

Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 19110.1200

Effective date: 03.11.2016

Super Sap CLS Hardener

SECTION 1: Identification

Material name: Super Sap CLS Hardener

Trade Name: Super Sap CLS Hardener

Product code: 12_CLS

Recommended use of the product and restriction on use:

Liquid curing agent for epoxy resin.



Manufacturer or supplier details

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
Rosalia de Castro 21
08025 Barcelona, Spain
+34 93 487 40 15
info@entropyresins.eu

Emergency telephone number:

3E Company

Inside USA: 1-760-476-3962

International / not specified: 1-760-476-3962

National Chemical Emergency Helpline

Inside China: +86-0532-8388-9090

SECTION 2: Hazard(s) identification

GHS classification:

Acute toxicity (oral), category 4.

Skin corrosion, category 1A.

Serious eye damage, category 1.

Skin sensitization, category 1.

Acute aquatic hazard, category 3.

Chronic aquatic hazard, category 3.

Label elements

Hazard pictograms:



Signal word: Danger

Hazard statements:

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H402 Harmful to aquatic life.

H412 Harmful to aquatic life with long lasting effects.

Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 19110.1200

Effective date: 03.11.2016

Super Sap CLS Hardener

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.
P363 Wash contaminated clothing before reuse.
P405 Store locked up.
P501 Dispose of contents and container as instructed in Section 13.

Hazards not otherwise classified: None

SECTION 3: Composition/information on ingredients

Identification	Name	Wt. %
CAS number: 2855-13-2	Isophorone diamine	30-40
CAS number: 9046-10-0	Polyoxypropylenediamine	5-20
CAS number: 25068-38-6	Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin	15-25
CAS number: 68609-97-2	Alkyl (C12-14) glycidyl ether	<10
CAS number: 140-31-8	Aminoethylpiperazine	<5
CAS number: 25620-58-0	Trimethylhexamethylenediamine	<5
CAS number: 100-51-6	Benzyl Alcohol	5-15

SECTION 4: First aid measures

Description of first aid measures

Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 19110.1200

Effective date: 03.11.2016

Super Sap CLS Hardener

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.

Most important symptoms and effects, both acute and delayed

Acute symptoms:

No information available.

Delayed symptoms:

No information available.

Immediate medical attention and special treatment:

No information available.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media:

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition.

Unsuitable extinguishing media:

No information available.

Specific hazards during fire-fighting:

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

Special protective equipment for firefighters:

Wear protective eye wear, gloves and clothing.
Refer to Section 8.
Use typical firefighting equipment, self-contained breathing apparatus, special tightly sealed suit.

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.

Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 19110.1200

Effective date: 03.11.2016

Super Sap CLS Hardener

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

- Ensure adequate ventilation.
- Ensure air handling systems are operational.
- Wear protective eye wear, gloves and clothing.

Environmental precautions:

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

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.

Reference to other sections:

None

SECTION 7: Handling and storage

Precautions for safe handling:

- Do not eat, drink, smoke or use personal products when handling chemical substances.
- Avoid breathing mist or vapor.
- Use only with adequate ventilation.

Conditions for safe storage, including any incompatibilities:

- Store in a cool, well-ventilated area.
- Store away from foodstuffs.

SECTION 8: Exposure controls/personal protection

Components with workplace control parameters:

Component name	Identifier	Permissible concentration
Benzyl Alcohol	100-51-6	WEEL TWA 10.0 ppm

Appropriate engineering controls:

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

Respiratory protection:

- When necessary, use NIOSH-approved breathing equipment.

Eye protection:

- Safety goggles or glasses, or appropriate eye protection.

Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 19110.1200

Effective date: 03.11.2016

Super Sap CLS Hardener

Skin and body protection:

Select glove material impermeable and resistant to the substance.

General hygienic measures:

Wash hands before breaks and at the end of work.
Avoid contact with skin, eyes and clothing.
Perform routine housekeeping.
Wash contaminated clothing before reusing.

SECTION 9: Physical and chemical properties

Appearance (physical state, color):	Clear to light yellow liquid	Explosion limit lower: Explosion limit upper:	Not determined or not available. Not determined or not available.
Odor:	Ammoniacal	Vapor pressure:	Not determined or not available.
Odor threshold:	Not determined or not available.	Vapor density:	Not determined or not available.
pH-value:	Not determined or not available.	Relative density:	1.0
Melting/Freezing point:	Not determined or not available.	Solubilities:	Negligible
Boiling point/range:	Not determined or not available.	Partition coefficient (n-octanol/water):	Not determined or not available.
Flash point (closed cup):	> 100°C	Auto/Self-ignition temperature:	Not determined or not available.
Evaporation rate:	Not determined or not available.	Decomposition temperature:	Not determined or not available.
Flammability (solid, gaseous):	Not determined or not available.	Dynamic viscosity:	0.05 - 0.2 Pa.s @ 25 oC
Density:	920 - 1000 kg/m3 @ 25 oC (typical)	Kinematic viscosity:	Not determined or not available.

SECTION 10: Stability and reactivity

Reactivity:

Does not react under normal conditions of use and storage.

Chemical stability:

Stable under normal conditions of use and storage.

Possibility of hazardous reactions:

None under normal conditions of use and storage.

Conditions to avoid:

None known.

Incompatible materials:

Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 19110.1200

Effective date: 03.11.2016

Super Sap CLS Hardener

None known.

Hazardous decomposition products:

None known.

SECTION 11: Toxicological information

Exposure routes:

No information available.

