



1 Identification of the substance / preparation and of the company

1.1 Product identifier

**Buehler EpoThin Hardener
Article number 20-8142-xxx**

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

1.2.1 Relevant uses

Epoxy activator

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company

Buehler GmbH

In der Steele 2
D-40599 Düsseldorf / GERMANY
Phone: 0800 707 6273
Fax: 0800 707 6274
Homepage: www.buehler-met.de/en/
E-mail: sales@buehler.co.uk

Address enquiries to

Technical information

sales@buehler.co.uk

Safety Data Sheet

sdb@chemiebuero.de

1.4 Emergency phone

0800 707 6273 (Only valid if dialled within the UK) +49 (0) 211 974100

2 Hazards identification

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]

Acute Tox. 4, H302 H332
Skin Corr. 1A, H314
Skin Sens. 1, H317
Aquatic Chronic 2, H411
Repr. 2, H361

Classification according to conversion table Annex VII 1272/2008/EC

2.1.2 Classification according to Regulation 67/548/EEC or 1999/45/EC

C-N, R 20/22-35-43-62-63-51/53



2.2 Label elements

Hazard symbols



Corrosive



Dangerous for the environment

Contains:

4-tert-Butylphenol
 Polyoxypropylenediamine
 m-Phenylenebis(methylamine)
 Nonylphenol
 Triethylenetetramine

R-phrases

R 20/22: Harmful by inhalation and if swallowed.
 R 35: Causes severe burns.
 R 43: May cause sensitisation by skin contact.
 R 62: Possible risk of impaired fertility.
 R 63: Possible risk of harm to the unborn child.
 R 51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases

S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S 36/37/39: Wear suitable protective clothing, gloves and eye/face protection.
 S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
 S 61: Avoid release to the environment. Refer to special instructions, safety data sheets.

Special labelling

none

2.3 Other hazards

Physico-chemical hazards

See chapter 10.

Human health dangers

See chapter 11.

Environmental hazards

See chapter 12.

Other hazards

Further hazards were not determined with the current level of knowledge.

3 Composition / Information on ingredients

3.1 Substances

The product in question is a mixture.

3.2 Mixtures

Range [%]	Substance
20 - < 50	Polyoxypropylenediamine CAS: 9046-10-0 GHS/CLP: not determined EEC: C, R 34
20 - < 25	4-tert-Butylphenol CAS: 98-54-4, EINECS/ELINCS: 202-679-0 GHS/CLP: not determined EEC: N-Xi, R 36-43-51/53
10 - < 25	m-Phenylenebis(methylamine) CAS: 1477-55-0, EINECS/ELINCS: 216-032-5 GHS/CLP: Acute Tox. 3, H331 - Acute Tox. 4, H302 - H314 - Skin Sens. 1, H317 - Aquatic Chronic 3, H412 EEC: C, R 20/22-35-43-52/53
5 - < 10	Nonylphenol CAS: 25154-52-3, EINECS/ELINCS: 246-672-0, EU-INDEX: 601-053-00-8 GHS/CLP: Repr. 2, H361 - Repr. 2, H361 - Acute Tox. 4, H302 - Skin Corr. 1B, H314 - Aquatic Chronic 1, H410 EEC: C-N-Rep.Cat. 3, R 22-34-50/53-62-63
1 - < 5	Triethylenetetramine CAS: 112-24-3, EINECS/ELINCS: 203-950-6, EU-INDEX: 612-059-00-5 GHS/CLP: Acute Tox. 4, H312 - Skin Corr. 1B, H314 - Skin Sens. 1, H317 - Aquatic Chronic 3, H412 EEC: C, R 21-34-43-52/53

Comment on component parts

Substances of Very High Concern - SVHC: substances are not contained or are below 0,1%.
 For the wording of the listed risk phrases refer to section 16.



4 First aid measures

4.1 Description of first aid measures

General information	Remove contaminated soaked clothing immediately and dispose of safely.
Inhalation	Ensure supply of fresh air. In the event of symptoms seek for medical treatment.
Skin contact	In case of contact with skin wash off immediately with soap and water. Consult a doctor if skin irritation persists.
Eye contact	In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice.
Ingestion	Consult a doctor immediately. Do not induce vomiting. Rinse out mouth and give plenty of water to drink.

4.2 Most important symptoms and effects, both acute and delayed

None known.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5 Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	Carbon dioxide. Water spray jet. Dry powder. Foam.
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Extinguishing media that must not be used	Full water jet.
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5.2 Special hazards arising from the substance or mixture

Unknown risk of formation of toxic pyrolysis products.

