

Printing date 06/26/2017

Reviewed on 06/26/2017

1 Identification

- **Product identifier**
- **Trade name:** EL320-1 Fast Hardener
- **Article number:** R007008-1
- **Application of the substance / the mixture** Hardening agent/ Curing agent
- **Details of the supplier of the safety data sheet** SikaAxson US - EHS Department
- **Manufacturer/Supplier:**
Company Name: Axson Technologies US, Inc.-SikaAxson

Headquarters:
31200 Stephenson Hwy
Madison Heights, MI 48071
USA

Manufacturing Site:
1611 Hults Drive
Eaton Rapids, MI 48827
USA
ehs-us@axson.com

- **Information department:** Product safety department
- **Emergency telephone number:**
During normal opening times: +1 (248) 588-2270
CHEMTREC 24-hour Emergency: +1 (800) 424-9300

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS06 Skull and crossbones

Acute Tox. 3 H311 Toxic in contact with skin.



GHS08 Health hazard

Repr. 2 H361 Suspected of damaging fertility or the unborn child.
STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.



GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Sens. 1A H317 May cause an allergic skin reaction.

(Contd. on page 2)

US

Printing date 06/26/2017

Reviewed on 06/26/2017

Trade name: EL320-1 Fast Hardener

(Contd. of page 1)

Aquatic Acute 3 H402 Harmful to aquatic life.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

· **Label elements**· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).· **Hazard pictograms**

GHS05 GHS06 GHS07 GHS08

· **Signal word** Danger· **Hazard-determining components of labeling:**

2-piperazin-1-ylethylamine
 2-(2-aminoethylamino)ethanol
 2,2'-iminodiethylamine
 3,6-diazaoctanethylenediamin

· **Hazard statements**

Toxic in contact with skin.
 Causes severe skin burns and eye damage.
 May cause an allergic skin reaction.
 Suspected of damaging fertility or the unborn child.
 Causes damage to organs through prolonged or repeated exposure.
 Harmful to aquatic life.
 Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapors/spray
 Do not breathe dusts or mists.
 Avoid release to the environment.
 Wear protective gloves/protective clothing/eye protection/face protection.
 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.
 Specific treatment (see on this label).
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**· **NFPA ratings (scale 0 - 4)**

Health = 3
 Fire = 1
 Reactivity = 0

(Contd. on page 3)

Printing date 06/26/2017

Reviewed on 06/26/2017

Trade name: **EL320-1 Fast Hardener**

(Contd. of page 2)

 · **HMIS-ratings (scale 0 - 4)**

HEALTH	4	Health = *4
FIRE	1	Fire = 1
REACTIVITY	0	Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

 · **Dangerous components:**

CAS: 140-31-8 EINECS: 205-411-0	2-piperazin-1-ylethylamine	50 - 100%
CAS: 111-40-0 EINECS: 203-865-4	2,2'-iminodiethylamine	≤1%
CAS: 112-24-3 EINECS: 203-950-6	3,6-diazaoctanethylenediamin	≤1%
CAS: 111-41-1 EINECS: 203-867-5	2-(2-aminoethylamino)ethanol	≤1%

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **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**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.

(Contd. on page 4)

Printing date 06/26/2017

Reviewed on 06/26/2017

Trade name: **EL320-1 Fast Hardener**

(Contd. of page 3)

- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

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

Wear protective equipment. Keep unprotected persons away.

- **Environmental precautions:**

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

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

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

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

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

- **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.

- **Protective Action Criteria for Chemicals**

- **PAC-1:**

140-31-8	2-piperazin-1-ylethylamine	6.4 mg/m ³
111-40-0	2,2'-iminodiethylamine	3 ppm
112-24-3	3,6-diazaoctanethylenediamin	3 ppm
111-41-1	2-(2-aminoethylamino)ethanol	9 mg/m ³

- **PAC-2:**

140-31-8	2-piperazin-1-ylethylamine	71 mg/m ³
111-40-0	2,2'-iminodiethylamine	8.5 ppm
112-24-3	3,6-diazaoctanethylenediamin	14 ppm
111-41-1	2-(2-aminoethylamino)ethanol	99 mg/m ³

- **PAC-3:**

140-31-8	2-piperazin-1-ylethylamine	420 mg/m ³
111-40-0	2,2'-iminodiethylamine	51 ppm
112-24-3	3,6-diazaoctanethylenediamin	83 ppm
111-41-1	2-(2-aminoethylamino)ethanol	590 mg/m ³

7 Handling and storage

- **Handling:**

- **Precautions for safe handling** No special precautions are necessary if used correctly.

- **Information about protection against explosions and fires:** No special measures required.

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

- **Storage:**

- **Requirements to be met by storerooms and receptacles:** No special requirements.

(Contd. on page 5)

Printing date 06/26/2017

Reviewed on 06/26/2017

Trade name: **EL320-1 Fast Hardener**

(Contd. of page 4)

- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

- **Control parameters**

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

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

111-40-0 2,2'-iminodiethylamine

REL	Long-term value: 4 mg/m ³ , 1 ppm Skin
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TLV	Long-term value: 4.2 mg/m ³ , 1 ppm Skin
-----	--

112-24-3 3,6-diazaoctanethylenediamin

WEEL	Long-term value: 6 mg/m ³ , 1 ppm Skin
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- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

- **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

(Contd. on page 6)

Printing date 06/26/2017

Reviewed on 06/26/2017

Trade name: **EL320-1 Fast Hardener**

(Contd. of page 5)

- **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

9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

· Form:	Liquid
· Color:	Colorless
· Odor:	Like ammoniac
· Odor threshold:	Not determined.

