

Safety Data Sheet

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

Effective date: 02.01.2016

Super Sap INF Hardener

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



1.1 Product identifier

Material name: Super Sap INF Hardener

Product code: 12_INF

1.2 Relevant identified uses of the substance or mixture and uses advised against: Liquid curing agent for epoxy resin

1.3 Details of the manufacturer/supplier of the safety data sheet

Manufacturer:

Entropy Resins, Inc.
30621 San Antonio St.
Hayward, CA 94544 USA
1-310-882-2120
info@entropyresins.com

Supplier:

Europe / Africa / Middle East: Ferrer Dalmau
Ferrer-Dalmau / Rosalia de Castro 21 08025
Barcelona, Spain
+34 93 487 40 15
info@entropyresins.eu

Emergency telephone number:

3 E Company Emergency

International shipments (Outside of USA and China) : +1-760-476-3962

Shipments within the United States: 1-760-476-3962

For shipments within China: 0532-8388-9090 (National Chemical Emergency)

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.

Skin sensitization, category 1.

Skin corrosion, category 1B.

Serious eye damage, category 1.

Acute toxicity (oral), category 4.

Acute toxicity (dermal), category 4.

Chronic aquatic hazard, category 3.

Hazard-determining components of labeling:

Trimethylolpropane tris[poly(propylene glycol), amine terminated] ether

Isophorone diamine

Mix of Triethanolamine, Piperazine, N-Aminoethylpiperazine

2.2 Label elements

Hazard pictograms:



Signal word: Danger

Hazard statements:

H302 Harmful if swallowed.

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- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:

- P260 Do not breathe dust/fume/gas/mist/vapors/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.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P330+P331+P310 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.
- P302+P352+P312 If on skin: Wash with soap and water. Call a poison center or doctor/physician if you feel unwell.
- 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 CENTER 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 center 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 CENTER 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.
- P362 Take off contaminated clothing and wash before reuse.
- P405 Store locked up.
- 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 labeled 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 Chemical characterization: None

3.2 Description: None

3.3 Hazardous components (percentages by weight)

Identification	Name	Classification	Wt. %
CAS number: 39423-51-3	Trimethylolpropane tris[poly(propylene glycol), amine terminated] ether	Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Corr. 1B; H314	10-30

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CAS number: 2855-13-2	Isophorone diamine	Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Sens. 1; H317 Skin Corr. 1B; H314 Eye Dam. 1; H318 Ox. Liq. 2; H271 Aquatic Chronic 3; H412	50-90
CAS number: 102-76-1, 110-85-0, 140-31-8	Mix of Triethanolamine, Piperazine, N-Aminoethylpiperazine	Resp. Sens. 1; H334 Eye Dam. 1; H318 Muta. 2; H341 Repr. 2; H361 Flam. Liq. 4; H227	0.5-15

3.4 Additional information: None.

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 CENTER or seek medical attention.

After skin contact:

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

After swallowing:

- Immediately call a POISON CONTROL CENTER 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: None

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5.2 Special hazards arising from the substance or mixture:

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

5.3 Advice for firefighters

Protective equipment:

Wear protective eye wear, gloves and clothing.

Refer to Section 8.

Use typical firefighting equipment, self-contained breathing apparatus, special tightly sealed suit.

5.4 Additional information:

Heating causes a rise in pressure, risk of bursting and combustion.

Shut off sources of ignition.

Carbon monoxide and carbon dioxide may form upon combustion.

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation.

Ensure air handling systems are operational.

Wear protective eye wear, gloves and clothing.

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:

Absorb with non-combustible liquid-binding material (sand, diatomaceous earth (clay) , acid binders, universal binders).

Dispose of contents / container in accordance with local regulations.

6.4 Reference to other sections: None

7 Handling and storage

7.1 Precautions for safe handling:

Use only with adequate ventilation.

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

Avoid breathing mist or vapor.

7.2 Conditions for safe storage, including any incompatibilities:

Store in a cool, well-ventilated area.

