

# Laminating Epoxy Activator



**Professional  
EPOXY COATINGS**

## Safety Data Sheet

According to 1907/2006/EC (REACH), 1272/2008/EC (CLP), 29CFR1910/1200 and GHS Rev. 3

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Material Name: Laminating Epoxy Activator  
Product code: PEC\_A4

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

##### 1.2.1. Relevant identified uses

Use of the substance/mixture: Liquid curing agent for epoxy resin

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

Professional Epoxy Coatings  
Old Cooperage Yard  
Gatebeck  
KENDAL  
LA8 0HW  
UNITED KINGDOM

Telephone: +44 (0)1539 267 171  
Email: info@pecepoxy.co.uk

#### 1.4. Emergency telephone number

+44 1865 407 333 – English speaking (24 hours, 7 days)

### 2. Hazards identification

#### 2.1. Classification of the substance or mixture

In compliance with EC regulation No. 1272/2008, 29CFR1910/1200 and GHS Rev. 3 and amendments.

Acute toxicity (oral), category 4.  
Skin corrosion, category 1B.  
Serious eye damage, category 1.  
Skin sensitisation, category 1.  
Respiratory sensitisation, category 1.  
Chronic aquatic hazard, category 3.

##### Hazard-determining components of labelling:

3-aminomethyl-3,5,5-trimethylcyclohexylamine  
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxiran  
Poly(propylene glycol) bis(2-aminopropyl ether)  
piperazine (solid)  
Aminoethylpiperazine  
trimethylhexane-1,6-diamine  
Benzyl Alcohol

## 2.2. Label elements

### Hazard pictograms:



Signal word: Danger

### Hazard statements:

H290 May be corrosive to metals.  
H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H412 Harmful to aquatic life with long lasting effects.

### Precautionary statements:

P234 Keep only in original container.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P285 In case of inadequate ventilation wear respiratory protection.  
P301+P330+P331+P310 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTRE or doctor/physician.  
P303+P361+P353+P310 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTRE or doctor/physician.  
P304+P340+P310 If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison centre or doctor/physician.  
P305+P351+P338+P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE or doctor/physician.  
P321 Specific treatment (see supplemental first aid instructions on this label).  
P333+P313 If skin irritation or a rash occurs: Get medical advice/attention.  
P363 Wash contaminated clothing before reuse.  
P390 Absorb spillage to prevent material damage.  
P406 Store in corrosive resistant stainless steel container with a resistant inner liner.  
P501 Dispose of contents and container as instructed in Section 13.

## 2.3. Other hazards

None known

### Information concerning particular hazards for humans 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 EC regulation No. 1272/2008, 29CFR1910/1200 and GHS Rev. 3 and amendments, and extended by company and literature data. The classification is in accordance with the latest editions of international substances lists, and is supplemented by information from technical literature and by information provided by the company.

## 3. Composition/information on ingredients

### 3.1. Substance

Not applicable

**3.2. Mixture**

Identification	Name	Classification according to Regulation (EC) No. 1278/2008 (CLP)	Weight %
CAS number: 2855-13-2	Isophorone diamine	Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Sens. 1; H317 Skin Corr. 1B; H314 Aquatic Chronic 3; H412	40
CAS number: 55492-52-9	Phenol, 2,2'-methylenebis-, polymer with (chloromethyl)oxirane	Skin Sens. 1; H317 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Aquatic Chronic 2; H411	5-20
CAS number: 9046-10-0	Propylene glycol diamine, 2-amino-, diether with Propylene	Skin Corr. 1B; H314	5-20
CAS number: 68609-97-2	Alkyl (C12-14) glycidyl ether	Skin Sens. 1; H317 Skin Irrit. 2; H315 Eye Irrit. 2; H319	<10
CAS number: 110-85-0	Piperazine		<10
CAS number: 140-31-8	Aminoethylpiperazine	Acute Tox. 4; H302 Acute Tox. 3; H311 Skin Sens. 1; H317 Skin Corr. 1B; H314 Aquatic Chronic 3; H412	<5
CAS number: 25620-58-0	Trimethylhexamethylenediamine	Acute Tox. 4; H302 Skin Sens. 1; H317 Skin Corr. 1B; H314 Aquatic Chronic 3; H412	<5
CAS number: 100-51-6	Benzyl Alcohol	Acute Tox. 4; H302 Acute Tox. 4; H332 Eye Irrit. 2; H319 Aquatic Acute 2; H401	<5
CAS number: 102-71-6	Triethanolamine		<5
CAS number: 68889-71-4	Octahydro-4,7-methano-1H-indenedimethylamine		<1

Additional information: None

Full Text of H and EUH statements: See section 16

## 4. First aid measures

### 4.1. Description of first aid measures

General information: None.

