



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

**1.1 Product identifier**

**Buehler EpoKwick Härter**  
**Article number 20-812x, 20-8138-032**

**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 +49 (0) 211 974100  
Fax +49 (0) 211 97410 79  
Homepage [www.buehler-met.de](http://www.buehler-met.de)  
E-mail [info.eu@buehler.com](mailto:info.eu@buehler.com)

**Address enquiries to**

**Technical information** [info.eu@buehler.com](mailto:info.eu@buehler.com)  
**Safety Data Sheet** [sdb@chemiebuero.de](mailto: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**

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

Acute Tox. 2: H330 Fatal if inhaled.  
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.  
Resp. Sens. 1: H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
STOT SE 3: H335 May cause respiratory irritation.

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

T+, Very toxic - R 26: Very toxic by inhalation.  
Xn, Harmful - R 21/22: Harmful in contact with skin and if swallowed.  
C, Corrosive - R 34: Causes burns.  
Xi, Irritant - R 37: Irritating to respiratory system.  
Sensitizing. - R 42/43: May cause sensitisation by inhalation and skin contact.



## 2.2 Label elements

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

### Labelling according to Regulation (EC) 1272/2008

#### Hazard pictograms



#### Signal word

DANGER

#### Contains:

Polyamine

2,2'-Iminodiethylamine

#### Hazard statements

H330 Fatal if inhaled.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

#### Precautionary statements

P260 Do not breathe vapours / spray.

P280 Wear protective gloves / protective clothing / eye protection / face protection.

P284 In case of inadequate ventilation wear respiratory protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water / 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.

P310 Immediately call a POISON CENTER / doctor.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

## 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
60 - <80	Polyamine
	CAS: 28063-82-3, EINECS/ELINCS: Polymer
	GHS/CLP: Resp. Sens. 1: H334 - Skin Sens. 1: H317 - STOT SE 3: H335 - Skin Corr. 1B: H314
	EEC: C, R 34-37-42/43
25 - 30	2,2'-Iminodiethylamine
	CAS: 111-40-0, EINECS/ELINCS: 203-865-4, EU-INDEX: 612-058-00-x
	GHS/CLP: Acute Tox. 2: H330 - Acute Tox. 4: H302 H312 - Skin Corr. 1B: H314 - Skin Sens. 1: H317 - STOT SE 3: H335
	EEC: T, R 26-21/22-34-43-37

### 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 and R-phrases: see SECTION 16.



#### SECTION 4: First aid measures

##### 4.1 Description of first aid measures

<b>General information</b>	Remove contaminated soaked clothing immediately and dispose of safely.
<b>Inhalation</b>	Ensure supply of fresh air. In the event of symptoms seek for medical treatment.
<b>Skin contact</b>	In case of contact with skin wash off immediately with soap and water. Immediate medical treatment necessary, as untreated burns can result in slow-healing wounds.
<b>Eye contact</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult a doctor immediately.
<b>Ingestion</b>	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

Allergic reactions  
Product is caustic.

##### 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.  
Water spray jet.  
Carbon dioxide.

**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.  
Wear full protective suit.  
Fire residues and contaminated firefighting water must be disposed of in accordance with 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.  
Ensure adequate ventilation.  
Keep away from all sources of ignition.  
Use personal protective equipment (protective gloves, safety glasses, protective clothing).

##### 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 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.  
Provide suitable vacuuming at the processing area.  
Avoid spilling in enclosed areas.

After worktime and before work breaks the affected skin areas must be thoroughly cleaned.  
Remove contaminated soaked clothing immediately and dispose of safely.  
Do not eat, drink, smoke or take drugs at work.  
Use barrier skin cream.  
Showers and eye wash stations should be provided.

### 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.  
Keep container tightly closed.  
Keep container in a well-ventilated place.  
Protect from heat/overheating.

### 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)

Range [%]	Substance
25 - 30	2,2'-Iminodiethylamine
	CAS: 111-40-0, EINECS/ELINCS: 203-865-4, EU-INDEX: 612-058-00-x
	Long-term exposure: 1 ppm, 4,3 mg/m <sup>3</sup> , Sk

### 8.2 Exposure controls

<b>Additional advice on system design</b>	Ensure adequate ventilation on workstation.
<b>Eye protection</b>	Safety glasses.
<b>Hand protection</b>	Nitrile rubber, >480 min (EN 374). The details concerned are recommendations. Please contact the glove supplier for further information.
<b>Skin protection</b>	Protective clothing.
<b>Other</b>	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.
<b>Respiratory protection</b>	Breathing apparatus in the event of high concentrations. Short term: filter apparatus, combination filter A-P2.
<b>Thermal hazards</b>	none
<b>Delimitation and monitoring of the environmental exposition</b>	Comply with applicable environmental regulations limiting discharge to air, water and soil.



## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Form	liquid
Color	yellow
Odor	characteristic
Odour threshold	not determined
pH-value	alkaline
pH-value [1%]	not determined
Boiling point [°C]	207
Flash point [°C]	100
Flammability (solid, gas) [°C]	not determined
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Oxidizing properties	no
Vapour pressure/gas pressure [kPa]	not determined
Density [g/ml]	1,0291
Bulk density [kg/m <sup>3</sup> ]	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 [°C]	not determined

### 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 strong acids.

### 10.4 Conditions to avoid

See SECTION 7.2.

