

Trade name: Hardener S for cds-Adhesive

Version: 1.0 / EN Date revised 08.12.2022

Substance number: 10304 Replaces Version: - / EN Print date: 12.12.2022

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

1.1. Product identifier

Hardener S for cds-Adhesive

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

1.4. Emergency telephone number

cds-Labor / Tel. +49 (67 01) 93 50-28 (This number is reachable monday to friday from 8 am to 5 pm)

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. 1A H314
Eye Dam. 1 H318
Skin Sens. 1A H317
Repr. 2 H361fd
STOT RE 2 H373
Aquatic Acute 1 H400
Aquatic Chronic 1 H410

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



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H410 Very 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 3,6,9-Triazaundecan-1,11-diamin; 3-Aminopropyltriethoxysilan; 2-Piperazin-1-

ylethylamin; Phenol, styrolisiert; Fettsäuren, Tallöl-, Reaktionsprodukte m.

Tetraethylenpentamin

2.3. Other hazards

No special hazards have to be mentioned.

SECTION 3: Composition/information on ingredients

Hazardous ingredients

Fettsäuren, Tallöl-, Reaktionsprodukte m. Tetraethylen pentamin

CAS No. 68953-36-6 EINECS no. 273-201-6

Registration no. 01-2119487006-38

Concentration >= 50 %

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

Skin Corr. 1A H314
Skin Sens. 1 H317
Aquatic Acute 1 H400
Aquatic Chronic 1 H410

3,6,9-Triazaundecan-1,11-diamin

CAS No. 112-57-2 EINECS no. 203-986-2

Concentration >= 10 < 25 %

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

Phenol, styrolisiert

CAS No. 61788-44-1 EINECS no. 262-975-0

Registration no. 01-2119980970-27-XXXX

Concentration >= 2,5 < 10 %

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

Skin Irrit. 2 H315 Skin Sens. 1A H317 Aquatic Chronic 2 H411

2-Piperazin-1-ylethylamin

CAS No. 140-31-8 EINECS no. 205-411-0



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Registration no. 01-2119471486-30-XXXX

Concentration >= 2,5 < 10 %

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

H311 Acute Tox. 3 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

3-Aminopropyltriethoxysilan

CAS No. 919-30-2 EINECS no. 213-048-4

Registration no. 01-2119480479-24-XXXX

Concentration >= 2,5 < 10 %

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

Acute Tox. 4 H302 Skin Corr. 1B H314

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 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.

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



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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.

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 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.

Storage classes

Storage class according to TRGS 510 8A Combustible corrosive hazardous substances



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Further information on storage conditions

Do not keep at temperatures above 20 °C.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Other information

Contains no substances with occupational exposure limit values.

Derived No/Minimal Effect Levels (DNEL/DMEL)

2-Piperazin-1-ylethylamin

Reference substance 2-Piperazin-1-ylethylamin
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

oncentration 10,6 mg/m³

2-Piperazin-1-ylethylamin

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/m³

2-Piperazin-1-ylethylamin

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/m³

2-Piperazin-1-ylethylamin

Type of value Derived No Effect Level (DNEL)

Reference group

Duration of exposure

Route of exposure

Mode of action

Consequently

Worker

Short term
inhalative
Local effects

Concentration 0,08 mg/m³

2-Piperazin-1-ylethylamin

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

2-Piperazin-1-ylethylamin

Type of value Derived No Effect Level (DNEL)

Reference group Worker
Duration of exposure Short term
Route of exposure dermal



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Mode of action Systemic effects

Concentration 20 mg/kg/d

Phenol, styrolisiert

Reference substance Phenol, styrolisiert

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 2,1 mg/kg

Phenol, styrolisiert

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 7,4 mg/m³

Predicted No Effect Concentration (PNEC)

2-Piperazin-1-ylethylamin

Reference substance 2-Piperazin-1-ylethylamin

Type of value PNEC
Type Freshwater
Concentration 0.05

Concentration 0,058 mg/l

2-Piperazin-1-ylethylamin

Type of value PNEC
Type Marine

Concentration 0,0058 mg/l

2-Piperazin-1-ylethylamin

Type of value PNEC

Type Water (intermittent release)

Concentration 0,58 mg/l

2-Piperazin-1-ylethylamin

Type of value PNEC

Type Sewage treatment plant (STP)

