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

1.1 Product identifier

Buehler EpoHeat 2 Hardener
Article number 20-3422-016

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

1.2.1 Relevant uses

Mounting material for metallographic specimens

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company

ITW Test & Measurement GmbH
In der Steele 2
40599 Düsseldorf / GERMANY
Phone 0800 707 6273
Fax 0800 707 6274
Homepage www.buehler-met.de
E-mail info.uk@buehler.com

Address enquiries to

Technical information info.uk@buehler.com

Safety Data Sheet sdb@chemiebuero.de

1.4 Emergency telephone number

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Acute Tox. 4: H302+H312 Harmful if swallowed or in contact with skin.
Skin Corr. 1B: H314 Causes severe skin burns and eye damage.
Eye Dam. 1: H318 Causes serious eye damage.
Skin Sens. 1: H317 May cause an allergic skin reaction.
Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects.

2.2 Label elements

The product is classified and required to be labelled in accordance with EC-Directives

Hazard pictograms

Signal word DANGER

Contains: 3-Aminomethyl-3,5,5-trimethylcyclohexylamine

Hazard statements

H302+H312 Harmful if swallowed or in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe 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 / shower.
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 / doctor.
P501 Dispose of contents / container to in accordance with local / regional / national / international regulation.

2.3 Other hazards

Environmental hazards Does not contain any PBT or vPvB substances.

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

SECTION 3: Composition / Information on ingredients

Product-type:

The product is a mixture.

Range [%]	Substance
50 - < 100	3-Aminomethyl-3,5,5-trimethylcyclohexylamine
	CAS: 2855-13-2, EINECS/ELINCS: 220-666-8, EU-INDEX: 612-067-00-9
	GHS/CLP: Skin Corr. 1B: H314 - Skin Sens. 1: H317 - Acute Tox. 4: H302 H312 - Aquatic Chronic 3: H412

Comment on component parts Substances of Very High Concern - SVHC: substances are not contained or are below 0,1%.
For full text of H-statements: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information Take off contaminated clothing and wash before reuse.

Inhalation Ensure supply of fresh air.
In the event of symptoms seek medical treatment.

Skin contact Immediate medical treatment necessary, as untreated burns can result in slow-healing wounds.
In case of contact with skin wash off immediately with water.

Eye contact Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Consult a doctor immediately.

Ingestion Seek medical advice 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

Allergic reactions
Product is caustic.
Cough
Gastro-intestinal complains.
Redness

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media Foam.
Dry powder.
Carbon dioxide.
Water spray jet.

Extinguishing media that must not be used Full water jet.

5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.
Nitrogen oxides (NOx).
Carbon monoxide (CO)

5.3 Advice for firefighters

Use self-contained breathing apparatus.

Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

High risk of slipping due to leakage/spillage of product.
Use personal protective equipment.
Ensure adequate ventilation.
Remove persons to safety.

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.
In case the product spills into drains/surface waters/groundwater, immediately inform the authorities.

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 within the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only in well-ventilated areas.

Take off contaminated clothing and wash before reuse.
Do not eat, drink, smoke or take drugs at work.
Provide washing facilities at the place of work.
After worktime and before work breaks the affected skin areas must be thoroughly cleaned.
Use barrier skin cream.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.
Prevent penetration into the ground.

Do not store together with oxidizing agents.
Do not store together with food and animal food/diet.
Do not store with alkalies.
Do not store together with acids.

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

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (GB)

not applicable

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation.
Eye protection	Tightly fitting goggles. (EN 166:2001)
Hand protection	The details concerned are recommendations. Please contact the glove supplier for further information. 0,7mm: Butyl rubber, >480 min (EN 374).
Skin protection	Light protective clothing of plastic material.
Other	Do not inhale vapours. Avoid contact with eyes and skin. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier.
Respiratory protection	Not required under normal conditions. If ventilation is insufficient, wear respiratory protection. Short term: filter apparatus, filter A. (DIN EN 14387)
Thermal hazards	none
Delimitation and monitoring of the environmental exposition	Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Color	clear
Odor	characteristic acrid
Odour threshold	No information available.
pH-value	No information available.
pH-value [1%]	No information available.
Boiling point [°C]	247
Flash point [°C]	110
Flammability (solid, gas) [°C]	not applicable
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Oxidizing properties	no
Vapour pressure/gas pressure [kPa]	No information available.
Density [g/ml]	0,96 (20 °C / 68,0 °F)
Bulk density [kg/m³]	not applicable
Solubility in water	miscible
Partition coefficient [n-octanol/water]	No information available.
Viscosity	not applicable
Relative vapour density determined in air	> 1
Evaporation speed	< 1
Melting point [°C]	No information available.
Autoignition temperature [°C]	No information available.
Decomposition temperature [°C]	No information available.