#### After inhalation:

Move exposed individual to fresh air.  
Loosen clothing as necessary and position individual in a comfortable position.  
Maintain an unobstructed airway.  
Immediately call a POISON CONTROL CENTRE or seek medical attention.

#### After skin contact:

Immediately remove all contaminated clothing.  
Wash affected area with soap and water.  
Immediately call a POISON CONTROL CENTRE or seek medical attention.

**After eye contact:**

Rinse/flush exposed eye(s) gently using water for 15-20 minutes.  
Remove contact lens(es) if able to do so during rinsing.  
Immediately call a POISON CONTROL CENTRE or seek medical attention.

**After swallowing:**

Immediately call a POISON CONTROL CENTRE or seek medical attention.  
Do not induce vomiting.  
Rinse mouth and then drink plenty of water.

**4.2. Most important symptoms and effects, both acute and delayed**

None

**4.3. Indication of any immediate medical attention and special treatment needed**

No additional information.

**5. Firefighting measures****5.1. Extinguishing media**

Suitable extinguishing media: Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition.  
Unsuitable extinguishing media: Do not use water as an extinguisher.

**5.2. Special hazards arising from the substance or mixture**

Thermal decomposition can lead to release of irritating gases and vapours.

**5.3. Advice for firefighters****Protective equipment:**

Wear protective eye wear, gloves and clothing.  
Refer to Section 8.

**5.4. Additional information**

Avoid inhaling gases, fumes, dust, mist, vapour and aerosols.  
Avoid contact with skin, eyes and clothing.

**6. Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.  
Ensure air handling systems are operational.

**6.2. Environmental precautions**

Should not be released into the environment.  
Prevent from reaching drains, sewer or waterway.

**6.3. Methods and material for containment and cleaning up**

Wear protective eye wear, gloves and clothing.  
Absorb spillage to prevent material damage.

**6.4. Reference to other sections**

None

**7. Handling and storage****7.1. Precautions for safe handling**

Do not eat, drink, smoke or use personal products when handling chemical substances.

Avoid breathing mist or vapour.

Do not add water to corrosives as this can cause a violent reaction.

## 7.2. Conditions for safe storage, including any incompatibilities

Store in a cool, well-ventilated area.

Store in corrosive resistant container with a resistant inner lining.

Keep away from incompatibles such as oxidising agents, organic materials, metals, alkalis and moisture.

## 7.3. Specific end use(s)

No additional information.

## 8. Exposure controls/personal protection



### 8.1. Control parameters

100-51-6, Benzyl Alcohol, WEEL TWA 10.0 ppm.

102-71-6, 2,2',2''-nitrioltriethanol, ACGIH TWA 5mg/m<sup>3</sup>.

### 8.2. Exposure controls

#### Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.

#### Respiratory protection:

When necessary, use NIOSH-approved breathing equipment.

#### Protection of skin:

Select glove material impermeable and resistant to the substance.

#### Eye protection:

Safety goggles or glasses, or appropriate eye protection.

#### General hygienic measures:

Wash hands before breaks and at the end of work.

Avoid contact with skin, eyes and clothing.

## 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Appearance (physical state, colour)	Clear to light yellow liquid
Odour	No data available
Odour threshold	No data available
pH	No data available
Melting/Freezing point	No data available
Boiling point/range	No data available
Flash point (closed cup)	No data available
Evaporation rate	No data available
Flammability (solid, gaseous)	No data available
Density	1000 - 1500 kg/m <sup>3</sup> @ 20°C

Explosion limit lower	No data available
Explosion limit upper	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density	No data available
Solubilities	No data available
Partition coefficient (n-octanol/water)	No data available
Auto/Self-ignition temperature	No data available
Decomposition temperature	No data available
Dynamic viscosity	No data available
Kinematic viscosity	No data available

## 10. Stability and reactivity

### 10.1. Reactivity

Does not react under normal conditions of use and storage.

