

Safety Data Sheet acc. to OSHA HCS

Printing date 02/20/2018

Reviewed on 02/20/2018

1 Identification

- **Product identifier**
 - **Trade name:** EP1046FG Clear B
 - **Recommended use:** Epoxy Hardener
 - **Restrictions on use:** For industrial use only
- **Details of the supplier of the safety data sheet**
 - **Manufacturer/Supplier:**
ResinLab, LLC
N109 W13300 Ellsworth Drive
Germantown, WI 53022
1-877-259-1669
www.resinlab.com
 - **Information Department:** Product Safety Department: msds@resinlab.com
 - **Emergency Telephone Number:**
North America - Chemtrec: 1-800-424-9300 (24 hours)
International - Chemtrec: 01-703-527-3887 (24 hours)

2 Hazard(s) identification

- **Classification of the substance or mixture**
Acute Tox. 4 H302 Harmful if swallowed.
Acute Tox. 4 H312 Harmful in contact with skin.
Skin Corr. 1B H314 Causes severe skin burns and eye damage.
Skin Sens. 1 H317 May cause an allergic skin reaction.
Repr. 2 H361 Suspected of damaging fertility or the unborn child.
- **Label elements**
 - **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
 - **Hazard pictograms**



GHS05



GHS07



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**
4-Nonylphenol, branched
N-(2-Aminoethyl)piperazine
Tetraethylenepentamine
Triethylenetetramine
- **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.
H361 Suspected of damaging fertility or the unborn child.
- **Precautionary statements**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/fume/gas/mist/vapors/spray
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing must not be allowed out of the workplace.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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 center/doctor.
IF exposed or concerned: Get medical advice/attention.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
Collect spillage.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Classification system:**
 - **NFPA System**
 - **NFPA ratings (scale 0 - 4)**



Health = 3
Fire = 1
Reactivity = 0

NFPA special hazards (water reactivity and oxidizing property): None

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- **HMIS System**

- **HMIS-ratings (scale 0 - 4)**

| | | |
|------------|----|---|
| HEALTH | *3 | Health = *3 Fire = 1 Reactivity = 0 |
| FIRE | 1 | |
| REACTIVITY | 0 | |

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

- **Dangerous components:**

| | | | |
|---|----------------------------|---|----------|
| CAS: 84852-15-3 EINECS: 284-625-5 Index number: 601-053-00-8 | 4-Nonylphenol, branched | Repr. 2, H361 Skin Corr. 1B, H314; Eye Dam. 1, H318 Aquatic Chronic 1, H410 Acute Tox. 4, H302 | 60-70% |
| CAS: 140-31-8 EINECS: 205-411-0 Index number: 612-105-00-4 RTECS: TK 8050000 | N-(2-Aminoethyl)piperazine | Acute Tox. 3, H311 Repr. 2, H361 Skin Corr. 1B, H314 Acute Tox. 4, H302; Skin Sens. 1, H317 Aquatic Chronic 3, H412 | ≥20-<25% |
| CAS: 112-57-2 EINECS: 203-986-2 Index number: 612-060-00-0 RTECS: KH8585000 | Tetraethylenepentamine | Skin Corr. 1B, H314 Aquatic Chronic 2, H411 Acute Tox. 4, H312 | ≥5-<10% |
| CAS: 112-24-3 EINECS: 203-950-6 Index number: 612-059-00-5 RTECS: YE6650000 | Triethylenetetramine | Skin Corr. 1B, H314 Acute Tox. 4, H312; Skin Sens. 1, H317 Aquatic Chronic 3, H412 | ≥0.1-<1% |

- **Additional information:**

If the chemical name/CAS number is proprietary and or weight percentage is listed as a range, the specific chemical identity and or percentage of composition has been withheld as a trade secret.

4 First-aid measures

- **Description of first aid measures**

- **General information:**

Keep warm, position comfortably and cover well.
 Immediately remove any clothing soiled by the product.

- **After inhalation:**

Remove victim from exposure to fresh air. Keep person at rest. Provide oxygen if person is not breathing.
 Supply fresh air and if symptoms occur call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

- **After skin contact:**

Flush skin thoroughly. Remove all contaminated clothing and shoes. Continue to rinse skin for 15 minutes. Obtain medical attention if symptoms develop. Wash all contaminated clothing and shoes before reuse.