9.2 Other information

none

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known if used as directed.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

10.3 Possibility of hazardous reactions

Reactions with oxidizing agents.
Reactions with alkalies (lyes).
Reactions with acids.
Reactions with epoxides
Reactions with isocyanates.

10.4 Conditions to avoid

Excessive heating

10.5 Incompatible materials

See SECTION 10.3.

10.6 Hazardous decomposition products

No dangerous reactions known if used as directed.
In the event of fire: See SECTION 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product
inhalative, TCLo: 200 mg/m³/6h.
ATE-mix, oral, > 300 - 2000 mg/kg.

Range [%]	Substance
50 - < 100	3-Aminomethyl-3,5,5-trimethylcyclohexylamine, CAS: 2855-13-2
	LD50, oral, Rat: 1030 mg/kg.

Serious eye damage/irritation	Toxicological data of complete product are not available. Risk of serious damage to eyes. Calculation method
Skin corrosion/irritation	Toxicological data of complete product are not available. Product is caustic. Calculation method
Respiratory or skin sensitisation	Toxicological data of complete product are not available. Sensitizing. Calculation method
Specific target organ toxicity — single exposure	Toxicological data of complete product are not available. Based on the available information, the classification criteria are not fulfilled.
Specific target organ toxicity — repeated exposure	Toxicological data of complete product are not available. Based on the available information, the classification criteria are not fulfilled.
Mutagenicity	Toxicological data of complete product are not available. Based on the available information, the classification criteria are not fulfilled.
Reproduction toxicity	Toxicological data of complete product are not available. Based on the available information, the classification criteria are not fulfilled.
Carcinogenicity	Toxicological data of complete product are not available. Based on the available information, the classification criteria are not fulfilled.
Aspiration hazard	Based on the available information, the classification criteria are not fulfilled.
General remarks	May cause irritation of respiratory organs.

SECTION 12: Ecological information

12.1 Toxicity

Range [%]	Substance
50 - < 100	3-Aminomethyl-3,5,5-trimethylcyclohexylamine, CAS: 2855-13-2
	LC50, (96h), Leuciscus idus: 110 mg/l.
	EC50, (72h), Desmodesmus subspicatus: 37 mg/l.
	EC50, (48h), Daphnia magna: 17,4 mg/l.

12.2 Persistence and degradability

Behaviour in environment compartments	No information available.
Behaviour in sewage plant	No information available.
Biological degradability	No information available.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Other adverse effects

Ecological data of complete product are not available.
Do not discharge product unmonitored into the environment or into the drainage.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

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
150104

SECTION 14: Transport information

14.1 UN number

See SECTION 14.2 in accordance with UN shipping name

14.2 UN proper shipping name

Transport by land according to ADR/RID	UN 2289 Isophorenediamine 8 III
- Classification Code	C7
- Label	
- ADR LQ	5 l
- ADR 1.1.3.6 (8.6)	Transport category (tunnel restriction code) 3 (E)
Inland navigation (ADN)	UN 2289 Isophorenediamine 8 III
- Classification Code	C7
- Label	
Marine transport in accordance with IMDG	UN 2289 Isophoronediamine 8 III
- EMS	F-A, S-B
- Label	
- IMDG LQ	5 l
Air transport in accordance with IATA	UN 2289 Isophoronediamine 8 III
- Label	

14.3 Transport hazard class(es)

See SECTION 14.2 in accordance with UN shipping name

14.4 Packing group

See SECTION 14.2 in accordance with UN shipping name

14.5 Environmental hazards

See SECTION 14.2 in accordance with UN shipping name

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

not determined

SECTION 15: Regulatory information

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

EEC-REGULATIONS	1991/689 (2001/118); 1999/13; 2004/42; 648/2004; 1907/2006 (REACH); 1272/2008; 75/324/EEC (2008/47/EC); 453/2010/EC; (EU) 2015/830
TRANSPORT-REGULATIONS	DOT-Classification, ADR (2015); IMDG-Code (2015, 37. Amdt.); IATA-DGR (2015).
NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits (Second edition, published December 2011). CHIP 3/ CHIP 4
- Observe employment restrictions for people	Observe employment restrictions for mothers-to-be and nursing mothers. Observe employment restrictions for young people.
- VOC (1999/13/CE)	No information available.

15.2 Chemical safety assessment

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

SECTION 16: Other information

16.1 Hazard statements (SECTION 3)

H412 Harmful to aquatic life with long lasting effects.
H302+H312 Harmful if swallowed or in contact with skin.
H317 May cause an allergic skin reaction.
H314 Causes severe skin burns and eye damage.