Concentration 250 mg/l

2-Piperazin-1-ylethylamin

Type of value PNEC
Type Sediment

Concentration 215 mg/kg

2-Piperazin-1-ylethylamin

Type of value PNEC

Type Marine sediment

Concentration 21,5 mg/kg

2-Piperazin-1-ylethylamin

Type of value PNEC

Type Soil

Concentration 1 mg/kg



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Phenol, styrolisiert

Reference substance Phenol, styrolisiert

Type of value PNEC
Type Freshwater
Concentration 0.03

0,03 mg/l

Phenol, styrolisiert

Type of value PNEC Type Marine

Concentration 0,003 mg/l

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.

Hand protection

Chemical resistant gloves

Appropriate Material neoprene

Eye protection

Safety glasses with side protection shield; Face shield

Body protection

Clothing as usual in the chemical industry. Protective shoes

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form liquid
Colour yellowish
Odour amine-like

Odour threshold

Remarks not determined

pH value

Remarks not determined

Melting point

Remarks not determined

Freezing point

Remarks not determined

Initial boiling point and boiling range

Remarks not determined

Flash point

Value > 100 °C

Evaporation rate (ether = 1):

Remarks not determined

Flammability (solid, gas)



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not determined

Upper/lower flammability or explosive limits

Remarks not determined

Vapour pressure

Remarks not determined

Vapour density

Remarks not determined

Density

Value 0,96 g/cm³

Temperature 23 °C

Solubility in water

Remarks not determined

Solubility(ies)

Remarks not determined

Partition coefficient: n-octanol/water

Remarks not determined

Ignition temperature

Remarks not determined

Decomposition temperature

Remarks not determined

Viscosity

Remarks not determined

Explosive properties

evaluation not determined

Oxidising properties

Remarks not determined

9.2. Other information

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

None known

10.6. Hazardous decomposition products

Toxic gases/vapours, Irritant gases/vapours



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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity

ATE 7.692,30 mg/kg

77

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-Triazaundecan-1,11-diamin

Species rat

LD50 3990 mg/kg

2-Piperazin-1-ylethylamin

Reference substance Ethylbenzene

Species rat

LD50 2140 mg/kg

Phenol, styrolisiert

Species rat

LD50 > 2000 mg/kg

Fettsäuren, Tallöl-, Reaktionsprodukte m. Tetraethylen pentamin

Species rat

LD50 > 2000 mg/kg

Acute dermal toxicity

ATE 3.834,85 mg/kg

75

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-Triazaundecan-1,11-diamin

Species rabbit

LD50 1260 mg/kg

2-Piperazin-1-ylethylamin

Reference substance 2-Piperazin-1-ylethylamin

Species rabbit

LD50 866 mg/kg

Phenol, styrolisiert

Species rat

LD50 > 2000 mg/kg

Acute inhalational toxicity

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

Acute inhalative toxicity (Components)

Phenol, styrolisiert

Species mouse

LC50 158,3 mg/l

Duration of exposure 4 h

Skin corrosion/irritation

evaluation corrosive

Remarks The classification criteria are met.

Serious eye damage/irritation

evaluation corrosive



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Remarks The classification criteria are met.

Sensitization

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

Subacute, subchronic, chronic toxicity

Remarks not determined

Mutagenicity

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

Reproductive toxicity

evaluation Suspected of damaging fertility. Suspected of damaging the unborn child.

Remarks The classification criteria are met.

Carcinogenicity

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

Specific Target Organ Toxicity (STOT)

Single exposure

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

Repeated exposure

Remarks The classification criteria are met.

evaluation May cause damage to organs through prolonged or repeated exposure

Aspiration hazard

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

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-Triazaundecan-1,11-diamin

Species guppy (Poecilia reticulata)

LC50 420 mg/l

Duration of exposure 96 h

2-Piperazin-1-ylethylamin

Species Fathead minnow (Pimephales promelas)
LC50 2190 mg/l

Duration of exposure 96 h

Phenol, styrolisiert

Reference substance Phenol, styrolisiert

Species zebra fish (Brachydanio rerio)

LC50 5,6 mg/l

Duration of exposure 96 h

Fettsäuren, Tallöl-, Reaktionsprodukte m. Tetraethylenpentamin

Species zebra fish (Brachydanio rerio)

