

Safety data sheet
according SS 586 : Part 3

Date of issue: 19.01.2026

Version number 1

Revision: 21.08.2025

1 Identification

· **Product identifier**

· **Trade name:** **X280-A**

· **Relevant identified uses of the substance or mixture and uses advised against**

· **Product category** PC1 Adhesives, sealants

· **Application of the substance / the mixture**

Adhesives

Sealants

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

HOTTINGER BRUEL & KJAER UK LTD

Advanced Manufacturing Park Technology Centre

Brunel Way, Catcliffe, Rotherham

South Yorkshire, S60 5WG

United Kingdom

Phone: +44 (0) 1145 512230

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· **Informing department:**

Tel. +49(0)6131 19240

EMail support-esa@hbkworld.com

· **Emergency telephone number:**

Gift-Informationszentrum Nord, Göttingen

Poison Information Center, Göttingen

Tel.: +49 (0)551 19240

(German and English only)

United Kingdom:

National Poisons Information Service

Emergency number: +44 844 892 0111

Poisons Information Centre of Ireland:

+353 1 837 9964 for medical professionals

+353 1 809 2166 for public inquiries

CHEMTREC: +44 20 3807 3798 (24h emergency call).

Outside continental USA please call CHEMTREC at +1-703-527-3887 (R-calls are accepted).

2 Hazards identification

· **Classification of the substance or mixture**



GHS08 health hazard

Muta. 2 H341 Suspected of causing genetic defects.

· **Label elements**

· **GHS label elements**

The product is classified and labelled according to the Globally Harmonised System (GHS).

(Contd. on page 2)

Safety data sheet

according SS 586 : Part 3

Date of issue: 19.01.2026

Version number 1

Revision: 21.08.2025

Trade name: X280-A

(Contd. from page 1)

- **Hazard pictograms**



GHS08

- **Signal word** Warning

- **Hazard-determining components of labelling:**
4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]

- **Hazard statements**

H341 Suspected of causing genetic defects.

- **Precautionary statements**

P261 Avoid breathing mist/vapours/spray.

P280 Wear protective gloves / eye protection / face protection.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Additional information:**

Please refer to further labelling elements in section 15 of this safety data sheet, if applicable.

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable

- **vPvB:** Not applicable

3 Composition/information on ingredients

- **Chemical characterisation: Mixtures**

- **Description:** Mixture of the substances listed below, possibly with undeclared additives.

- **Dangerous components:**

28768-32-3	4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]	Muta. 2, H341	25 - 50%
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- **Additional information** For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

- **Description of first aid measures**

- **General information**

Personal protection for the First Aider.

If symptoms occur or in case of doubt consult a doctor.

- **After inhalation** Supply fresh air and call for doctor for safety reasons.

- **After skin contact**

Instantly wash with water and soap and rinse thoroughly.

Remove contaminated clothing immediately.

In case of permanent aches and pains please go and see the doctor.

- **After eye contact**

Rinse opened eye for several minutes under running water.

Remove contact lenses if possible.

In case of permanent aches and pains please go and see the doctor.

- **After swallowing**

Rinse out mouth and then drink plenty of water.

(Contd. on page 3)

Safety data sheet

according SS 586 : Part 3

Date of issue: 19.01.2026

Version number 1

Revision: 21.08.2025

Trade name: X280-A

(Contd. from page 2)

Do not induce vomiting.

In case of persistent symptoms consult doctor.

- **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

- **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents**

Use fire fighting measures that suit the environment.

Alcohol-resistant foam, extinguishing powder or carbon dioxide. Fight larger fire with water spray.

- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.

- **Special hazards arising from the substance or mixture**

Inhalation of combustion gases may cause serious health hazards.

Can be released in case of fire:

Carbon monoxide and carbon dioxide

Nitrogen oxides (NO_x)

- **Advice for firefighters**

- **Protective equipment:** Wear self-contained breathing apparatus.

- **Additional information** Remove goods in stock from incendiary zone, if possible.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Use breathing protection against the effects of fumes/dust/aerosol.

Ensure adequate ventilation

Wear protective equipment. Keep unprotected persons away.

- **For non-emergency personnel** Avoid contact with the product.

- **For emergency responders** Put on suitable personal protective equipment.

- **Environmental precautions:** Do not allow to enter drainage system, ground/soil and water bodies.

- **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).

Dispose of the material collected according to regulations.

Ensure adequate ventilation.

- **Reference to other sections**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

7 Handling and storage

- **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

- **Information about protection against explosions and fires:** No special measures required.

- **Handling**

Do not eat, drink or smoke while working.

Avoid contact with the eyes and skin.

(Contd. on page 4)

Safety data sheet

according SS 586 : Part 3

Date of issue: 19.01.2026

Version number 1

Revision: 21.08.2025

Trade name: X280-A

(Contd. from page 3)

Take off all contaminated clothing immediately.

Wash contaminated clothing before re-use.

- **Conditions for safe storage, including any incompatibilities**

- **Storage**

- **Requirements to be met by storerooms and containers:**

Store container tightly sealed at a cool place.

- **Information about storage in one common storage facility:** Not required

- **Further information about storage conditions:** None.

- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- **Additional information:** The lists that were valid during the compilation were used as basis.

- **Exposure controls**

- **Personal protective equipment**

- **General protective and hygienic measures**

Keep away from foodstuffs, beverages and food.

Take off all contaminated clothing immediately.

Wash hands during breaks and at the end of the work.

Do not eat, drink or smoke while working.

Wash contaminated clothing before re-use.

- **Breathing equipment:**

In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

- **Protection of hands:**



Protective gloves.

Only use chemical-protective gloves with CE-labelling of category III (EN 374).