5.3 Advice for firefighters

Use self-contained breathing apparatus.
Wear full protective suit.
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.
High risk of slipping due to leakage/spillage of product.

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.

6.3 Methods and material for containment and cleaning up

Pick up with absorbent material (e.g. sand, sawdust, universal absorbent, diatomaceous earth).
Dispose of absorbed material in accordance with the regulations.

6.4 Reference to other sections

See Chapter 8+13

7 Handling and storage

7.1 Precautions for safe handling

Use only in well-ventilated areas.
No special measures necessary if used correctly.



7.2 Conditions for safe storage, including any incompatibilities

- Keep only in original container.
- Do not store together with oxidizing agents.
- Keep container tightly closed.
- Keep container in a well-ventilated place.

7.3 Specific end use(s)

See product use, Chapter 1.2

8 Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (GB)

Range [%]	Substance / WEL: Workplace exposure limit
20 - < 25	4-tert-Butylphenol / 0,08 ppm, 0,5 mg/m ³ , Germany

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation.
Eye protection	Safety glasses.
Hand protection	Nitrile rubber, >480 min (EN 374). The details concerned are recommendations. Please contact the glove supplier for further information.
Skin protection	Light protective clothing of plastic material.
Other	Avoid contact with eyes and skin. Do not inhale vapours. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of these equipments to chemicals should be ascertained with the respective supplier. Remove soiled or soaked clothing immediately. Do not eat, drink, smoke or take drugs at work. After worktime and before work breaks the affected skin areas must be thoroughly cleaned. Use barrier skin cream.
Respiratory protection	Breathing apparatus in the event of high concentrations. Short term: filter apparatus, combination filter A-P2.
Thermal hazards	not applicable
Delimitation and monitoring of the environmental exposition	See Chapter 6+7.


9 Physical and chemical properties
9.1 Information on basic physical and chemical properties

Form	liquid
Color	yellow
Odor	ammoniac-like
Odour threshold	not determined
pH-value	alkaline
pH-value [1%]	not determined
Boiling point [°C]	221-293
Flash point [°C]	138
Flammability [°C]	not determined
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Oxidizing properties	no
Vapour pressure [kPa]	not determined
Density [g/ml]	0,96
Bulk density [kg/m³]	not applicable
Solubility in water	partially miscible
Partition coefficient [n-octanol/water]	not determined
Viscosity	not applicable
Relative vapour density determined in air	not determined
Evaporation speed	not determined
Melting point [°C]	not determined
Autoignition temperature [°C]	not determined
Decomposition temperature	not determined

9.2 Other information

none

10 Stability and reactivity
10.1 Reactivity

No dangerous reactions known if used as directed.

10.2 Chemical stability

The product is stable under standard conditions.

10.3 Possibility of hazardous reactions

Reactions with oxidizing agents.

10.4 Conditions to avoid

See chapter 7.2.

10.5 Incompatible materials

not determined

10.6 Hazardous decomposition products

No hazardous decomposition products known.



11 Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Range [%]	Substance
20 - < 25	4-tert-Butylphenol, CAS: 98-54-4
	LD50, oral, Rat: ~ 3500 mg/kg (IUCLID).
	LD50, dermal, Rabbit: 2318 mg/kg (IUCLID).
20 - < 50	Polyoxypropylenediamine, CAS: 9046-10-0
	LD50, dermal, Rabbit: 2980 mg/kg.
	LD50, oral, Rat: 2880 mg/kg.
10 - < 25	m-Phenylenebis(methylamine), CAS: 1477-55-0
	LC50, inhalative, Rat: ~ 700 ppm 1h (IUCLID).
	LD50, dermal, Rabbit: ~ 2000 mg/kg (IUCLID).
	LD50, oral, Rat: 930 mg/kg (IUCLID).
5 - < 10	Nonylphenol, CAS: 25154-52-3
	LD50, oral, Rat: 1537 mg/kg (IUCLID).
	LD50, dermal, Rabbit: 2031 mg/kg (IUCLID).
1 - < 5	Triethylenetetramine, CAS: 112-24-3
	LD50, oral, Rat: 2780 mg/kg (IUCLID).
	LD50, dermal, Rabbit: 550 mg/kg (IUCLID).

Serious eye damage/irritation not determined

Skin corrosion/irritation not determined

Respiratory or skin sensitisation not determined

Specific target organ toxicity — single exposure not determined

Specific target organ toxicity — repeated exposure not determined

Mutagenicity not determined

Reproduction toxicity not determined

Carcinogenicity not determined

General remarks

Toxicological data are not available.

