

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 22.10.2015

Revision: 22.10.2015

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

- **1.1 Product identifier**
- **Trade name: EpoColor Hardener**
- **Article number: AGB8783H**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
Mounting material for metallographic specimens
- **Application of the substance / the preparation:** No further relevant information possible.
- **1.3 Details of the supplier of the safety data sheet**
- **Supplier.**
Agar Scientific
Elektron Technology UK Ltd
Parsonage Lane
Stansted CM24 8GF
United Kingdom
sales@agarscientific.com
Tel: +44 (0) 1279 813 519
- **Further information obtainable from:** Technical Support
- **1.4 Emergency telephone number:** 24 hours: +44 (0)1856 407333

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

Resp. Sens. 1B H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
 Acute Tox. 4 H312 Harmful in contact with skin.
 Acute Tox. 4 H332 Harmful if inhaled.
 Skin Irrit. 2 H315 Causes skin irritation.
 Eye Irrit. 2 H319 Causes serious eye irritation.
 Skin Sens. 1 H317 May cause an allergic skin reaction.

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



C; Corrosive

R34: Causes burns.



Xn; Harmful

R21/22: Harmful in contact with skin and if swallowed.



Xn; Sensitising

R42/43: May cause sensitisation by inhalation and skin contact.

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Xi; Irritant

R37: Irritating to respiratory system.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

· **Hazard pictograms**



GHS07 GHS08 GHS09

· **Signal word** Danger

· **Hazard-determining components of labelling:**

Oxirane polymer

2,2'-Iminodiethylamine

· **Hazard statements**

H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

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

H317 May cause an allergic skin reaction.

H411 Toxic to aquatic life with long lasting effects.

· **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P285 In case of inadequate ventilation wear respiratory protection.

P261 Avoid breathing vapours.

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

P301+P310 IF SWALLOWED: Immediately call a doctor.

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

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **2.3 Other hazards**

Corrosive gases/vapours.

The product/the substance is hazardous to water.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 28063-82-3	Oxirane polymer  Xi R41  Eye Dam. 1, H318	50 - <80%
CAS: 111-40-0 EINECS: 203-865-4	2,2'-Iminodiethylamine  C R34;  Xn R21/22;  Xi R43  Skin Corr. 1B, H314;  Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317	25 - <40%
CAS: 101-02-0 EINECS: 202-908-4	Triphenyl phosphite  Xi R36/38;  N R50/53  Aquatic Acute 1, H400; Aquatic Chronic 1, H410;  Skin Irrit. 2, H315; Eye Irrit. 2, H319	5 - <15%

- **Additional information:** For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:** Remove contaminated soaked clothing immediately and dispose of safely.
- **After inhalation:**
Supply fresh air.
In the event of symptoms seek for medical treatment.
- **After skin contact:**
Immediate medical treatment necessary, as untreated burns can result in slow-healing wounds.
Wash with water and soap and rinse thoroughly.
Consult a doctor if skin irritation persists.
- **After eye contact:** Rinse thoroughly with plenty of water and seek medical advice.
- **After swallowing:**
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**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
Treat symptomatically.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
Carbon dioxide.
Water spray jet.
Dry powder.
Foam.
- **For safety reasons unsuitable extinguishing agents:** Full water jet.
- **5.2 Special hazards arising from the substance or mixture**
Unknown risk of formation of toxic pyrolysis products.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Use self-contained breathing apparatus.
Wear full protective suit.
Fire residues and contaminated firefighting water must be disposed of in accordance with local

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regulations.

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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.
- **6.2 Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Prevent spread over a wide area (e.g. by containment or oil barriers).
- **6.3 Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Pick up with absorbent material (e.g. sand, sawdust, universal absorbent, diatomaceous earth).
Dispose of absorbed material in accordance with regulations.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
No special measures necessary if used correctly.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Keep only in original container.
- **Information about storage in one common storage facility:**
Do not store together with oxidising agents.
- **Further information about storage conditions:**
Keep container tightly sealed.
Keep container in a well-ventilated place.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:**
Ensure adequate ventilation on workstation.
- **8.1 Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

111-40-0 2,2'-Iminodiethylamine

WEL	Long-term value: 4.3 mg/m ³ , 1 ppm
Sk	

- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.

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Do not inhale gases / fumes / aerosols.
 Avoid contact with the eyes and skin.
 Use barrier skin cream.

- **Respiratory protection:**

Breathing apparatus in the event of high concentrations.
 Short term: filter apparatus, filter A.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves** Nitrile rubber, >480 min (EN 374)

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

Safety glasses.

- **Body protection:**

Light protective clothing of plastic material.

Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity of the handled hazardous substances. The resistance of this equipment to chemicals should be ascertained with the respective supplier.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Liquid
Colour:	Yellow
Odour:	Characteristic
Odour threshold:	Not determined.

pH-value:	alkaline
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- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	207 °C

Flash point:	100 °C
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Flammability (solid, gaseous):	Not applicable.
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- **Ignition temperature:**

Decomposition temperature:	Not determined.
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Self-igniting:	Product is not selfigniting.
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Danger of explosion:	Product does not present an explosion hazard.
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- | | |
|---|--|
| Explosion limits: | |
| Lower: | Not determined. |
| Upper: | Not determined. |
| Oxidising properties | no |
| Vapour pressure: | Not determined. |
| Density at 20 °C: | 1.029 g/cm ³ |
| Relative density | >1 |
| Vapour density | Not determined. |
| Evaporation rate | <1 |
| Solubility in / Miscibility with water: | partially miscible |
| Partition coefficient (n-octanol/water): | Not determined. |
| Viscosity: | |
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |
| 9.2 Other information | No further relevant information available. |

SECTION 10: Stability and reactivity

- **10.1 Reactivity** Not dangerously reactive if used as directed.
- **10.2 Chemical stability** Stable under normal conditions (ambient temperature).
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** Reactions with oxidising agents.
- **10.4 Conditions to avoid** Strong heating.
- **10.5 Incompatible materials:** Oxidising agents.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**

LD/LC50 values relevant for classification:		
111-40-0 2,2'-Iminodiethylamine		
Oral	LD50	1080 mg/kg (rat)
Dermal	LD50	1090 mg/kg (rabbit)
Inhalative	LC50	1.8 mg/l (rat)
101-02-0 Triphenyl phosphite		
Oral	LD50	1600 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rabbit)
Inhalative	LC50	>6.7 mg/l (rat) (6h)

Oral	LD50	1080 mg/kg (rat)
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Dermal	LD50	>2000 mg/kg (rabbit)
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- **Skin corrosion/irritation** Caustic effect on skin and mucous membranes.
- **Serious eye damage/irritation** Strong caustic effect.
- **Respiratory or skin sensitisation**
Sensitisation possible through inhalation.
Sensitisation possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

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 Harmful
 Corrosive
 Irritant

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SECTION 12: Ecological information

- **12.1 Toxicity**

- **Aquatic toxicity:**

111-40-0 2,2'-Iminodiethylamine

EC50	17 mg/l (Daphnia magna) (48h)
	592 mg/l (Scenedesmus subspicatus) (96h)
LC50	430 mg/l (Leuciscus idus) (96h)

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
 Must not reach sewage water or drainage ditch undiluted or unneutralised.
 Also poisonous for fish and plankton in water bodies.
 Toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
 Must not be disposed together with household garbage. Do not allow product to reach sewage system.
 Disposal in an incineration plant in accordance with local regulations.
- **Recommendation:**
 Disposal must be made according to official regulations.
 Packaging that cannot be cleaned should be disposed of as product.
 Uncontaminated packaging may be taken for recycling.

SECTION 14: Transport information

- | | |
|---------------------------------------|--|
| · 14.1 UN-Number | |
| · ADR, IMDG, IATA | UN2079 |
| · 14.2 UN proper shipping name | |
| · ADR | 2079 DIETHYLENETRIAMINE, ENVIRONMENTALLY HAZARDOUS |
| · IMDG | DIETHYLENETRIAMINE, MARINE POLLUTANT |
| · IATA | DIETHYLENETRIAMINE |

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· 14.3 Transport hazard class(es)
· ADR, IMDG


· **Class** 8 Corrosive substances.
 · **Label** 8

· IATA


· **Class** 8 Corrosive substances.
 · **Label** 8

· 14.4 Packing group

· **ADR, IMDG, IATA** II

· **14.5 Environmental hazards:** Product contains environmentally hazardous substances: Triphenyl phosphite

· **Marine pollutant:** Yes

· **Special marking (ADR):** Symbol (fish and tree)

· **Special marking (ADR):** Symbol (fish and tree)

· **14.6 Special precautions for user** Warning: Corrosive substances.

· **Danger code (Kemler):** 86

· **EMS Number:** F-A,S-B

· **Segregation groups** Alkalis

· **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· Transport/Additional information:
· ADR

· **Limited quantities (LQ)** 1L

· **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· **Transport category** 2

· **Tunnel restriction code** E

· IMDG

· **Limited quantities (LQ)** 1L

· **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":** UN2079, DIETHYLENETRIAMINE, ENVIRONMENTALLY HAZARDOUS, 8, II

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SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge and should assist the user with the safe handling of this material when properly applied. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
 - H302 Harmful if swallowed.
 - H312 Harmful in contact with skin.
 - H314 Causes severe skin burns and eye damage.
 - H315 Causes skin irritation.
 - H317 May cause an allergic skin reaction.
 - H318 Causes serious eye damage.
 - H319 Causes serious eye irritation.
 - H400 Very toxic to aquatic life.
 - H410 Very toxic to aquatic life with long lasting effects.
 - R21/22 Harmful in contact with skin and if swallowed.
 - R34 Causes burns.
 - R36/38 Irritating to eyes and skin.
 - R41 Risk of serious damage to eyes.
 - R43 May cause sensitisation by skin contact.
 - R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- **Department issuing MSDS:** Sales department
- **Contact:**
 - sales@agarscientific.com
 - Tel: +44 (0) 1279 813 519
- **Abbreviations and acronyms:**
 - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 - IMDG: International Maritime Code for Dangerous Goods
 - IATA: International Air Transport Association
 - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 - EINECS: European Inventory of Existing Commercial Chemical Substances
 - ELINCS: European List of Notified Chemical Substances
 - CAS: Chemical Abstracts Service (division of the American Chemical Society)
 - LC50: Lethal concentration, 50 percent
 - LD50: Lethal dose, 50 percent
 - Acute Tox. 4: Acute toxicity, Hazard Category 4
 - Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
 - Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
 - Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
 - Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
 - Resp. Sens. 1B: Sensitisation - Respirat., Hazard Category 1B
 - Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
 - Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1
 - Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1
 - Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2