### 10.2. Chemical stability

Stable under normal conditions of use and storage.

### 10.3. Possibility of hazardous reactions

None under normal conditions of use and storage.

### 10.4. Conditions to avoid

None known.

### 10.5. Incompatible materials

Monomers, resins, water and oxidising agents.

### 10.6. Hazardous decomposition products

None known.

## 11. Toxicological information

### 11.1. Information on toxicological effects

Routes of exposure: No information available.

#### Acute toxicity

##### Oral:

3-aminomethyl-3,5,5-trimethylcyclohexylamine: LD50: rat male 1,030 mg/kg.

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxiran: LD50 Rat 13,800 mg/kg.

Benzyl Alcohol: LD50 Rat 1,230 mg/kg.

Poly(propylene glycol) bis(2-aminopropyl ether): LD50 Rat 2,885.3 mg/kg.

Piperazine (solid): LD50 Rat 2,600 mg/kg.

Octahydro-4,7-methano-1H-indenedimethylamine: LD50 502 mg/kg rat.

Trimethylhexane-1,6-diamine: LD50: rat 910 mg/kg.

Aminoethylpiperazine: LD50 Oral - rat - male - 2,097 mg/kg.

2,2',2''-nitrilotriethanol: LD50 Mouse 5,846 mg/kg.

##### Dermal:

3-aminomethyl-3,5,5-trimethylcyclohexylamine: LD50: rat >2,000 mg/kg.

Poly(propylene glycol) bis(2-aminopropyl ether): LD50 Rabbit 2,980 mg/kg.

Octahydro-4,7-methano-1H-indenedimethylamine: LD50 400 - 500 mg/kg rat.

Piperazine (solid): LD50 Rabbit 8,300 mg/kg.

Aminoethylpiperazine: LD50 Dermal - rabbit - male - 866 mg/kg.

2,2',2''-nitrilotriethanol: LD50: Rabbit - > 22.5 g/kg.

##### Inhalation:

Poly(propylene glycol) bis(2-aminopropyl ether): LC50 Rat 8h .74 mg/l.

Piperazine (solid): LC0 Rat 4h .8 mg/l.

3-aminomethyl-3,5,5-trimethylcyclohexylamine: LC50: Rat 4h >5.01 mg/l.

#### Skin corrosion/irritation

3-aminomethyl-3,5,5-trimethylcyclohexylamine: Rabbit: causes burns 24 h.

Poly(propylene glycol) bis(2-aminopropyl ether): Rabbit: Corrosive, category 1C - where responses occur after exposures between 1 hour and 4 hours and observations up to 14 days.

Piperazine (solid): Rabbit: causes burns.

Trimethylhexane-1,6-diamine: Causes skin burns.

Benzyl Alcohol BLK: Rabbit No skin irritation 24h.

#### Serious eye damage/irritation

3-aminomethyl-3,5,5-trimethylcyclohexylamine: Rabbit: corrosive to eyes 24h.

Poly(propylene glycol) bis(2-aminopropyl ether): Rabbit: Corrosive to eyes.

Piperazine (solid): Rabbit: severe eye irritation -24hr.

Benzyl Alcohol BLK: Rabbit Eye irritation 24h.

#### Respiratory or skin sensitisation

Piperazine (solid): Guinea pig: may cause sensitisation by skin contact.

#### Carcinogenicity

IARC (International Agency for Research on Cancer): Group 3 - Not classifiable as to its carcinogenicity to humans: Triethanolamine.

NTP (National Toxicology Program): None of the ingredients are listed.

Germ cell mutagenicity: No additional information.

Reproductive Toxicity: No additional information.

STOT-single and repeated exposure: No additional information.

Aspiration toxicity: No information available.

Additional toxicological information: No additional information.