Store away from foodstuffs.

7.3 Specific end use(s): No additional information.

8 Exposure controls/personal protection



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8.1 Control parameters:

110-85-0, Piperazine, ACGIH TLV 0.1 mg/m³ 8 hours TWA.
 102-71-6, Triethanolamine, ACGIH TLV 5 mg/m³ TWA.
 110-85-0, Piperazine, ACGIH TLV 0.03ppm 8 hours TWA.
 2855-13-2, Isophorone diamine, OSHA TWA : 0.1 mg/m³.

8.2 Exposure controls

Appropriate engineering controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

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 based on rates of diffusion and degradation.
 Select glove material impermeable and resistant to the substance.

Eye protection:

Safety goggles or glasses, or appropriate eye protection.

General hygienic measures:

Wash contaminated clothing before reusing.
 Perform routine housekeeping.
 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, color):	Clear liquid	Explosion limit lower:	Not determined
		Explosion limit upper:	Not determined
Odor:	Odorless	Vapor pressure:	Not determined
Odor threshold:	Not determined	Vapor density:	Not determined
pH-value:	>12.3	Relative density:	Not determined
Melting/Freezing point:	Not determined	Solubilities:	Soluble in water.
Boiling point/range:	>247°F	Partition coefficient (n-octanol/water):	Not determined
Flash point (closed cup):	90-113°C	Auto/Self-ignition temperature:	Not determined
Evaporation rate:	Not determined	Decomposition temperature:	Not determined
Flammability (solid, gaseous):	Not determined	Dynamic viscosity:	Not determined
Density:	Not determined	Kinematic viscosity:	Not determined

10 Stability and reactivity

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- 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:** None known.
- 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:

- Isophorone diamine: LD 50 = 1030 mg/kg (rat).
Triethanolamine: LD 50 6400 mg/kg (rat).
N-Aminoethylpiperazine: LD50 - 2097 mg/kg (Rabbit).
Piperazine: LD 50 2600 mg/kg (rat).

Dermal:

- Triethanolamine: LD 50 > 2000 mg/kg (rat).
Isophorone diamine: LD 50 > 2000 mg/kg (rat).
Piperazine: LD 50 8300 mg/kg (rabbit).
N-Aminoethylpiperazine: LD 50 866 mg/kg (rabbit).

Inhalation:

- Isophorone diamine: LC50 - 4 h - > 5.01 mg/l (Rat).

Skin corrosion/irritation: No additional information.

Serious eye damage/irritation: No additional information.

Respiratory or skin sensitization:

- Piperazine: Skin (Human): sensitizing.
Piperazine: Skin (Guinea Pig): sensitizing.
N-Aminoethylpiperazine: Skin (Guinea Pig): sensitizing.
Piperazine: Respiratory tract (Human): sensitizing.

Carcinogenicity: No additional information.

IARC (International Agency for Research on Cancer): None of the ingredients are listed.

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

Germ cell mutagenicity:

- N-Aminoethylpiperazine: In vitro experiment (Metabolic activation; Mammalian-Animal) : Positive.
Piperazine: In vitro experiment (Metabolic activation; Mammalian-Animal) : Positive.

Reproductive Toxicity: No additional information.

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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:

Triethanolamine: Fish, EC50 - Daphnia magna 610mg/l - 48 h.

N-Aminoethylpiperazine: Bacteria, EC50 511 mg/l - 2 hrs static.

N-Aminoethylpiperazine: Fish, LC50 - 2190 mg/l - 96 h.

N-Aminoethylpiperazine: Aquatic invertebrates, EC5058 mg/l - 48 hours static.

Piperazine: Bacteria, NOEC 540 mg/l 30 mins/static.

N-Aminoethylpiperazine: Fish, EC50 > 1000 mg/l - 72 hrs static.

Triethanolamine: Bacteria, EC50 > 1000 mg/l - 180 mins static.

Triethanolamine: Bacteria, EC50 512 mg/l - 72 hours.

