	mg/l

Type of value	PNEC	
Type	Water (intermittent release)	
Concentration	0,58	mg/l

Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	250	mg/l

Type of value	PNEC	
Type	Sediment	
Concentration	215	mg/kg

Type of value	PNEC	
Type	Marine sediment	

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Concentration 21,5 mg/kg

Type of value PNEC
 Type Soil
 Concentration 1 mg/kg

Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols

Type of value PNEC
 Type Freshwater
 Concentration 0,0115 mg/l

Type of value PNEC
 Type Marine
 Concentration 0,00115 mg/l

3,6,9-triazaundecamethylenediamine

Type of value PNEC
 Type Freshwater
 Concentration 0,01 mg/l

Type of value PNEC
 Type Water (intermittent release)
 Concentration 0,068 mg/l

Type of value PNEC
 Type Saltwater
 Concentration 0,001 mg/l

Type of value PNEC
 Type Sewage treatment plant (STP)
 Concentration 4,6 mg/l

Type of value PNEC
 Type Freshwater sediment
 Concentration 3,198 mg/kg

Type of value PNEC
 Type Marine sediment
 Concentration 0,319 mg/kg

Type of value PNEC
 Type Soil
 Concentration 2,5 mg/kg

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

Type of value PNEC
 Type Freshwater
 Concentration 0,00434 mg/l

Type of value PNEC
 Type Saltwater
 Concentration 0,000434 mg/l

Polyoxypropylenediamine

Type of value PNEC

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Type	Freshwater		
Concentration	0,015		mg/l
Type of value	PNEC		
Type	Water (intermittent release)		
Concentration	0,15		mg/l
Type of value	PNEC		
Type	Saltwater		
Concentration	0,014		mg/l
Type of value	PNEC		
Type	Sewage treatment plant (STP)		
Concentration	7,5		mg/l
Type of value	PNEC		
Type	Freshwater sediment		
Concentration	0,132		mg/kg
Type of value	PNEC		
Type	Marine sediment		
Concentration	0,125		mg/kg
Type of value	PNEC		
Type	Soil		
Concentration	0,018		mg/kg
Type of value	PNEC		
Type	Secondary poisoning		
Concentration	6,93		mg/kg

8.2. Exposure controls

General protective and hygiene measures

Hold emergency shower available. Hold eye wash fountain available. Do not inhale gases/vapours/aerosols. Avoid contact with skin and eyes. Do not eat, drink or smoke during work time. Storage of foodstuffs in work rooms is forbidden. Wash hands before breaks and after work. Clean skin thoroughly after work; apply skin cream.

Respiratory protection

If workplace limits are exceeded, a respiratory protection approved for this particular job must be worn. Short term: filter apparatus, combination filter A-P2; The respiratory protection must comply with the relevant CEN standards.

Hand protection

Chemical resistant gloves
 Appropriate Material nitrile
 Material thickness \geq 0,3 mm
 Breakthrough time \geq 480 min
 Hand protection must comply with EN 374.
 Check leak-tightness/impermeability prior to use.

Eye protection

Safety glasses with side protection shield; Face shield; Eye protection must comply with EN 166.

Body protection

Clothing as usual in the chemical industry. Protective shoes; Personal protective clothing must comply with the relevant CEN standards.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid
Odour	amine-like
Colour	yellow
Melting point	
Remarks	not determined
Freezing point	
Remarks	not determined
Boiling point or initial boiling point and boiling range	
Value	> 200 °C
Flammability	
evaluation	not determined
Upper and lower explosive limits	
Remarks	not determined
Flash point	
Value	> 93 °C
Ignition temperature	
Remarks	not determined
Decomposition temperature	
Remarks	not determined
pH value	
Value	11 to 12
Concentration/H ₂ O	1 %
Temperature	20 °C
Viscosity	
Remarks	not determined
Solubility(ies)	
Remarks	not determined
Partition coefficient n-octanol/water (log value)	
Remarks	not determined
Vapour pressure	
Remarks	not determined
Density and/or relative density	
Value	0,98 g/cm ³
Temperature	23 °C
Relative vapour density	
Remarks	not determined