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Nitrile rubber, NBR

Recommended material thickness: 0.33 mm, breakthrough time: 480 min.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 5)

Safety data sheet

according SS 586 : Part 3

Date of issue: 19.01.2026

Version number 1

Revision: 21.08.2025

Trade name: X280-A

(Contd. from page 4)

- **Eye protection:** Safety glasses recommended if possibility of liquid splashes exists.

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

- | | |
|---|------------------------------|
| · Physical state | Liquid |
| · Colour: | colourless |
| · Odour: | Characteristic |
| · Odour threshold: | Not determined |
| · pH-value: | Not determined |
| · Melting point/freezing point: | Not determined |
| · Initial boiling point and boiling range: | Not determined |
| · Flash point: | 228 °C |
| · Evaporation rate | Not determined |
| · Inflammability (solid, gaseous) | Not applicable |
| · Critical values for explosion: | |
| · Lower: | Not determined |
| · Upper: | Not determined |
| · Vapour pressure at 20 °C: | < 0.1 hPa |
| · Vapour density | Not determined |
| · Density at 20 °C | 1.17 g/cm ³ |
| · Relative density | Not determined |
| · Solubility in / Miscibility with | |
| · Water: | Fully miscible |
| · Partition coefficient: n-octanol/water: | Not determined |
| · Auto-ignition temperature: | Product is not selfigniting. |
| · Decomposition temperature: | Not determined |
| · SADT | |
| · Viscosity: | |
| · kinematic: | Not determined |
| · dynamic: | Not determined |
| · Particle characteristics | No further details. |

· Other information

- | | |
|--|------------------------------|
| · Appearance: | |
| · Form: | Liquid |
| · Important information on protection of health and environment, and on safety. | |
| · Self-inflammability: | Product is not selfigniting. |
| · Explosive properties: | Product is not explosive. |
| · VOC EU | |
| · Solids content: | 0.0 % |

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known

(Contd. on page 6)

Safety data sheet

according SS 586 : Part 3

Date of issue: 19.01.2026

Version number 1

Revision: 21.08.2025

Trade name: X280-A

(Contd. from page 5)

- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
None in case of intended use and storage in compliance with instructions.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**
- **Respiratory or skin sensitisation** Sensitization possible by skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Muta. 2

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Other information:** There are no data available about the preparation.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable
- **vPvB:** Not applicable
- **Other adverse effects**
- **Additional ecological information:**
- **General notes:**
Do not allow product to reach ground water, water bodies or sewage system.
Danger to drinking water if even small quantities leak into soil.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:**
Dispose of packaging according to regulations on the disposal of packagings.
Non contaminated packagings can be used for recycling.
Packagings that cannot be cleaned are to be disposed of in the same manner as the product.

SG

(Contd. on page 7)

Safety data sheet

according SS 586 : Part 3

Date of issue: 19.01.2026



Version number 1

Revision: 21.08.2025

Trade name: X280-A

(Contd. from page 6)

14 Transport information

<ul style="list-style-type: none"> · UN-Number · ADR/RID, IMDG, IATA 	UN3082
<ul style="list-style-type: none"> · UN proper shipping name · ADR/RID · IMDG, IATA 	3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline])
<ul style="list-style-type: none"> · Transport hazard class(es) · ADR/RID 	
	
<ul style="list-style-type: none"> · Class · Label 	9 (M6) Miscellaneous dangerous substances and articles. 9
<ul style="list-style-type: none"> · IMDG, IATA 	
	
<ul style="list-style-type: none"> · Class · Label 	9 Miscellaneous dangerous substances and articles. 9
<ul style="list-style-type: none"> · Packing group · ADR/RID, IMDG, IATA 	III
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: · Special marking (ADR/RID): · Special marking (IATA): 	Symbol (fish and tree) Symbol (fish and tree) Symbol (fish and tree)
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of Marpol and the IBC Code 	Not applicable
<ul style="list-style-type: none"> · Transport/Additional information: · Quantity limitations 	On passenger aircraft/rail: No limit On cargo aircraft only: No limit
<ul style="list-style-type: none"> · ADR/RID · Limited quantities (LQ) · Excepted quantities (EQ) 	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
<ul style="list-style-type: none"> · Transport category · Tunnel restriction code 	3 (-)
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) 	5L

(Contd. on page 8)

SG

Safety data sheet

according SS 586 : Part 3

Date of issue: 19.01.2026

Version number 1

Revision: 21.08.2025

Trade name: X280-A

(Contd. from page 7)

· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Special precautions for user	Warning: Miscellaneous dangerous substances and articles.
· Kemler Number:	90
· EMS Number:	F-A, S-F
· Stowage Category	A
· UN "Model Regulation":	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. 9, III

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Poisons Act - Schedule 1**

None of the ingredients is listed.

· **Poisons Act - Schedule 2, Group II**

None of the ingredients is listed.

· **Health Products Act - First Schedule - Psychotropic Substances**

None of the ingredients is listed.

· **Chemical safety assessment**

· **Seveso category E2** Hazardous to the Aquatic Environment

· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t

· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t

· **National regulations**

· **Water hazard class:**

· **Substances of very high concern (SVHC) according to REACH, Article 57**

None of the ingredients is contained.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H341 Suspected of causing genetic defects.

· **Department issuing data specification sheet:**



This Safety Data Sheet has been drawn up in cooperation with:
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(Contd. on page 9)

Safety data sheet

according SS 586 : Part 3

Date of issue: 19.01.2026

Version number 1

Revision: 21.08.2025

Trade name: X280-A

(Contd. from page 8)

· Kit-Components:**· Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Muta. 2: Germ cell mutagenicity – Category 2

· * Data compared to the previous version altered.

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