16.2 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging
DMEL = Derived Minimum Effect Level
DNEL = Derived No Effect Level
EC50 = Median effective concentration
ECB = European Chemicals Bureau
EEC = European Economic Community
EINECS = European Inventory of Existing Commercial Chemical Substances
ELINCS = European List of Notified Chemical Substances
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50 = Inhibition concentration, 50%
IMDG = International Maritime Code for Dangerous Goods
IUCLID = International Uniform ChemicaL Information Database
LC50 = Lethal concentration, 50%
LD50 = Median lethal dose
MARPOL = International Convention for the Prevention of Marine Pollution from Ships
PBT = Persistent, Bioaccumulative and Toxic substance
PNEC = Predicted No-Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
TLV®/TWA = Threshold limit value – time-weighted average
TLV®STEL = Threshold limit value – short-time exposure limit
VOC = Volatile Organic Compounds
vPvB = very Persistent and very Bioaccumulative

16.3 Other information

Classification procedure

Acute Tox. 4: H302+H312 Harmful if swallowed or in contact with skin. (Calculation method)
Skin Corr. 1B: H314 Causes severe skin burns and eye damage. (Calculation method)
Eye Dam. 1: H318 Causes serious eye damage. (Calculation method)
Skin Sens. 1: H317 May cause an allergic skin reaction. (Calculation method)
Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects. (Calculation method)

Modified position

SECTION 3 deleted: 3-Aminomethyl-3,5,5-trimethylcyclohexylamine

SECTION 3 been added: 3-Aminomethyl-3,5,5-trimethylcyclohexylamine

SECTION 3 deleted: 3-Aminomethyl-3,5,5-trimethylcyclohexylamine

SECTION 3 been added: 3-Aminomethyl-3,5,5-trimethylcyclohexylamine

SECTION 2 been added: H318 Causes serious eye damage.

SECTION 2 been added: Eye Dam. 1

SECTION 2 deleted: P309+P310 IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor / physician.

SECTION 2 been added: P310 Immediately call a POISON CENTER / doctor.

SECTION 2 been added: P260 Do not breathe vapours / spray.

SECTION 4 been added: Cough

SECTION 4 deleted: Irritant effects

SECTION 4 been added: Gastro-intestinal complains.

SECTION 4 been added: Immediate medical treatment necessary, as untreated burns can result in slow-healing wounds.

SECTION 4 been added: Product is caustic.

SECTION 4 deleted: Consult a doctor if skin irritation persists.

SECTION 4 been added: In case of contact with skin wash off immediately with water.

SECTION 4 deleted: If eye irritation persists: Get medical advice/attention.

SECTION 4 been added: Consult a doctor immediately.

SECTION 4 been added: Redness

SECTION 6 been added: In case the product spills into drains/surface waters/groundwater, immediately inform the authorities.

SECTION 6 been added: Ensure adequate ventilation.

SECTION 6 been added: Remove persons to safety.

SECTION 7 been added: Provide washing facilities at the place of work.

SECTION 7 been added: Use only in well-ventilated areas.

SECTION 7 been added: Do not store together with acids.

SECTION 7 been added: Do not store with alkalies.

SECTION 8 been added: Butyl rubber, >480 min (EN 374).

SECTION 8 deleted: Safety glasses. (EN 166:2001)

SECTION 8 been added: Short term: filter apparatus, filter A. (DIN EN 14387)

SECTION 8 been added: Tightly fitting goggles. (EN 166:2001)

SECTION 8 been added: If ventilation is insufficient, wear respiratory protection.

SECTION 8 deleted: Butyl rubber, >120 min (EN 374).

SECTION 9 been added: acrid

SECTION 9 deleted: not applicable

SECTION 9 been added: clear

SECTION 9 deleted: yellow

SECTION 9 been added: No information available.

SECTION 10 deleted: See SECTION 7.2.

SECTION 10 been added: See SECTION 10.3.

SECTION 10 been added: In the event of fire: See SECTION 5.

SECTION 10 been added: Reactions with isocyanates.

SECTION 10 been added: Reactions with epoxides

SECTION 10 been added: Reactions with acids.

SECTION 10 been added: Reactions with alkalies (lyes).

SECTION 10 been added: No dangerous reactions known if used as directed.

SECTION 10 been added: Excessive heating

SECTION 11 been added: Based on the available information, the classification criteria are not fulfilled.

SECTION 11 been added: Toxicological data of complete product are not available.
SECTION 11 been added: Risk of serious damage to eyes.
SECTION 11 been added: Calculation method
SECTION 11 been added: Toxicological data of complete product are not available.
SECTION 11 been added: Calculation method
SECTION 11 been added: Toxicological data of complete product are not available.
SECTION 11 been added: May cause irritation of respiratory organs.
SECTION 11 deleted: no
SECTION 12 deleted: not determined
SECTION 12 been added: No information available.
SECTION 12 been added: Ecological data of complete product are not available.
SECTION 16 deleted: Minimum classification
SECTION 16 been added: Calculation method