### 10.5 Incompatible materials

Oxidizing agent

### 10.6 Hazardous decomposition products

No hazardous decomposition products known.



## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Range [%]	Substance
25 - 30	2,2'-Iminodiethylamine, CAS: 111-40-0
	LD50, dermal, Rabbit: 1090 mg/kg.
	LD50, oral, Rat: 1080 mg/kg.
	LC50, inhalative, Rat: > 0,07 - < 0,3 mg/l 4h.

**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 of complete product are not available.  
The product was classified on the basis of the calculation procedure of the preparation directive.

## SECTION 12: Ecological information

### 12.1 Toxicity

Range [%]	Substance
25 - 30	2,2'-Iminodiethylamine, CAS: 111-40-0
	LC50, (96h), Leuciscus idus: 430 mg/L (IUCLID).
	EC50, (72h), Selenastrum capricornutum: 1164 mg/L (IUCLID).
	EC50, (48h), Daphnia magna: 17 mg/L (IUCLID).

### 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

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.

No classification on the basis of the calculation procedure of the preparation directive.



## 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\*  
150101  
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 2735 Polyamines, liquid, corrosive, n.o.s. (3-Azapentan-1,5-diamine, Polyamine) 8 II

#### - Classification Code

C7

#### - Label



#### - ADR LQ

1 I

#### - ADR 1.1.3.6 (8.6)

Transport category (tunnel restriction code) 2 (E)

### Inland navigation (ADN)

UN 2735 Polyamines, liquid, corrosive, n.o.s. (3-Azapentan-1,5-diamine, Polyamine) 8 II

#### - Classification Code

C7

#### - Label



### Marine transport in accordance with IMDG

UN 2735 Polyamines, liquid, corrosive, n.o.s. (3-Azapentan-1,5-diamine, Polyamine) 8 II

#### - EMS

F-A, S-B

#### - Label



#### - IMDG LQ

1 I

**Air transport in accordance with IATA** UN 2735 Polyamines, liquid, corrosive, n.o.s. (3-Azapentan-1,5-diamine, Polyamine) 8 II

#### - 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 73/78 and the IBC Code**

not determined

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

<b>EEC-REGULATIONS</b>	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
<b>TRANSPORT-REGULATIONS</b>	DOT-Classification, ADR (2015); IMDG-Code (2015, 37. Amdt.); IATA-DGR (2015).
<b>NATIONAL REGULATIONS (GB):</b>	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)	0%

**15.2 Chemical safety assessment**

not applicable

**SECTION 16: Other information****16.1 R-phrases (SECTION 3)**

R 34: Causes burns.  
R 37: Irritating to respiratory system.  
R 42/43: May cause sensitisation by inhalation and skin contact.  
R 26: Very toxic by inhalation.  
R 21/22: Harmful in contact with skin and if swallowed.  
R 43: May cause sensitisation by skin contact.

**16.2 Hazard statements (SECTION 3)**

H302+H312 Harmful if swallowed or in contact with skin.  
H330 Fatal if inhaled.  
H314 Causes severe skin burns and eye damage.  
H335 May cause respiratory irritation.  
H317 May cause an allergic skin reaction.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.





### 16.3 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

### 16.4 Other information

#### Classification procedure

Acute Tox. 2: H330 Fatal if inhaled. (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)  
Resp. Sens. 1: H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. (Calculation method)  
STOT SE 3: H335 May cause respiratory irritation. (Calculation method)



**Modified position**

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

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

SECTION 2 been added: P403+P233 Store in a well-ventilated place. Keep container tightly closed.

SECTION 2 been added: P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

SECTION 2 been added: P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water / shower.

SECTION 2 deleted: Classification according to conversion table Annex VII 1272/2008/EC

SECTION 2 been added: P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

SECTION 2 been added: P280 Wear protective gloves / protective clothing / eye protection / face protection.

SECTION 2 been added: R 26: Very toxic by inhalation.

SECTION 2 been added: Toxic

SECTION 2 deleted: H302+H312 Harmful if swallowed or in contact with skin.

SECTION 2 deleted: Acute Tox. 4

SECTION 2 been added: Eye Dam. 1

SECTION 2 been added: H318 Causes serious eye damage.

SECTION 2 been added: Acute Tox. 2

SECTION 2 been added: Totenkopf

SECTION 2 been added: H330 Fatal if inhaled.

SECTION 2 been added: P284 In case of inadequate ventilation wear respiratory protection.

SECTION 4 been added: Consult a doctor immediately.

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

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

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

SECTION 7 been added: Avoid spilling in enclosed areas.

SECTION 7 been added: Remove contaminated soaked clothing immediately and dispose of safely.

SECTION 7 been added: Showers and eye wash stations should be provided.

SECTION 8 been added: Comply with applicable environmental regulations limiting discharge to air, water and soil.

SECTION 8 been added: Protective clothing.

SECTION 16 been added: Calculation method

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