9.2. Other information

Odour threshold	
Remarks	not determined
Evaporation rate (ether = 1) :	
Remarks	not determined
Solubility in water	

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Remarks virtually insoluble

Explosive properties

evaluation not determined

Oxidising properties

Remarks not determined

Other information

None known

SECTION 10: Stability and reactivity**10.1. Reactivity**

No hazardous reactions when stored and handled according to prescribed instructions.

10.2. Chemical stability

No hazardous reactions known.

10.3. Possibility of hazardous reactions

No hazardous reactions known.

10.4. Conditions to avoid

No hazardous reactions known.

10.5. Incompatible materials

Reactions with strong oxidising agents. Reactions with strong acids. Reactions with strong alkalies.

10.6. Hazardous decomposition products

Toxic gases/vapours, Irritant gases/vapours

SECTION 11: Toxicological information *****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute oral toxicity**

ATE	>	10.000	mg/kg
Method	calculated value (Regulation (EC) No. 1272/2008)		
Remarks	Based on available data, the classification criteria are not met.		

Acute oral toxicity (Components)**3,6,9-triazaundecamethylenediamine**

Species	rat		
LD50		1716	mg/kg
Method	OECD 401		

2-piperazin-1-ylethylamine

Species	rat		
LD50		2140	mg/kg

Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols

Species	rat		
LD50	>	2000	mg/kg
Method	OECD 423		

Polyoxypropylenediamine

Species	rat		
LD50		2885	mg/kg
Method	OECD 401		

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

Species	rat		
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LD50 > 2000 mg/kg

polymeric polyamidoamine

Species rat

LD50 > 2000 mg/kg

Acute dermal toxicity

ATE 8.630,07 mg/kg
69

Method calculated value (Regulation (EC) No. 1272/2008)

Remarks Based on available data, the classification criteria are not met.

Acute dermal toxicity (Components)

3,6,9-triazaundecamethylenediamine

Species rabbit

LD50 1260 mg/kg

Method OECD 402

2-piperazin-1-ylethylamine

Species rabbit

LD50 866 mg/kg

Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols

Species rat

LD50 > 2000 mg/kg

Method OECD 402

Polyoxypropylenediamine

Species rabbit

LD50 2980 mg/kg

Method OECD 402

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

Species rat

LD50 > 2000 mg/kg

Acute inhalational toxicity

Remarks Based on available data, the classification criteria are not met.

Acute inhalative toxicity (Components)

Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols

Species rat

LC0 > 4,9 mg/l

Duration of exposure 4 h

Administration/Form Dust/Mist

Method OECD 403

Remarks Saturation Concentration: No demonstrable toxic effect

Skin corrosion/irritation

evaluation corrosive

Remarks The classification criteria are met.

Skin corrosion/irritation (Components)

3,6,9-triazaundecamethylenediamine

Species rabbit

evaluation corrosive

Method OECD 404

2-piperazin-1-ylethylamine

evaluation corrosive

Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols

Species rabbit

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evaluation irritant
Method OECD 404

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

evaluation irritant
Method EEC 84/449, B.4

Polyoxypropylenediamine

Species rabbit
evaluation corrosive
Method OECD 404

polymeric polyamidoamine

evaluation corrosive

Serious eye damage/irritation

evaluation corrosive
Remarks The classification criteria are met.

Serious eye damage/irritation (Components)**3,6,9-triazaundecamethylenediamine**

Species rabbit
evaluation corrosive
Method OECD 405

2-piperazin-1-ylethylamine

evaluation corrosive

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

Species rabbit
evaluation irritant - risk of serious damage to eyes
Method OECD 405

Polyoxypropylenediamine

Species rabbit
evaluation corrosive
Method OECD 405

polymeric polyamidoamine

evaluation corrosive

Sensitization

evaluation May cause sensitization by skin contact.
Remarks The classification criteria are met.

