

**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-B**
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Product category** PC1 Adhesives, sealants
- **Application of the substance / the mixture** Hardening agent/ Curing agent
- **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  
Email: info@uk.hbm.com
- **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.  
Repr. 1B H360 May damage fertility or the unborn child.



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.  
Eye Dam. 1 H318 Causes serious eye damage.

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GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

· **Label elements**

· **GHS label elements**

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

· **Hazard pictograms**



GHS05 GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

3,6-diazaoctanethylenediamin  
imidazole  
phenol

· **Hazard statements**

H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H341 Suspected of causing genetic defects.  
H360 May damage fertility or the unborn child.

· **Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
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.  
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:**

112-24-3	3,6-diazaoctanethylenediamin	10 - 25%
	Skin Corr. 1B, H314;  Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317	

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288-32-4	imidazole <span style="color: red;">⚠</span> Repr. 1B, H360; <span style="color: red;">⚠</span> Skin Corr. 1C, H314; <span style="color: red;">⚠</span> Acute Tox. 4, H302	≥ 5 - ≤ 10%
108-95-2	phenol <span style="color: red;">⚠</span> Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; <span style="color: red;">⚠</span> Muta. 2, H341; STOT RE 2, H373; <span style="color: red;">⚠</span> Skin Corr. 1B, H314 Specific concentration limits: Skin Corr. 1B; H314: C ≥ 3 % Skin Irrit. 2; H315: 1 % ≤ C < 3 % Eye Irrit. 2; H319: 1 % ≤ C < 3 %	1%

· **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**  
 Instantly remove any clothing contaminated by the product.  
 If symptoms occur or in case of doubt consult a doctor.  
 Personal protection for the First Aider.
- **After inhalation**  
 Supply fresh air and call for doctor for safety reasons.  
 In case of unconsciousness bring patient into stable side position for transport.
- **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. Then consult doctor.  
 Remove contact lenses if possible.
- **After swallowing**  
 Rinse out mouth and then drink plenty of water.  
 Do not induce vomiting; instantly call for medical help.
- **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 (NOx)
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained breathing apparatus.

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

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
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).  
Use neutralising agent.  
Dispose of contaminated material as waste according to section 13.  
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.  
Open and handle container with care.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep breathing equipment ready.
- **Handling**  
Do not eat, drink or smoke while working.  
Avoid direct contact with eyes, skin and clothing.  
Keep away from foodstuffs, beverages and food.  
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:** Keep container tightly sealed.
- **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:**  
WEL: workplace exposure limit  
OEL: Occupational Exposure Limit

#### 108-95-2 phenol

PEL (Singapore)	Long-term value: 19 mg/m <sup>3</sup> , 5 ppm
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WSH (Singapore)	Long-term value: 19 mg/m <sup>3</sup> , 5 ppm
PEL (Malaysia)	Long-term value: 19 mg/m <sup>3</sup> , 5 ppm (kulit)
WEL (Great Britain)	Short-term value: 16 mg/m <sup>3</sup> , 4 ppm Long-term value: 7.8 mg/m <sup>3</sup> , 2 ppm Sk

· **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.

Avoid direct contact with eyes, skin and clothing.

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.

Butyl rubber, BR

Recommended material thickness: 0.3 mm, breakthrough time: 480 min.

Nitrile rubber, NBR

Recommended material thickness: 0.33 mm, breakthrough time: 30 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.

· **Eye protection:**



Safety goggles according to EN 166.



Face protection

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· **Body protection:**



Protective work clothing.

### 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· <b>Physical state</b>	Liquid
· <b>Colour:</b>	Light brown
· <b>Odour:</b>	Phenol-like
· <b>Odour threshold:</b>	Not determined
· <b>pH-value:</b>	Not determined
· <b>Melting point/freezing point:</b>	Not determined
· <b>Initial boiling point and boiling range:</b>	107 °C
· <b>Flash point:</b>	135 °C
· <b>Evaporation rate</b>	Not determined
· <b>Inflammability (solid, gaseous)</b>	Not applicable
· <b>Critical values for explosion:</b>	
· <b>Lower:</b>	0.1 Vol %
· <b>Upper:</b>	15 Vol %
· <b>Vapour pressure at 20 °C:</b>	0 hPa
· <b>Vapour density</b>	Not determined
· <b>Density at 20 °C</b>	1.1 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined
· <b>Solubility in / Miscibility with</b>	
· <b>Water:</b>	Fully miscible
· <b>Partition coefficient: n-octanol/water:</b>	Not determined
· <b>Auto-ignition temperature:</b>	300 °C
· <b>Decomposition temperature:</b>	Not determined
· <b>SADT</b>	
· <b>Viscosity:</b>	
· <b>kinematic:</b>	Not determined
· <b>dynamic:</b>	Not determined
· <b>Particle characteristics</b>	No further details.