LC50 0,19 mg/l

Duration of exposure 96 h



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Daphnia toxicity (Components)

3,6,9-Triazaundecan-1,11-diamin

Species Daphnia magna

EC50 24 mg/l

Duration of exposure 48 h

2-Piperazin-1-ylethylamin

Species Daphnia magna

EC50 58 mg/l

Duration of exposure 48 h

Phenol, styrolisiert

Reference substance Phenol, styrolisiert Species Daphnia magna

EC50 4,6 mg/l

Duration of exposure 48 h

Fettsäuren, Tallöl-, Reaktionsprodukte m. Tetraethylen pentamin

Species Daphnia magna

EC50 0,18 mg/l

Duration of exposure 48 h

Algae toxicity (Components)

3,6,9-Triazaundecan-1,11-diamin

Species Pseudokirchneriella subcapitata

IC50 2 mg/l

Duration of exposure 72 h

2-Piperazin-1-ylethylamin

Species Pseudokirchneriella subcapitata

EC50 > 1000 mg/l

Duration of exposure 72 h

Phenol, styrolisiert

Reference substance Phenol, styrolisiert

Species Scenedesmus subspicatus

EL50 3,14 mg/l

Duration of exposure 72 h

Fettsäuren, Tallöl-, Reaktionsprodukte m. Tetraethylenpentamin

Species Pseudokirchneriella subcapitata

EC50 0,638 mg/l

Duration of exposure 72 h

Bacteria toxicity (Components)

Fettsäuren, Tallöl-, Reaktionsprodukte m. Tetraethylenpentamin

Species activated sludge

EC50 114 mg/l

Duration of exposure 3 h

12.2. Persistence and degradability

General information

not determined

12.3. Bioaccumulative potential

General information

not determined

Partition coefficient: n-octanol/water

Remarks not determined

Octanol/water partition coefficient (log Pow) (Components)



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3-Aminopropyltriethoxysilan

log Pow 1,7

12.4. Mobility in soil

General information

not determined

12.5. Results of PBT and vPvB assessment

General information

not determined

12.6. 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



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	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
Tunnel restriction code	E		
14.1. UN number	2735	2735	2735
14.2. UN proper shipping name	POLYAMINES, LIQUID, CORROSIVE, N.O.S. (3,6,9- Triazaundecan-1,11-diamin, 3- Aminopropyltriethoxysilan)	POLYAMINES, LIQUID, CORROSIVE, N.O.S. (3,6,9- Triazaundecan-1,11-diamin, 3- Aminopropyltriethoxysilan)	POLYAMINES, LIQUID, CORROSIVE, N.O.S. (3,6,9- Triazaundecan-1,11-diamin, 3- Aminopropyltriethoxysilan)
14.3. Transport hazard class(es)	8	8	8
Label	8	8	© FT
14.4. Packing group	III	III	III
Limited Quantity	51		
Transport category	3		
14.5. Environmental hazards	ENVIRONMENTALLY HAZARDOUS	Marine Pollutant	ENVIRONMENTALLY HAZARDOUS

SECTION 15: Regulatory information

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

Water Hazard Class (Germany)

Water Hazard Class WGK 2 (Germany)

VOC

VOC (EU) 6,5 % 62,4 g/l

15.2. Chemical safety assessment

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

SECTION 16: Other information

Hazard statements listed in Chapter 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.



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H317 May cause an allergic skin reaction. H318 Causes serious eve damage. Suspected of damaging fertility or the unborn child. H361 H372 Causes damage to organs through prolonged or repeated exposure. H400 Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects. H410 Toxic to aquatic life with long lasting effects. H411 H412 Harmful to aquatic life with long lasting effects.

CLP categories listed in Chapter 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
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

Repr. 2

Skin Corr. 1A

Skin Corr. 1B

Skin Irrit. 2

Skin Sens. 1

Skin Sens. 1A

Serious eye damage, Category 1

Reproductive toxicity, Category 2

Skin corrosion, Category 1A

Skin corrosion, Category 1B

Skin irritation, Category 2

Skin sensitization, Category 1

Skin sensitization, Category 1

STOT RE 1 Specific target organ toxicity - repeated exposure, Category 1

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.