Sensitization (Components)**3,6,9-triazaundecamethylenediamine**

Species guinea pig
evaluation sensitizing
Method OECD 406

2-piperazin-1-ylethylamine

Species guinea pig
evaluation sensitizing
Method OECD 406

Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols

Species rabbit
evaluation strongly sensitizing
Method OECD 429

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

Species mouse

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evaluation	sensitizing
Method	OECD 429

polymeric polyamidoamine

evaluation	sensitizing
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Subacute, subchronic, chronic toxicity

Remarks	not determined
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Mutagenicity

Remarks	Based on available data, the classification criteria are not met.
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Reproductive toxicity

evaluation	Suspected of damaging fertility. Suspected of damaging the unborn child.
Remarks	The classification criteria are met.

Reproduction toxicity (Components)**2-piperazin-1-ylethylamine**

Route of exposure	oral
Dose	150 mg/kg/d
evaluation	Suspected of damaging fertility or the unborn child.

Carcinogenicity

Remarks	Based on available data, the classification criteria are not met.
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Specific Target Organ Toxicity (STOT)**Single exposure**

Remarks	Based on available data, the classification criteria are not met.
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Repeated exposure

Remarks	The classification criteria are met.
evaluation	May cause damage to organs through prolonged or repeated exposure

Specific Target Organ Toxicity (STOT) (Components)**2-piperazin-1-ylethylamine**

evaluation	Causes damage to organs through prolonged or repeated exposure
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Aspiration hazard

Remarks	Based on available data, the classification criteria are not met.
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11.2 Information on other hazards**Endocrine disrupting properties with respect to humans**

The product does not contain a substance that has endocrine disrupting properties with respect to humans.

Experience in practice

Inhalation may lead to irritation of the respiratory tract.

Other information

No toxicological data are available.

SECTION 12: Ecological information *****12.1. Toxicity****General information**

not determined

Fish toxicity (Components)**3,6,9-triazaundecamethylenediamine**

Species	guppy (Poecilia reticulata)		
LC50	420		mg/l
Duration of exposure	96	h	

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2-piperazin-1-ylethylamine

Species	Fathead minnow (<i>Pimephales promelas</i>)	
LC50	2190	mg/l
Duration of exposure	96	h

Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols

Species	zebra fish (<i>Brachydanio rerio</i>)	
LL50	14,8	mg/l
Duration of exposure	96	h
Method	OECD 203	

Polyoxypropylenediamine

Species	rainbow trout (<i>Oncorhynchus mykiss</i>)	
EC50	> 15	mg/l
Duration of exposure	96	h
Method	OECD 203	

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

Species	Zebrabaerbling	
LC50	7,07	mg/l
Duration of exposure	96	h

polymeric polyamidoamine

EC50	0,3	mg/l
Duration of exposure	24	h

Daphnia toxicity (Components)**3,6,9-triazaundecamethylenediamine**

Species	Daphnia magna	
EC50	24,1	mg/l
Duration of exposure	48	h

2-piperazin-1-ylethylamine

Species	Daphnia magna	
EC50	58	mg/l
Duration of exposure	48	h

Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols

Species	Daphnia magna	
EC50	4,6	mg/l
Duration of exposure	48	h
Method	OECD 202	

Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols

NOEC	0,115	mg/l
Duration of exposure	21	d
Method	OECD 211	
Remarks	Test conducted with a similar formulation.	