Isophorone diamine: Fish, LC50 - Leuciscus idus (Golden orfe) - 110 mg/l - 96.0 h.

Isophorone diamine: Bacteria, EC10 - Pseudomonas putida - 1,120 mg/l - 18 h.

Isophorone diamine: Aquatic invertebrates, EC50 - Daphnia magna (Water flea) - 23 mg/l - 48 h.

Isophorone diamine: Aquatic Plants, EC50 - Desmodesmus subspicatus (green algae) - 37 mg/l - 72 h.

Piperazine: Aquatic invertebrates, EC50 21 mg/l - 48 hours static.

Piperazine: Fish, LC50 >1800 mg/l - 96h.

12.2 Persistence and degradability: No additional information.

12.3 Bioaccumulative potential: No additional information.

12.4 Mobility in soil: No additional information.

General notes: No additional information.

12.5 Results of PBT and vPvB assessment:

PBT: No additional information.

vPvB: No additional information.

12.6 Other adverse effects: No additional information.

13 Disposal considerations

13.1 Waste treatment methods

Relevant information:

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

14 Transport information

Land transport:

DOT (49 CFR) transport


14.1 UN Number:	UN2735
14.2 UN Proper shipping name:	Amines, liquid, corrosive, n.o.s.
14.3 UN Transport hazard classes:	

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14.4 Packing group:	III
Danger label:	8 Corrosive substances 
14.5 Environmental hazards:	No
14.6 Special precautions for user:	None

ADR/RID

14.1 UN Number:	UN2735
14.2 UN Proper shipping name:	Amines, liquid, corrosive, n.o.s.
14.3 UN Transport hazard classes:	8
14.4 Packing group:	III
Danger label:	8 Corrosive substances 
Tunnel restriction code:	None
Transport category:	None
Hazard ID number:	None
14.5 Environmental hazards:	No
14.6 Special precautions for user:	None

Air transport:

IATA-DGR

14.1 UN Number:	UN2735
14.2 UN Proper shipping name:	Amines, liquid, corrosive, n.o.s.
14.3 UN Transport hazard classes:	8
14.4 Packing group:	III
Danger label:	8 Corrosive substances 
14.5 Environmental hazards:	No
14.6 Special precautions for user:	None

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Sea transport:

IMDG

14.1 UN Number:	UN2735
14.2 UN Proper shipping name:	Amines, liquid, corrosive, n.o.s.
14.3 UN Transport hazard classes:	8
14.4 Packing group:	III
Danger label:	8 Corrosive substances 
EMS code:	None
14.5 Environmental hazards:	No
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.

North American

SARA Section 311/312 (Specific toxic chemical listings):

Acute, Chronic

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.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

111-42-2 Diethanolamine.

Proposition 65 (California):

Chemicals known to cause cancer:

102-71-6 Triethanolamine.

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.

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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 of the 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 Corr. 1B; H314	Skin corrosion, category 1B
Skin Sens. 1; H317	Skin sensitization, category 1
Eye Dam. 1; H318	Serious eye damage, category 1
Ox. Liq. 2; H271	Oxidizing liquids, category 2
Aquatic Chronic 3; H412	Chronic aquatic hazard, category 3
Resp. Sens. 1; H334	Respiratory sensitization, category 1
Muta. 2; H341	Germ cell mutagenicity, category 2
Repr. 2; H361	Reproductive toxicity, category 2
Flam. Liq. 4; H227	Flammable liquids, category 4

Summary of hazard statements in section 3:

H302	May be harmful if swallowed
H312	May be harmful in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H271	May cause fire or explosion; strong oxidizer
H412	Harmful to aquatic life with long lasting effects

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H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H341	Suspected of causing genetic defects
H361	Suspected of damaging fertility or the unborn child
H227	Combustible liquid

Manufacturer Statement:

The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The responsibility to provide a safe workplace remains with the user. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material. This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

NFPA: 3-1-0**HMIS:** 3-1-0