

Safety Data Sheet

according to UK REACH Regulation



X280-B

Revision date: 28.07.2022

Page 1 of 11

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

1.1. Product identifier

X280-B

UFI: XAQW-P1FS-89SC-01YJ

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

Use of the substance/mixture

Hardener

Uses advised against

No information available.

1.3. Details of the supplier of the safety data sheet

Company name: Hottinger Brüel & Kjaer
Street: Im Tiefen See 45
Place: D-64293 Darmstadt
Telephone: +49 (0)6151 803-0
Internet: www.hbm.com
Responsible Department: support@hbm.com

1.4. Emergency telephone number:

+49-30-18412-0

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Skin Corr. 1B; H314
Eye Dam. 1; H318
Skin Sens. 1; H317
Muta. 2; H341
Repr. 1B; H360D

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Hazard components for labelling

3,6-diazaoctanethylenediamin; triethylenetetramine
imidazole
phenol; carboic acid; monohydroxybenzene; phenylalcohol

Signal word: Danger

Pictograms:



Hazard statements

H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H341 Suspected of causing genetic defects.
H360D May damage the unborn child.

Precautionary statements

P202 Do not handle until all safety precautions have been read and understood.

Safety Data Sheet

according to UK REACH Regulation



X280-B

Revision date: 28.07.2022

Page 2 of 11

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Special labelling of certain mixtures

Restricted to professional users.
Restricted to professional users.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name	Quantity		
	EC No	Index No	REACH No	
	GHS Classification			
26950-63-0	Triethylenetetramine, propoxylated	12 - 28 %		
	500-055-5			
112-24-3	3,6-diazaoctanethylenediamin; triethylenetetramine	11-24 %		
	203-950-6	612-059-00-5		
	Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1, Aquatic Chronic 3; H312 H314 H317 H412			
288-32-4	imidazole	5 - 10 %		
	206-019-2	613-319-00-0		
	Repr. 1B, Acute Tox. 4, Skin Corr. 1C; H360D H302 H314			
108-95-2	phenol; carbolic acid; monohydroxybenzene; phenylalcohol	0,18 - 1 %		
	203-632-7	604-001-00-2		
	Muta. 2, Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, Skin Corr. 1B, STOT RE 2; H341 H331 H311 H301 H314 H373			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
112-24-3	203-950-6	3,6-diazaoctanethylenediamin; triethylenetetramine	11-24 %
		dermal: LD50 = 805 mg/kg; oral: LD50 = 2500 mg/kg	
288-32-4	206-019-2	imidazole	5 - 10 %
		oral: ATE = 500 mg/kg	
108-95-2	203-632-7	phenol; carbolic acid; monohydroxybenzene; phenylalcohol	0,18 - 1 %
		inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: ATE = 300 mg/kg; oral: ATE = 100 mg/kg Skin Corr. 1B; H314: >= 3 - 100 Skin Irrit. 2; H315: >= 1 - < 3 Eye Irrit. 2; H319: >= 1 - < 3	

Further Information

No information available.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove affected person from the danger area and lay down. If unconscious but breathing normally, place in

Safety Data Sheet

according to UK REACH Regulation



X280-B

Revision date: 28.07.2022

Page 3 of 11

recovery position and seek medical advice. First aider: Pay attention to self-protection!

After inhalation

When in doubt or if symptoms are observed, get medical advice.

Provide fresh air.

In case of respiratory tract irritation, consult a physician.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Remove contaminated, saturated clothing immediately. In case of skin irritation, consult a physician.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person or a person with cramps. Do NOT induce vomiting.

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

No information available.

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

No information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Water spray jet, Dry extinguishing powder, Foam

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

No information available.

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing.

Co-ordinate fire-fighting measures to the fire surroundings.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Do not allow to enter into surface water or drains. Treat the recovered material as prescribed in the section on waste disposal. Provide adequate ventilation.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

Do not allow uncontrolled discharge of product into the environment.

6.3. Methods and material for containment and cleaning up

Other information

Take up mechanically, placing in appropriate containers for disposal. Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

Safety Data Sheet

according to UK REACH Regulation



X280-B

Revision date: 28.07.2022

Page 4 of 11

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used.
Harmful if swallowed, in contact with skin or if inhaled.