Polyoxypropylenediamine

Species	Daphnia magna	
EC50	80	mg/l
Duration of exposure	48	h
Method	OECD 202	

polymeric polyamidoamine

Species	Daphnia magna	
EC50	0,5	mg/l
Duration of exposure	48	h

Algae toxicity (Components)**3,6,9-triazaundecamethylenediamine**

Species	Selenastrum capricornutum	
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ErC50	6,8		mg/l
Duration of exposure	72	h	
Method	OECD 201		

3,6,9-triazaundecamethylenediamine

Species	Pseudokirchneriella subcapitata		
NOEC	0,5		mg/l
Duration of exposure	72	h	
Method	OECD 201		

2-piperazin-1-ylethylamine

Species	Pseudokirchneriella subcapitata		
EC50	> 1000		mg/l
Duration of exposure	72	h	

Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols

Species	Scenedesmus subspicatus		
EL50	3,14		mg/l
Duration of exposure	72	h	
Method	OECD 201		

Polyoxypropylenediamine

Species	Selenastrum capricornutum		
ErC50	15		mg/l
Duration of exposure	72	h	
Method	OECD 201		

Polyoxypropylenediamine

Species	Skeletonema costatum		
ErC50	141		mg/l
Duration of exposure	2	h	
Method	DIN EN ISO 10253		

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

Species	Scenedesmus subspicatus		
LC50	1,25		mg/l
Duration of exposure	72	h	

polymeric polyamidoamine

Species	Algae		
EC50	0,55		mg/l
Duration of exposure	72	h	

Bacteria toxicity (Components)**3,6,9-triazaundecamethylenediamine**

Species	activated sludge		
EC50	97,3		mg/l
Duration of exposure	2	h	

Polyoxypropylenediamine

Species	activated sludge		
EC50	750		mg/l
Duration of exposure	3	h	
Method	OECD 209		

12.2. Persistence and degradability**General information**

not determined

Biodegradability (Components)**3,6,9-triazaundecamethylenediamine**

evaluation not readily degradable

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2-piperazin-1-ylethylamine

evaluation not readily degradable

Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols

evaluation not readily degradable

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

evaluation inherently biodegradable, not fulfilling criteria

Method OECD 301 D

Polyoxypropylenediamine

evaluation not readily degradable

Method OECD

12.3. Bioaccumulative potential**General information**

not determined

Partition coefficient n-octanol/water (log value)

Remarks not determined

Octanol/water partition coefficient (log Pow) (Components)**3,6,9-triazaundecamethylenediamine**

log Pow -3,16

2-piperazin-1-ylethylamine

log Pow -1.48

Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols

log Pow 3,03

Polyoxypropylenediamine

log Pow 1,34

Bioconcentration factor (BCF) (Components)**Reaction mass of (1-Phenylethyl)phenols and bis-(1-phenylethyl)phenols**

BCF 69 to 190

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

BCF 77,4

Polyoxypropylenediamine

BCF 3,16

12.4. Mobility in soil**General information**

not determined

12.5. Results of PBT and vPvB assessment**General information**

not determined

Results of PBT and vPvB assessment

The product contains no PBT substances

The product contains no vPvB substances.

12.6 Endocrine disrupting properties**General information**

not determined

Endocrine disrupting properties with respect to the environment

The product does not contain a substance that has endocrine disrupting properties with respect to non-



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target organisms.

12.7. Other adverse effects

General information

not determined

General information / ecology

Do not allow to enter soil, waterways or waste water canal. Avoid release into the atmosphere.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations for the product

Allocation of a waste code number, according to the European Waste Catalogue (EWC), should be carried out in agreement with the regional waste disposal company.

Disposal recommendations for packaging

Packaging that cannot be cleaned should be disposed off in agreement with the regional waste disposal company.

SECTION 14: Transport information

Trade name: Hardener S for cds-AGL SlotRestore rigid/eco







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	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
14.1. UN number or ID number	2735	2735	2735
14.2. UN proper shipping name	POLYAMINES, LIQUID, CORROSIVE, N.O.S. (polymeric polyamidoamine, Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine)	POLYAMINES, LIQUID, CORROSIVE, N.O.S. (polymeric polyamidoamine, Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine)	POLYAMINES, LIQUID, CORROSIVE, N.O.S. (polymeric polyamidoamine, Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine)
14.3. Transport hazard class(es)	8	8	8
Label			
14.4. Packing group	III	III	III
Limited Quantity	5 l	5 l	
Transport category	3		
14.5. Environmental hazards	 ENVIRONMENTALLY HAZARDOUS	Marine Pollutant  ENVIRONMENTALLY HAZARDOUS	 ENVIRONMENTALLY HAZARDOUS
Tunnel restriction code	E		

Information for all modes of transport

14.6. Special precautions for user

The relevant transport regulations have to be considered.