## 12. Ecological information

### 12.1. Toxicity

Name	Result
3-aminomethyl-3,5,5-trimethylcyclohexylamine	Fish, semi-static test LC50 - <i>Leuciscus idus</i> (Golden orfe) - 110 mg/l - 96.0 h.
Poly(propylene glycol) bis(2-aminopropyl ether)	Aquatic invertebrates, NOEC - <i>Daphnia</i> - 18 mg/l - 48 h.
2,2',2''-nitrilotriethanol	Fish, <i>Lepomis macrochirus</i> (Bluegill) - 450 - 1,000 mg/l - 96 h.
Piperazine (solid)	Fish, LC50 - <i>Poecilia reticulata</i> (guppy) - > 1,800 mg/l - 96.0 h.
2,2',2''-nitrilotriethanol	Aquatic invertebrates, <i>Daphnia magna</i> (Water flea) - 609.98 mg/l - 48 h.
Aminoethylpiperazine	Fish, static test LC50 - <i>Pimephales promelas</i> (fathead minnow) - ca. 2,190 mg/l - 96 h.
Aminoethylpiperazine	Aquatic invertebrates, static test EC50 - <i>Daphnia magna</i> (Water flea) - 58 mg/l - 48 h.
Piperazine (solid)	Aquatic invertebrates, EC50 - <i>Daphnia magna</i> (Water flea) - 21 mg/l - 48 h.
Piperazine (solid)	Aquatic Plants, EC50 - <i>Pseudokirchneriella subcapitata</i> (green algae) - > 1,000 mg/l - 72 h.
3-aminomethyl-3,5,5-trimethylcyclohexylamine	Aquatic invertebrates, Immobilization EC50 - <i>Daphnia magna</i> (Water flea) - 23 mg/l - 48 h.
3-aminomethyl-3,5,5-trimethylcyclohexylamine	Aquatic Plants, static test EC50 - <i>Desmodesmus subspicatus</i> (green algae) - 37 mg/l - 72 h.
Benzyl Alcohol	Aquatic invertebrates, EC50 - <i>Daphnia magna</i> (Water flea) - 55 mg/l - 24 h.
Benzyl Alcohol	Fish, LC50 - <i>Lepomis macrochirus</i> (Bluegill) - 10 mg/l - 96 h.
3-aminomethyl-3,5,5-trimethylcyclohexylamine	Bacteria, EC10 - <i>Pseudomonas putida</i> - 1,120 mg/l - 18 h.
Poly(propylene glycol) bis(2-aminopropyl ether)	Fish, semi-static test LC50 - <i>Oncorhynchus mykiss</i> (rainbow trout) - > 15 mg/l - 96 h.
Poly(propylene glycol) bis(2-aminopropyl ether)	Fish, static test NOEC - <i>Oncorhynchus mykiss</i> (rainbow trout) - 15 mg/l - 96 h.
Poly(propylene glycol) bis(2-aminopropyl ether)	Aquatic invertebrates, static test EC50 - <i>Daphnia</i> - 80 mg/l - 48 h.
trimethylhexane-1,6-diamine	Fish, LC50 - <i>Leuciscus idus</i> (Golden orfe) - 172.0 mg/l - 48.0 h.
trimethylhexane-1,6-diamine	Aquatic invertebrates, EC50 - <i>Daphnia magna</i> (Water flea) - 31.5 mg/l - 24 h.
trimethylhexane-1,6-diamine	Aquatic Plants, EC50 - <i>Desmodesmus subspicatus</i> (green algae) - 29.5 mg/l - 72 h.

**12.2. Persistence and degradability**

No additional information.

**12.3. Bioaccumulative potential**

No additional information.

**12.4. Mobility in soil**

No additional information.

**12.5. Results of PBT and vPvB assessment**

PBT assessment: No additional information.

vPvB assessment: No additional information.

**12.6. Other adverse effects:**

No additional information.

**13. Disposal considerations****13.1. Waste treatment methods****Relevant information:**

It is the responsibility of the waste generator to properly characterise all waste materials according to applicable regulatory entities. (US 40CFR262.11).