· **Other information**

· <b>Appearance:</b>	
· <b>Form:</b>	Fluid
· <b>Important information on protection of health and environment, and on safety.</b>	
· <b>Self-inflammability:</b>	Product is not selfigniting.
· <b>Explosive properties:</b>	Product is not explosive.
· <b>VOC EU</b>	
· <b>Solids content:</b>	0.4 %

### 10 Stability and reactivity

· **Reactivity** No further relevant information available.

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

- **LD/LC50 values that are relevant for classification:**

#### ATE (Acute Toxicity Estimates)

Oral	LD50	2,875 - 6,155 mg/kg
Dermal	LD50	5,589 - 12,855 mg/kg
Inhalative	LC50	50 - 278 mg/l/4h

#### 112-24-3 3,6-diazaoctanethylenediamin

Oral	LD50	1,861.9 mg/kg (Rat) (OECD 401)
Dermal	LD50	1,465.4 mg/kg (rabbit) (OECD 402)

#### 108-95-2 phenol

Oral	LD50	530 mg/kg (Rat) (OECD 401)
Dermal	LD50	660 mg/kg (Rat) (OECD 402)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Strong caustic effect on skin and mucous membranes.
- **Serious eye damage/irritation**  
Strong caustic effect.  
Strong irritant with the danger of severe eye injury.
- **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:  
Corrosive  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
Muta. 2, Repr. 1B

### 12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

#### 108-95-2 phenol

EC50 (static)	3.1 mg/l/48h (Ceriodaphnia dubia) (US EPA)
EC50 (static)	61.1 mg/l/96h (Raphidocelis subcapitata) (US EPA)
LC50 (dynamic)	8.9 mg/l/96h (Oncorhynchus mykiss) (US EPA)

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- **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.  
Must not reach sewage water or drainage ditch undiluted or unneutralised.  
Danger to drinking water if even small quantities leak into soil.

### 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.
- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

### 14 Transport information

- **UN-Number**
- **ADR/RID, IMDG, IATA** UN3267
- **UN proper shipping name**
- **ADR/RID** 3267 CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.
- **IMDG, IATA** CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.  
(TRIETHYLENETETRAMINE)
- **Transport hazard class(es)**
- **ADR/RID**
- **Class** 8 (C7) Corrosive substances.
- **Label** 8



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· **IMDG, IATA**

· **Class** 8 Corrosive substances.  
 · **Label** 8

· **Packing group**  
 · **ADR/RID, IMDG, IATA** III

· **Environmental hazards:** Not applicable

· **Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable

· **Transport/Additional information:**  
 · **Quantity limitations** On passenger aircraft/rail: 5 L  
 On cargo aircraft only: 60 L

· **ADR/RID**  
 · **Limited quantities (LQ)** 5L  
 · **Excepted quantities (EQ)** Code: E1  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 1000 ml

· **Transport category** 3  
 · **Tunnel restriction code** E

· **IMDG**  
 · **Limited quantities (LQ)** 5L  
 · **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: Corrosive substances.  
 · **Kemler Number:** 80  
 · **EMS Number:** F-A,S-B  
 · **Segregation groups** (SGG18) Alkalis  
 · **Stowage Category** A  
 · **Stowage Code** SW2 Clear of living quarters.  
 · **Segregation Code** SG35 Stow "separated from" SGG1-acids

· **UN "Model Regulation":** UN 3267 CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. 8, III

### 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**  
 No further relevant information available.

· **Poisons Act - Schedule 1**

112-24-3	3,6-diazaoctanethylenediamin	29212900
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· **Poisons Act - Schedule 2, Group II**

None of the ingredients is listed.

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

None of the ingredients is listed.

· **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**

H301 Toxic if swallowed.

H302 Harmful if swallowed.

H311 Toxic in contact with skin.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

H341 Suspected of causing genetic defects.

H360 May damage fertility or the unborn child.

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

· **Department issuing data specification sheet:**



This Safety Data Sheet has been drawn up in cooperation with:

DEKRA Assurance Services GmbH, Hanomagstr. 12, D-30449 Hanover, Germany,

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· **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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Skin Corr. 1C: Skin corrosion/irritation – Category 1C

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Muta. 2: Germ cell mutagenicity – Category 2

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**Trade name: X280-B***Repr. 1B: Reproductive toxicity – Category 1B**STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2****\* Data compared to the previous version altered.***

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