Advice on protection against fire and explosion

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

Further information on handling

Wear personal protection equipment (refer to section 8). Do not empty into drains. When using do not eat, drink, smoke, sniff.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed and in a well-ventilated place.
Do not allow to enter into surface water or drains.
Do not allow uncontrolled discharge of product into the environment.

Hints on joint storage

TRGS 510

Further information on storage conditions

Keep container tightly closed in a cool, well-ventilated place.

7.3. Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
108-95-2	Phenol	2	7.8		TWA (8 h)	WEL
		4	16		STEL (15 min)	WEL

Additional advice on limit values

No information available.

8.2. Exposure controls



Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation should be used if possible.
In use, may form flammable/explosive vapour-air mixture.
Use explosion-proof electrical equipment.
Use non-sparking tools.

Safety Data Sheet

according to UK REACH Regulation



X280-B

Revision date: 28.07.2022

Page 5 of 11

Protective and hygiene measures

When using do not eat or drink.

Do not breathe gas/fumes/vapour/spray.

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap.

Wear suitable protective clothing, gloves and eye/face protection.

Draw up and observe skin protection programme.

Eye/face protection

Wear eye/face protection.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. EN ISO 374

The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

Thickness of the glove material: $\geq 0,7$ mm

Suitable gloves type NBR (Nitrile rubber)

Breakthrough time: ≥ 480 min

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Used working clothes should not be worn outside the work area.

Separate storage of work clothes.

Wear anti-static footwear and clothing

Respiratory protection

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. Filtering device (full mask or mouthpiece) with filter: a

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Environmental exposure controls

Do not allow to enter into surface water or drains.

The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	light brown
Odour:	Phenols
pH-Value:	not determined

Changes in the physical state

Melting point/freezing point:	No information available.
Boiling point or initial boiling point and boiling range:	107 °C
Sublimation point:	not determined
Softening point:	not determined
Pour point:	not determined
not determined:	
Flash point:	135 °C
Sustaining combustion:	No data available

Safety Data Sheet

according to UK REACH Regulation



X280-B

Revision date: 28.07.2022

Page 6 of 11

Flammability

Solid/liquid: not determined
Gas: not determined

Explosive properties

In use, may form flammable/explosive vapour-air mixture.

Lower explosion limits: 0,1 vol. %
Upper explosion limits: 15 vol. %
Auto-ignition temperature: 300 °C

Self-ignition temperature

Solid: not determined
Gas: not determined

Decomposition temperature: not determined

Oxidizing properties

not determined

Vapour pressure: 0,013 hPa
(at 20 °C)

Vapour pressure: 15 hPa
(at 50 °C)

Density (at 20 °C): 1,1 g/cm³

Bulk density: not determined

Water solubility: not determined

Solubility in other solvents

not determined

Partition coefficient n-octanol/water: not determined

Viscosity / dynamic: not determined

Viscosity / kinematic: not determined

Flow time: not determined

Relative vapour density: not determined

Evaporation rate: not determined

Solvent separation test: not determined

Solvent content: 30,00 %

9.2. Other information

Solid content: 0,40 %

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

The substance is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4. Conditions to avoid

No information available.

10.5. Incompatible materials

No information available.

Safety Data Sheet

according to UK REACH Regulation



X280-B

Revision date: 28.07.2022

Page 7 of 11

10.6. Hazardous decomposition products

No information available.

Further information

No information available.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Acute toxicity

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

ATEmix calculated

ATE (oral) 5000,0 mg/kg; ATE (dermal) 3975,9 mg/kg; ATE (inhalation vapour) 300,00 mg/l; ATE (inhalation dust/mist) 50,000 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
112-24-3	3,6-diazaoctanethylenediamin; triethylenetetramine				
	oral	LD50 2500 mg/kg	Rat		
	dermal	LD50 805 mg/kg	Rabbit		
288-32-4	imidazole				
	oral	ATE 500 mg/kg			
108-95-2	phenol; carboic acid; monohydroxybenzene; phenylalcohol				
	oral	ATE 100 mg/kg			
	dermal	ATE 300 mg/kg			
	inhalation vapour	ATE 3 mg/l			
	inhalation dust/mist	ATE 0,5 mg/l			

Irritation and corrosivity

Causes severe skin burns and eye damage.