- **After eye contact:**

Immediately flush opened eyes with water for 5 minutes, then remove contact lenses if present, continue flushing for at least another 15 minutes.

Do not put any ointments, oils or medication in eyes without specific instructions.

Seek immediate medical advice.

Chemical burns must be treated promptly by a physician.

- **After swallowing:**

If victim is unconscious; never give anything by mouth.

Do NOT induce vomiting.

If victim is conscious, rinse out mouth with water.

If vomiting occurs spontaneously, keep victim's head below hips to prevent aspiration of liquid into lungs.

- **After Exposure** Move to fresh air at once.

- **Information for doctor:**

- **Most important symptoms and effects, both acute and delayed** No further relevant information available.

- **Indication of any immediate medical attention and special treatment needed**

Check section 11 Toxicological Information for further relevant information.

5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:**

Carbon dioxide
 Alcohol resistant foam
 dry chemical
 water fog

- **Special hazards arising from the substance or mixture**

In case of fire, the following can be released:

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Aldehydes and ketones.
 Carbon dioxide (CO₂) and Carbon monoxide (CO)
 low molecular weight hydrocarbons
 Nitrogen oxides
 May generate ammonia gas.

- **Advice for firefighters**

- **Protective equipment:**

If employees are expected to fight fires, they must be trained and equipped as stated in the OSHA fire brigades standard (29 CFR 1910.156).

As with any fire, wear positive-pressure self-contained breathing apparatus and full protective gear that are NIOSH approved.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Wear protective clothing.

Wear protective equipment. Keep unprotected persons away.

Do not breathe gas, vapors, dusts or mists if their inhalable particles occur during use.

- **Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

- **Methods and material for containment and cleaning up:**

For large spills: provide diking or containment to minimize spreading. If possible pump and store material in appropriate container.

For small spills: Ventilate and wash area. Collect spills and absorbant material in appropriate container.

Ensure adequate ventilation.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

7 Handling and storage

- **Handling:**

- **Precautions for safe handling**

Avoid breathing vapor or spray mists.

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

Keep away from incompatible material(s).

Avoid any release into the environment.

Do not breathe dust/fumes/mist/vapor/spray.

Avoid contact with eyes, skin and clothing.

Keep away from heat, sparks, flames and ignition sources.

Observe all the personal protection requirements in Section 8.

- **Conditions for safe storage, including any incompatibilities**

- **Storage:**

- **Requirements to be met by storerooms and receptacles:**

Provide ventilation for receptacles.

Keep stored in accordance with local, regional, national, and international regulations.

8 Exposure controls/personal protection

- **Control parameters**

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

84852-15-3 4-Nonylphenol, branched

TEEL-1 Short-term value: 20 mg/m³

TEEL-2 Short-term value: 125 mg/m³

TEEL-3 Short-term value: 500 mg/m³

140-31-8 N-(2-Aminoethyl)piperazine

TEEL-1 Short-term value: 7.5 mg/m³

TEEL-2 Short-term value: 50.0 mg/m³

TEEL-3 Short-term value: 500 mg/m³

112-57-2 Tetraethylenepentamine

WEEL Long-term value: 5 mg/m³

Skin; DSEN

112-24-3 Triethylenetetramine

WEEL Long-term value: 6 mg/m³, 1 ppm

Skin

· **Additional Occupational Exposure Limit Values for possible hazards during processing:** None.

- **Exposure controls**

If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

If exposure limits have not been established, maintain airborne levels to an acceptable level.

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Be sure to clean skin thoroughly after work and before breaks.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Avoid contact with the eyes and skin.

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Personal Protective Equipment (PPE)

Breathing equipment:

Sufficient ventilation in pattern and volume should be provided in order to maintain air contaminant levels below recommended exposure limits.

Use a NIOSH approved air-purifying organic vapor respirator if occupational limits are exceeded. For emergency situations, confined space use, or other conditions where exposure limits may be greatly exceeded, use an approved air supplied respirator. Observe OSHA regulations (29CFR 1910.134) for respirator use.

Protection of hands:

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



Chemical resistant gloves

Eye protection:



Safety Glasses with side shields

Body protection: Appropriate chemical resistant clothing.