The product was classified on the basis of the calculation procedure of the preparation directive.

12 Ecological information

12.1 Toxicity

Range [%]	Substance
20 - < 25	4-tert-Butylphenol, CAS: 98-54-4
	EC50, (48h), Daphnia magna: 3,9 mg/l (IUCLID).
	LC50, (96h), Pimephales promelas: 5,14 mg/l (IUCLID).
20 - < 50	Polyoxypropylenediamine, CAS: 9046-10-0
	LC50, (96h), fish: > 220 mg/l.
5 - < 10	Nonylphenol, CAS: 25154-52-3
	LC50, (96h), fish: 0,31 mg/l (IUCLID). M=1
	EC50, (48h), Daphnia magna: 140 mg/l (IUCLID).
	EC50, (72h), Scenedesmus subspicatus: 1,3 mg/l (IUCLID).
1 - < 5	Triethylenetetramine, CAS: 112-24-3
	EC50, (48h), Daphnia magna: 31,1 mg/l (IUCLID).
	LC50, (96h), Poecilia reticulata: 570 mg/l (IUCLID).
	IC50, (72h), Algae: > 100 mg/l.
	LC0, (48h), Leuciscus idus: 200 mg/l.



12.2 Persistence and degradability

Behaviour in environment compartments	not determined
Behaviour in sewage plant	not determined
Biological degradability	not determined

12.3 Bioaccumulative potential

not determined

12.4 Mobility in soil

not determined

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required or not conducted.

12.6 Other adverse effects

None known.

13 Disposal considerations

13.1 Waste treatment methods

Coordinate the waste disposal with the national authorities.

Product

Disposal in an incineration plant in accordance with the regulations of the local authorities. Coordinate disposal with the authorities if necessary.

Waste no. (recommended)

080409*

Contaminated packaging

Packaging that cannot be cleaned should be disposed of as for product. Uncontaminated packaging may be taken for recycling.

Waste no. (recommended)

150110*
150102

14 Transport information

14.1 UN number

See point 14.2 in accordance with UN shipping name

14.2 UN proper shipping name

Classification according to ADR

UN 2735 Amines, liquid, corrosive, n.o.s. (Polyoxypropylendiamine, m-Phenylenebis(methylamine)) (ENVIRONMENTALLY HAZARDOUS) 8 N II

- Classification Code

C7

- Label



- ADR LQ

1 I

- ADR 1.1.3.6 (8.6)

Transport category (tunnel restriction code) 2 (E)

Classification according to IMDG

UN 2735 Amines, liquid, corrosive, n.o.s. (Polyoxypropylendiamine, m-Phenylenebis(methylamine)) 8 II MARINE POLLUTANT

- EMS

F-A, S-B

- Label



- IMDG LQ

1 I

Classification according to IATA

UN 2735 Amines, liquid, corrosive, n.o.s. (Polyoxypropylendiamine, m-Phenylenebis(methylamine)) 8 II

- Label




14.3 Transport hazard class(es)

See point 14.2 in accordance with UN shipping name

14.4 Packing group

See point 14.2 in accordance with UN shipping name

14.5 Environmental hazards

See point 14.2 in accordance with UN shipping name


14.6 Special precautions for user

Relevant information under points 6 to 8.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

not determined

15 Regulatory information
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EEC-REGULATIONS	1967/548 (1999/45); 1991/689 (2001/118); 1999/13; 2004/42; 648/2004; 1907/2006 (Reach); 1272/2008; 75/324/EEC (2008/47/EC); 453/2010/EC
TRANSPORT-REGULATIONS	DOT-Classification, ADR (2011); IMDG-Code (2011, 35. Amdt.); IATA-DGR (2011).
NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits with amendments October 2007. CHIP 3/ CHIP 4

15.2 Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

16 Other informations

R-phrases (Chapter 03)	R 36: Irritating to eyes. R 43: May cause sensitisation by skin contact. R 51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R 20/22: Harmful by inhalation and if swallowed. R 35: Causes severe burns. R 52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R 22: Harmful if swallowed. R 34: Causes burns. R 50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R 62: Possible risk of impaired fertility. R 63: Possible risk of harm to the unborn child. R 21: Harmful in contact with skin.
Hazard statements (Chapter 03)	H331 Toxic if inhaled. H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H412 Harmful to aquatic life with long lasting effects. H361 Suspected of damaging the unborn child. H361 Suspected of damaging fertility. H410 Very toxic to aquatic life with long lasting effects. H312 Harmful in contact with skin.
Observe employment restrictions for people	yes
VOC (1999/13/CE)	not determined

Disclaimer: This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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