Causes serious eye damage.

Sensitising effects

May cause an allergic skin reaction. (3,6-diazaoctanethylenediamin; triethylenetetramine)

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of causing genetic defects. (phenol; carboic acid; monohydroxybenzene; phenylalcohol)

May damage the unborn child. (imidazole)

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

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Specific effects in experiment on an animal

No information available.

Additional information on tests

No information available.

Safety Data Sheet

according to UK REACH Regulation



X280-B

Revision date: 28.07.2022

Page 8 of 11

Practical experience

No information available.

11.2. Information on other hazards

Other information

No information available.

Further information

No information available.

SECTION 12: Ecological information

12.1. Toxicity

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
112-24-3	3,6-diazaoctanethylenediamin; triethylenetetramine					
	Acute algae toxicity	ErC50 > 100 mg/l	72 h			
	Acute crustacea toxicity	EC50 92 mg/l	48 h	Daphnia magna		
108-95-2	phenol; carboic acid; monohydroxybenzene; phenylalcohol					
	Acute algae toxicity	ErC50 229 mg/l	72 h		GESTIS	

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
112-24-3	3,6-diazaoctanethylenediamin; triethylenetetramine	-1,66
108-95-2	phenol; carboic acid; monohydroxybenzene; phenylalcohol	1,5

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

No information available.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Dispose of waste according to applicable legislation.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number:

UN 3267

Safety Data Sheet

according to UK REACH Regulation



X280-B

Revision date: 28.07.2022

Page 9 of 11

14.2. UN proper shipping name: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.
(fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids, tetraethylenepentamine and triethyleneteramine, solution)

14.3. Transport hazard class(es): 8

14.4. Packing group: III

Hazard label: 8



Classification code: C7

Special Provisions: 274

Limited quantity: 5 L

Excepted quantity: E1

Transport category: 3

Hazard No: 80

Tunnel restriction code: E

Inland waterways transport (ADN)

14.1. UN number: UN 3267

14.2. UN proper shipping name: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.
(fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids, tetraethylenepentamine and triethyleneteramine, solution)

14.3. Transport hazard class(es): 8

14.4. Packing group: III

Hazard label: 8



Classification code: C7

Special Provisions: 274

Limited quantity: 5 L

Excepted quantity: E1

Marine transport (IMDG)

14.1. UN number: UN 3267

14.2. UN proper shipping name: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.
(fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids, tetraethylenepentamine and triethyleneteramine, solution)

14.3. Transport hazard class(es): 8

14.4. Packing group: III

Hazard label: 8



Special Provisions: 223, 274

Limited quantity: 5 L

Excepted quantity: E1

EmS: F-A, S-B

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 3267

Safety Data Sheet

according to UK REACH Regulation



X280-B

Revision date: 28.07.2022

Page 10 of 11

14.2. UN proper shipping name: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.
(fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids, tetraethylenepentamine and triethyleneteramine, solution)

14.3. Transport hazard class(es): 8

14.4. Packing group: III

Hazard label: 8



Special Provisions: A3 A803
Limited quantity Passenger: 1 L
Passenger LQ: Y841
Excepted quantity: E1
IATA-packing instructions - Passenger: 852
IATA-max. quantity - Passenger: 5 L
IATA-packing instructions - Cargo: 856
IATA-max. quantity - Cargo: 60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes



14.7. Maritime transport in bulk according to IMO instruments

No transport as bulk according to IBC Code.

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 30, Entry 75

2010/75/EU (VOC): 0,4 % (4,4 g/l)

2004/42/EC (VOC): 0,4 % (4,4 g/l)

Information according to 2012/18/EU (SEVESO III): E2 Hazardous to the Aquatic Environment

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D): 3 - highly hazardous to water

15.2. Chemical safety assessment

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

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2.

Safety Data Sheet

according to UK REACH Regulation



X280-B

Revision date: 28.07.2022

Page 11 of 11

Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Skin Corr. 1B; H314	Calculation method
Eye Dam. 1; H318	Calculation method
Skin Sens. 1; H317	Calculation method
Muta. 2; H341	Calculation method
Repr. 1B; H360D	Calculation method

Relevant H and EUH statements (number and full text)

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.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H341	Suspected of causing genetic defects.
H360D	May damage the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)