Acute toxicity:

Oral:

Isophorone diamine: LD50: rat male 1,030 mg/kg.

Trimethylhexamethylenediamine: LD50: rat 910 mg/kg.

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

Polyoxypropylenediamine: LD50 Rat 2,885.3 mg/kg.

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

Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin: LD50 Rat 13,800 mg/kg.

Dermal:

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

Isophorone diamine: LD50: rat >2,000 mg/kg.

Polyoxypropylenediamine: LD50 Rabbit 2,980 mg/kg.

Inhalation:

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

Polyoxypropylenediamine: LC50 Rat 8h .74 mg/l.

Skin corrosion/irritation:

Isophorone diamine: Rabbit: causes burns 24 h.

Polyoxypropylenediamine: Rabbit: Corrosive, category 1C - where responses occur after exposures between 1 hour and 4 hours and observations up to 14 days.

Trimethylhexamethylenediamine: Causes skin burns.

Benzyl Alcohol BLK: Rabbit No skin irritation 24h.

Serious eye damage/irritation:

Isophorone diamine: Rabbit: corrosive to eyes 24h.

Polyoxypropylenediamine: Rabbit: Corrosive to eyes.

Benzyl Alcohol BLK: Rabbit Eye irritation 24h.

Respiratory or skin sensitization:

No information available.

Carcinogenicity:

No information available.

IARC (International Agency for Research on Cancer):

Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 19110.1200

Effective date: 03.11.2016

Super Sap CLS Hardener

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 information available.

Reproductive toxicity:

No information available.

STOT-single and repeated exposure:

No information available.

Aspiration toxicity:

No information available.

Additional toxicological information

No information available.

SECTION 12: Ecological information

Ecotoxicity:

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

Trimethylhexamethylenediamine: Aquatic invertebrates, EC50 - *Daphnia magna* (Water flea) - 31.5 mg/l - 24 h.

Trimethylhexamethylenediamine: Aquatic Plants, EC50 - *Desmodesmus subspicatus* (green algae) - 29.5 mg/l - 72 h.

Aminoethylpiperazine: Aquatic invertebrates, static test EC50 - *Daphnia magna* (Water flea) - 58 mg/l - 48 h.

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

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

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

Polyoxypropylenediamine: Fish, semi-static test LC50 - *Oncorhynchus mykiss* (rainbow trout) - > 15 mg/l - 96 h.

Polyoxypropylenediamine: Fish, static test NOEC - *Oncorhynchus mykiss* (rainbow trout) - 15 mg/l - 96 h.

Polyoxypropylenediamine: Aquatic invertebrates, static test EC50 - *Daphnia* - 80 mg/l - 48 h.

Polyoxypropylenediamine: Aquatic invertebrates, NOEC - *Daphnia* - 18 mg/l - 48 h.

Benzyl Alcohol: Fish, LC50 - *Lepomis macrochirus* (Bluegill) - 10 mg/l - 96 h.

Benzyl Alcohol: Aquatic invertebrates, EC50 - *Daphnia magna* (Water flea) - 55 mg/l - 24 h.

Aminoethylpiperazine: Fish, static test LC50 - *Pimephales promelas* (fathead minnow) - ca. 2,190 mg/l - 96 h.

Trimethylhexamethylenediamine: Fish, LC50 - *Leuciscus idus* (Golden orfe) - 172.0 mg/l - 48.0 h.

Persistence and degradability:

No information available.

Bioaccumulative potential:

No information available.

Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 19110.1200

Effective date: 03.11.2016

Super Sap CLS Hardener

Mobility in soil:

No information available.

Other adverse effects:

No information available.

SECTION 13: Disposal considerations


Disposal methods:

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

SECTION 14: Transportation information


Land transport:

DOT (49 CFR) transport

UN Number:	2735
UN Proper shipping name:	Amines, liquid, corrosive, n.o.s. (Isophorone diamine)
UN Transport hazard classes:	8
Packing group:	III
Danger label:	8 Corrosive substances 
Environmental hazards:	Yes
Special precautions for user:	None
Limited quantity:	5L

Air transport:

IATA-DGR

UN Number:	2735
UN Proper shipping name:	Amines, liquid, corrosive, n.o.s. (Isophorone diamine)
UN Transport hazard classes:	8
Packing group:	III
Danger label:	8 Corrosive substances 
Environmental hazards:	Yes

Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 19110.1200


Effective date: 03.11.2016

Super Sap CLS Hardener

Special precautions for user:	None
Limited quantity:	1L (Passenger and cargo aircraft) - Pkg Inst.: Y841
Quantity exception:	E1

Sea transport:

IMDG

UN Number:	2735
UN Proper shipping name:	Amines, liquid, corrosive, n.o.s. (Isophorone diamine)
UN Transport hazard classes:	8
Packing group:	III
Danger label:	8 Corrosive substances 
EMS code:	F-A, S-B
Environmental hazards:	Yes
Special precautions for user:	None
Limited quantity:	5L - Pkg Inst.: P001 LP01
Quantity exception:	E1
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable	

SECTION 15: Regulatory information

North American

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:

Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 19110.1200

Effective date: 03.11.2016

Super Sap CLS Hardener

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

DSL (Canadian Domestic Substances List):

All ingredients are listed.

SECTION 16: Other information

Abbreviations and Acronyms: None

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. The responsibility to provide a safe workplace remains with the user. 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 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.

NFPA: 3-0-0

HMIS: 3-0-0