



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

1.1 Product identifier

EpoColor Hardener
Article number 20-8144-008

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. 2: H330 Fatal if inhaled.
Skin Corr. 1B: H314 Causes severe skin burns and eye damage.
STOT SE 3: H335 May cause respiratory irritation.
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.
Aquatic Chronic 2: H411 Toxic 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: | Polyamine Triphenyl phosphite 2,2'-Iminodiethylamine | |
| Hazard statements | 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. H411 Toxic 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. 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. 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 | none |

SECTION 3: Composition / Information on ingredients

Product-type:

The product is a mixture.

| Range [%] | Substance |
|-----------|---|
| 50 - <70 | 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 |
| 25 - <30 | 2,2'-Iminodiethylamine CAS: 111-40-0, EINECS/ELINCS: 203-865-4, EU-INDEX: 612-058-00-x, Reg-No.: 01-2119473793-27-xxxx GHS/CLP: Acute Tox. 2: H330 - Acute Tox. 4: H302 H312 - Skin Corr. 1B: H314 - Skin Sens. 1: H317 - STOT SE 3: H335 |
| 5 - 10 | Triphenyl phosphite CAS: 101-02-0, EINECS/ELINCS: 202-908-4, EU-INDEX: 015-105-00-7 GHS/CLP: Acute Tox. 4: H302 - Eye Irrit. 2: H319 - Skin Irrit. 2: H315 - Aquatic Chronic 1: H410 - Aquatic Acute 1: H400 - Skin Sens. 1: H317, M = 1 |

| | |
|-----------------------------------|--|
| 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. Consult a doctor immediately. |
| 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 soap and 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 | 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 Carbon dioxide.
Water spray jet.
Dry powder.
Foam.

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.
Carbon monoxide (CO)
Nitrogen oxides (NOx).

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

Ensure adequate ventilation.
Use breathing apparatus if exposed to vapours/aerosol.
High risk of slipping due to leakage/spillage of product.
Use personal protective equipment (protective gloves, safety glasses, protective clothing).
Keep people away and stay on the upwind side.

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.

Provide suitable vacuuming at the processing area.

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.

Take off contaminated clothing and wash before reuse.

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 together with acids.

Keep container tightly closed.

Keep container in a well-ventilated place.

Keep in a cool place. Store in a dry place.

Keep under lock and key. Should only be accessible to specialists or people authorized by them.

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, Reg-No.: 01-2119473793-27-xxxx |
| | Long-term exposure: 1 ppm, 4,3 mg/m ³ , Sk |



8.2 Exposure controls

| | |
|--|--|
| Additional advice on system design | Ensure adequate ventilation on workstation. |
| Eye protection | Safety glasses. |
| Hand protection | The details concerned are recommendations. Please contact the glove supplier for further information. Nitrile rubber, >480 min (EN 374). |
| 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 handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier. |
| Respiratory protection | Breathing apparatus in the event of high concentrations. Short term: combination filter A-P3. |
| 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 | yellow |
| Odor | characteristic |
| Odour threshold | No information available. |
| pH-value | alkaline |
| pH-value [1%] | No information available. |
| Boiling point [°C] | 155 - 207 |
| Flash point [°C] | 100 |
| 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] | 1,0291 |
| Bulk density [kg/m³] | not applicable |
| Solubility in water | partially 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 acids.

Corrosive to metals.

10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

See SECTION 10.3.

10.6 Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

| Product |
|---|
| ATE-mix, dermal, Rat: > 2000 mg/kg. |
| ATE-mix, oral, Rat: > 2000 mg/kg. |
| ATE-mix, inhalative, Rat: 0,26 mg/l 4h. |

| 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. |
| 5 - 10 | Triphenyl phosphite, CAS: 101-02-0 |
| | LD50, dermal, Rat: 2000 - 5000 mg/kg. |
| | LD50, oral, Rat: 1600 mg/kg. |

| | |
|---|---|
| Serious eye damage/irritation | Product is caustic. |
| Skin corrosion/irritation | Product is caustic. |
| Respiratory or skin sensitisation | Sensitizing. |
| Specific target organ toxicity — single exposure | May cause damage to organs through single exposure. |
| Specific target organ toxicity — repeated exposure | Based on available data, the classification criteria are not met. |
| Mutagenicity | Based on available data, the classification criteria are not met. |
| Reproduction toxicity | Based on available data, the classification criteria are not met. |
| Carcinogenicity | Based on available data, the classification criteria are not met. |
| Aspiration hazard | Based on available data, the classification criteria are not met. |
| 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). |
| 5 - 10 | Triphenyl phosphite, CAS: 101-02-0 |
| | LC50, (96h), fish: 0,7 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.

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

The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

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.
Untampered 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 2922 Corrosive liquid, toxic, n.o.s. (3-azapentane-1,5-diamine, triphenyl phosphite) (ENVIRONMENTALLY HAZARDOUS) 8 & 6.1 II

- Classification Code

CT1

- Label



- ADR LQ

1 I

- ADR 1.1.3.6 (8.6)

Transport category (tunnel restriction code) 2 (E)

Inland navigation (ADN)

UN 2922 Corrosive liquid, toxic, n.o.s. (3-azapentane-1,5-diamine, triphenyl phosphite) (ENVIRONMENTALLY HAZARDOUS) 8 & 6.1 II

- Classification Code

CT1

- Label



Marine transport in accordance with IMDG

UN 2922 Corrosive liquid, toxic, n.o.s. (3-azapentane-1,5-diamine, triphenyl phosphite) 8 & 6.1 II MARINE POLLUTANT

- EMS

F-A, S-B

- Label



- IMDG LQ

1 I

Air transport in accordance with IATA UN 2922 Corrosive liquid, toxic, n.o.s. (Polyamine, 3-azapentane-1,5-diamine) 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 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) | not applicable |

15.2 Chemical safety assessment

not applicable

SECTION 16: Other information

16.1 Hazard statements (SECTION 3)

H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H302 Harmful if swallowed.
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 H335 May cause respiratory irritation.
 H317 May cause an allergic skin reaction.
 H314 Causes severe skin burns and eye damage.
 H302+H312 Harmful if swallowed or in contact with skin.
 H330 Fatal if inhaled.

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. 2: H330 Fatal if inhaled. (Calculation method)
Skin Corr. 1B: H314 Causes severe skin burns and eye damage. (Calculation method)
STOT SE 3: H335 May cause respiratory irritation. (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)
Aquatic Chronic 2: H411 Toxic to aquatic life with long lasting effects. (Calculation method)

Modified position

SECTION 2 been added: P403+P233 Store in a well-ventilated place. Keep container tightly closed.
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 9 been added: No information available.
SECTION 9 deleted: not determined
SECTION 10 been added: See SECTION 10.3.
SECTION 10 deleted: Oxidizing agent
SECTION 11 been added: Based on available data, the classification criteria are not met.
SECTION 11 deleted: not determined
SECTION 11 been added: May cause damage to organs through single exposure.
SECTION 12 been added: No information available.
SECTION 12 deleted: not determined

Copyright: Chemiebüro®