Other information

14.7 Maritime transport in bulk according to IMO instruments

no data

SECTION 15: Regulatory information ***

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

Major-accident categories acc. 2012/18/EU

Category	E2	Hazardous to the Aquatic Environment	200000	kg	500000	kg
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VOC

VOC (EU) 0 % 0 g/l

Other regulations, restrictions and prohibition regulations

Handling epoxy resin systems safely (published by PlasticsEurope) www.plasticseurope.org

This product meets the requirements of Regulation (EC) No. 1935/2004 on the limitation of VOC content. EU2004/42/IIA(j)500(2010): <500g/l VOC

Restriction according to annex XVII to regulation (EU) No 1907/2006

Conditions of restriction for the entries Annex XVII REACH should be considered.

GIS-Code

GIS-Code RE 55

Other information

The product does not contain substances according to: Candidate List for inclusion in Annex XIV of Regulation (EC) No. 1907/2006 (REACH).

15.2. Chemical safety assessment

For this preparation a chemical safety assessment has not been carried out.

SECTION 16: Other information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***

Key literature references and sources for data

SDS

ECHA

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification (Regulation (EC) No. 1272/2008)

Skin Corr. 1B	H314	Calculation method
Eye Dam. 1	H318	Calculation method
Skin Sens. 1	H317	Calculation method
Repr. 2	H361fd	Calculation method
STOT RE 2	H373	Calculation method
Aquatic Chronic 2	H411	Calculation method

Hazard statements listed in Chapter 2/3

H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H361	Suspected of damaging fertility or the unborn child.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
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.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

CLP categories listed in Chapter 2/3

Acute Tox. 3	Acute toxicity, Category 3
Acute Tox. 4	Acute toxicity, Category 4
Aquatic Acute 1	Hazardous to the aquatic environment, acute, Category 1

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Aquatic Chronic 1	Hazardous to the aquatic environment, chronic, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic, Category 3
Eye Dam. 1	Serious eye damage, Category 1
Repr. 2	Reproductive toxicity, Category 2
Skin Corr. 1B	Skin corrosion, Category 1B
Skin Corr. 1C	Skin corrosion, Category 1C
Skin Irrit. 2	Skin irritation, Category 2
Skin Sens. 1	Skin sensitization, Category 1
Skin Sens. 1A	Skin sensitization, Category 1A
STOT RE 1	Specific target organ toxicity - repeated exposure, Category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, Category 2

Abbreviations

ADR: Accord européen relatif au transport international des marchandises Dangereuses par Route

RID: Règlement concernant le transport international ferroviaire de marchandises dangereuses

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

CAS: Chemical Abstracts Service

EAK: Europäischer Abfallkatalog

VOC: Volatile Organic Compound

MAK: Maximale Arbeitsplatz-Konzentration

AGW: Arbeitsplatzgrenzwert

BGW: Biologischer Grenzwert

NOEC: No observable effect concentration

LD: Lethal dose

LC: Lethal concentration

PBT: Persistent, Bioaccumulative and Toxic

vPvB: Very persistent and very bioaccumulative

SVHC: Substances of very high concern

DNEL: Derived no effect level

PNEC: Predicted no effect concentration

OECD: Organisation for Economic Co-operation and Development

REACH: Registration, Evaluation, Autohorisation and Restriction of Chemicals

TRGS: Technische Regeln für Gefahrstoffe

Information about Safety Data Sheets Preparers

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Supplemental information

This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.