Limitation and supervision of exposure into the environment

The Engineering measures or controls, and PPE recommendations are only guidelines and may not apply to every situation. For additional information, please consult the corresponding requirements under OSHA 29 CFR 1910.94-95, and 29 CFR 1910.132-138.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

- Form: Liquid
- Color: Amber colored
- Odor: Amine-like
- Odor threshold: Not determined.

· pH-value: Not determined.

Change in condition

- Melting point/Melting range: Undetermined.
- Boiling point/Boiling range: Undetermined.

· Flash point: >93 °C (>199.4 °F)

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: Not determined.

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

- Lower: Not determined.
- Upper: Not determined.

· Vapor pressure: Not determined.

· Vapor Density: not determined

· Density at 20 °C (68 °F): 0.97 g/cm³ (8.09 lbs/gal)

- Relative density: Not determined.
- Vapor density: Not determined.
- Evaporation rate: Not determined.

Solubility in / Miscibility with

- Water: Partly miscible.

· Partition coefficient (n-octanol/water): Not determined.

Viscosity:

- Dynamic: Not available.
- Kinematic: Not available.
- VOC content: 0.00 %
0.0 g/l / 0.00 lb/gl

10 Stability and reactivity

· **Reactivity** Not a regulated physical hazard under GHS.

· **Hazardous Reactivity and Chemical Stability** Stable under normal conditions of use, storage and temperatures.

· **Thermal decomposition / conditions to be avoided:**

To avoid thermal decomposition do not overheat.

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- No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**
May slowly corrode copper, aluminum, nickel, cobalt, zinc and galvanized surfaces. May react with strong reducing agents generating flammable hydrogen gas.
- **Conditions to avoid** Keep away from heat, sparks, flame and any other ignition sources.
- **Incompatible materials:**
chlorinated hydrocarbons
Reducing agents
Oxidizing agents
Acids
Copper and copper alloys
Nickel
Cobalt
- **Hazardous decomposition products:** Possible in traces.
- **Additional information:**
As long as the prescribed application concentrations are maintained there is no danger that stable emulsions will form.

11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

| 84852-15-3 4-Nonylphenol, branched | | |
|-------------------------------------|----------|--|
| Oral | LD50 | 1,604 mg/kg (rat) Reference: Vendor SDS (2015) |
| Dermal | LD50 | 2,031 mg/kg (rabbit) Vendor SDS 2015 |
| Inhalative | LC50/4 h | mg/l (mouse) (Non-toxic; LC50 exceeded the saturated vapor value) |
| 140-31-8 N-(2-Aminoethyl)piperazine | | |
| Oral | LD50 | 2,097 mg/kg (rat) |
| Dermal | LD50 | 866 mg/kg (rabbit) |
| Inhalative | LC50/4 h | mg/l (rat) (No mortality observed at saturated atmosphere) no mortality |
| 112-57-2 Tetraethylenepentamine | | |
| Oral | LD50 | 2,100 mg/kg (white rats) (Classified as Cat 4 by EU) |
| Dermal | LD50 | 660 mg/kg (rabbit) |
| Inhalative | LC50/4 h | mg/l (Test species: n/a) Symptoms include mucosal irritations, cough, shortness of breath, inhalation may lead to formation of oedemas in the respiratory tract. Corrosive to respiratory system. |

- **Primary irritant effect:**

- **on the skin:** Caustic effect on skin and mucous membranes.

- **on the eye:** Strong caustic effect.

- **Sensitization:** Sensitization possible through skin contact.

- **Experience with humans:** Not applicable.

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful
Corrosive
Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

| 84852-15-3 4-Nonylphenol, branched | |
|-------------------------------------|--|
| EC50 | mg/kg (rabbit) (Directive 84/449/EEC B4; Post-exposure: 8 days) All tested animals showed signs of erythema, edema, and eschar which were not fully reversible within 8 days. Reference: IUCLID Dataset (2000). |
| 140-31-8 N-(2-Aminoethyl)piperazine | |
| EC50 | mg/kg (rabbit) (US DOT Corrosivity Assay) |
| 112-57-2 Tetraethylenepentamine | |
| EC50 | mg/kg (rabbit) (serious skin burns within 20-30 min of application) |

- **Persistence and degradability** No further relevant information available.

- **Other information:** The product is easily biodegradable.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No data available.

- **Mobility in soil** No further relevant information available.