**14. Transport information****United States Transportation of dangerous goods (49 CFR DOT)**

14.1. UN number	2735
14.2. UN proper shipping name	Polyamines, liquid, corrosive, n.o.s. (Isophorone diamine)
14.3. UN transport hazard class(es)	8  
14.4. Packing group	III
14.5. Environmental hazards	Yes
14.6. Special precautions for user	None

**International Carriage of Dangerous Goods by Road/Rail (ADR/RID)**

14.1. UN number	2735
14.2. UN proper shipping name	Polyamines, liquid, corrosive, n.o.s. (Isophorone diamine)
14.3. UN transport hazard class(es)	8  
14.4. Packing group	III
14.5. Environmental hazards	Yes
14.6. Special precautions for user	None
Classification code	80
Transport category	3
Tunnel restriction code	E

Excepted quantities	30mL inner pkg; 1L outer pkg
Limited quantity	5L

**International Maritime Dangerous Goods (IMDG)**

14.1. UN number	2735
14.2. UN proper shipping name	Polyamines, liquid, corrosive, n.o.s. (Isophorone diamine)
14.3. UN transport hazard class(es)	8  
14.4. Packing group	III
14.5. Environmental hazards	Yes
14.6. Special precautions for user	None

**International Air Transport Association Dangerous Goods Regulations (IATA-DGR)**

14.1. UN number	2735
14.2. UN proper shipping name	Polyamines, liquid, corrosive, n.o.s. (Isophorone diamine)
14.3. UN transport hazard class(es)	8  
14.4. Packing group	III
14.5. Environmental hazards	Yes
14.6. Special precautions for user	None

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

Not applicable

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

SARA Section 311/312 (Specific toxic chemical listings): Not classified.

SARA Section 302 (Extremely hazardous substances): None of the ingredients are listed.

SARA Section 313 (Specific toxic chemical listings): None of the ingredients are listed.

TSCA (Toxic Substances Control Act): All ingredients are listed.

TSCA Rules and Orders: Not applicable.

**Proposition 65 (California):**

Chemicals known to cause cancer: None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females: None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males: None of the ingredients are listed.

Chemicals known to cause developmental toxicity: None of the ingredients are listed.

**Canada**

Canadian Domestic Substances List (DSL): All ingredients are listed.

**European Union**

REACH Article 57 (SVHC): None of the ingredients are listed.

Germany MAK: Not classified.

**Australia**

Australian Inventory of Chemical Substances (AICS): All ingredients are listed.

**China**

Inventory of Existing Chemical Substances in China (IECSC): All ingredients are listed.

**Japan**

Inventory of Existing and New Chemical Substances (ENCS): All ingredients are listed.

**Korea**

Existing Chemicals List (ECL): All ingredients are listed.

**New Zealand**

New Zealand Inventory of Chemicals (NZOIC): All ingredients are listed.

**Philippines**

Philippine Inventory of Chemicals and Chemical Substances (PICCS): All ingredients are listed.

**Taiwan**

Taiwan Chemical Substance Inventory (TSCI): All ingredients are listed.

## 16. Other information

Abbreviations and Acronyms: None

### Summary of classification in section 3:

Acute Tox. 4; H302	Acute toxicity (oral), category 4
Acute Tox. 4; H312	Acute toxicity (dermal), category 4
Skin Sens. 1; H317	Skin sensitisation, category 1
Skin Corr. 1B; H314	Skin corrosion, category 1B
Aquatic Chronic 3; H412	Chronic aquatic hazard, category 3
Skin Irrit. 2; H315	Skin irritation, category 2
Eye Irrit. 2; H319	Eye irritation, category 2A
Aquatic Chronic 2; H411	Chronic aquatic hazard, category 2
Acute Tox. 3; H311	Acute toxicity (dermal), category 3
Acute Tox. 4; H332	Acute toxicity (inhalation), category 4
Aquatic Acute 2; H401	Acute aquatic hazard, category 2

### Summary of hazard statements in section 3:

H302	May be harmful if swallowed
H312	May be harmful in contact with skin
H317	May cause an allergic skin reaction
H314	Causes severe skin burns and eye damage
H412	Harmful to aquatic life with long lasting effects
H315	Causes skin irritation
H319	Causes serious eye irritation
H411	Toxic to aquatic life with long lasting effects
H311	Harmful in contact with skin
H332	May be harmful if inhaled
H401	Toxic to aquatic life

The information and recommendations contained herein are based upon data believed to be correct. However, as much of the information has been received from sources outside our company, we cannot guarantee its accuracy or completeness. Health and safety precautions contained within this data sheet may not be adequate for all individuals and /or situations. It is the user's

obligation to evaluate and use this data in order to comply with all applicable laws and regulations. Additionally, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.