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- **Additional ecological information:** The product is non-rapid degradable, and low or not highly bioaccumulative.
- **General notes:**
 - Water hazard class 3 (Self-assessment): extremely hazardous for water
 - Do not allow product to reach ground water, water course or sewage system, even in small quantities.
 - Danger to drinking water if even extremely small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
 - **PBT:** None of the ingredients is listed.
 - **vPvB:** None of the ingredients is listed.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
 - **Recommendation:**
 - Must be specially treated adhering to official regulations.
 - Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
 - **Recommendation:** Dispose of according to your local waste regulations.

14 Transport information

| | |
|---|--|
| · UN-Number | UN3267 |
| · DOT, IMDG, IATA | |
| · UN proper shipping name | Corrosive liquid, basic, organic, n.o.s. (4-Nonylphenol, branched, Polyamidoamine) |
| · DOT | Corrosive liquid, basic, organic, n.o.s. (4-Nonylphenol, branched, N-Aminoethylpiperazine) |
| · IMDG | CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (4-Nonylphenol, branched, N-AMINOETHYLPIPERAZINE), MARINE POLLUTANT |
| · IATA | CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (4-Nonylphenol, branched, N-AMINOETHYLPIPERAZINE) |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 8 Corrosive substances |
| · Label | 8 |
| · IMDG | |
|  | |
| · Class | 8 Corrosive substances |
| · Label | 8 |
| · IATA | |
|  | |
| · Class | 8 Corrosive substances |
| · Label | 8 |
| · Packing group | III |
| · DOT, IMDG, IATA | |
| · Environmental hazards: | Product contains environmentally hazardous substances: 4-Nonylphenol, branched |
| · Special precautions for user | Warning: Corrosive substances |
| · Danger code (Kemler): | 80 |
| · EMS Number: | F-A,S-B |
| · Segregation groups | Alkalis |
| · Stowage Category | A |
| · Stowage Code | SW2 Clear of living quarters. |
| · Segregation Code | SG35 Stow "separated from" acids. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |

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Transport/Additional information:
DOT
Quantity limitations

On passenger aircraft/rail: 5 L

On cargo aircraft only: 60 L

Special marking with the symbol (fish and tree).

Remarks:
IMDG
Limited quantities (LQ)

5L

Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

UN "Model Regulation":

UN 3267 CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (4-NONYLPHENOL, BRANCHED, N-AMINOETHYLPIPERAZINE), 8, III

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
SARA Section 355 (extremely hazardous substances):

None of the ingredients is listed.

SARA Section 313 (Specific toxic chemical listings):

84852-15-3 4-Nonylphenol, branched

60-70%

SARA Section 311/312 (Hazardous Chemical Inventory Reporting)

84852-15-3 4-Nonylphenol, branched

A 60-70%

140-31-8 N-(2-Aminoethyl)piperazine

A, C ≥20-<25%

112-57-2 Tetraethylenepentamine

A ≥5-<10%

112-24-3 Triethylenetetramine

A ≥0.1-<1%

Hazard Abbreviations for SARA 311/312

A - Acute Health Hazard

C - Chronic Health Hazard

F - Fire Hazard

R - Reactive Hazard

S - Sudden Release of Pressure Hazard

TSCA (Toxic Substances Control Act):

All ingredients are listed.

Proposition 65
Chemicals known to cause cancer:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

Carcinogenic categories
EPA (Environmental Protection Agency)

None of the ingredients is listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

International Regulation Lists
Chinese Chemical Inventory of Existing Chemical Substances:

All ingredients are listed.

GHS label elements GHS label elements
National regulations:
Japanese Existing and New Chemical Substance List:

All ingredients are listed.

Korean Existing Chemical Inventory:

All ingredients are listed.

European Pre-registered substances:

All ingredients are listed.

EINECS List:

All ingredients are listed.

ELINCS List:

None of the ingredients is listed.

REACH - Substances of Very High Concern (SVHC) List:

84852-15-3 4-Nonylphenol, branched

60-70%

Restriction of Hazardous Substances Directive (RoHS) list:

None of the ingredients is listed.

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· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department Issuing (M)SDS:** Product Development Department
- **Contact:** msds@resinlab.com
 - **Date of preparation / last revision** 02/20/2018 / 5
 - *** Data compared to the previous version altered.**

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