- **pH-value at 20 °C (68 °F):** 12

- **Change in condition**

· Melting point/Melting range:	-18 °C (-0 °F)
· Boiling point/Boiling range:	220.4 °C (429 °F)

- **Flash point:** 102 °C (216 °F)

- **Flammability (solid, gaseous):** Not applicable.

- **Ignition temperature:** 315 °C (599 °F)

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**

· Lower:	2.1 Vol %
· Upper:	10.5 Vol %

- **Vapor pressure at 20 °C (68 °F):** 0.07 hPa

- **Density at 20 °C (68 °F):** 0.99 g/cm³ (8.262 lbs/gal)

- **Relative density** Not determined.

- **Vapor density** Not determined.

- **Evaporation rate** Not determined.

- **Solubility in / Miscibility with**

- **Water:** Fully miscible.

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

- **Viscosity:**

- **Dynamic:** Not determined.

(Contd. on page 7)

US

Printing date 06/26/2017

Reviewed on 06/26/2017

Trade name: **EL320-1 Fast Hardener**

(Contd. of page 6)

Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0.0 %
VOC content:	0.0 g/l / 0.00 lb/gl
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

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

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

140-31-8 2-piperazin-1-ylethylamine

Oral	LD50	2110 mg/kg (rat)
Dermal	LD50	866 mg/kg (rabbit)

111-41-1 2-(2-aminoethylamino)ethanol

Oral	LD50	3000 mg/kg (rat)
Dermal	LD50	2250 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:**
Strong caustic effect.
Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Toxic
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.

(Contd. on page 8)

Printing date 06/26/2017

Reviewed on 06/26/2017

Trade name: EL320-1 Fast Hardener

(Contd. of page 7)

· 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:
140-31-8 2-piperazin-1-ylethylamine

48 hr EC50 58 mg/l (Invertabrates)

96 hr LC50 2190 mg/l (Fish)

72 or 96 hr ErC50 1000 mg/l (Algea)

· Persistence and degradability No further relevant information available.

· Behavior in environmental systems:
· Bioaccumulative potential No further relevant information available.

· Mobility in soil No further relevant information available.

· Ecotoxicological effects:
· Remark: Harmful to fish

· Additional ecological information:
· General notes:

Water hazard class 2 (Self-assessment): hazardous for water

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

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Danger to drinking water if even small quantities leak into the ground.

Harmful to aquatic organisms

Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

· Results of PBT and vPvB assessment
· PBT: Not applicable.

· vPvB: Not applicable.

· Other adverse effects No further relevant information available.

13 Disposal considerations
· Waste treatment methods
· Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packagings:
· Recommendation: Disposal must be made according to official regulations.

· Recommended cleansing agent: Water, if necessary with cleansing agents.

US

(Contd. on page 9)

Printing date 06/26/2017

Reviewed on 06/26/2017

Trade name: EL320-1 Fast Hardener

(Contd. of page 8)

14 Transport information

· UN-Number
· DOT, IMDG, IATA

UN2815

· UN proper shipping name

· DOT
· IMDG, IATA

N-Aminoethylpiperazine
N-AMINOETHYLPIPERAZINE

· Transport hazard class(es)

· DOT



· Class
· Label

8 Corrosive substances
8, 6.1

· IMDG



· Class
· Label

8 Corrosive substances
8/6.1

· IATA



· Class
· Label

8 Corrosive substances
8 (6.1)

· Packing group
· DOT, IMDG, IATA

III

· Environmental hazards:

· Marine pollutant:

No

· Special precautions for user

Warning: Corrosive substances

· Danger code (Kemler):

86

· EMS Number:

F-A,S-B

· Stowage Category

A

· Stowage Code

SW1 Protected from sources of heat.

· Handling Code

H2 Keep as cool as reasonably practicable

· Transport in bulk according to Annex II of
MARPOL73/78 and the IBC Code

Not applicable.

· UN "Model Regulation":

UN 2815 N-AMINOETHYLPIPERAZINE, 8 (6.1), III

Printing date 06/26/2017

Reviewed on 06/26/2017

Trade name: EL320-1 Fast Hardener

(Contd. of page 9)

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.

- **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

- **TSCA (Toxic Substances Control Act) (Substances not listed):**

All ingredients are listed.

- **Chemicals regulated by TSCA Section 12(b)**

None of the ingredients is 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.

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS05

GHS06

GHS07

GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

2-piperazin-1-ylethylamine
 2-(2-aminoethylamino)ethanol
 2,2'-iminodiethylamine
 3,6-diazaoctanethylenediamin

- **Hazard statements**

Toxic in contact with skin.

(Contd. on page 11)

US

Printing date 06/26/2017

Reviewed on 06/26/2017

Trade name: EL320-1 Fast Hardener

(Contd. of page 10)

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Suspected of damaging fertility or the unborn child.

Causes damage to organs through prolonged or repeated exposure.

Harmful to aquatic life.

Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

Do not breathe dusts or mists.

Avoid release to the environment.

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

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.

Specific treatment (see on this label).

Store locked up.

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

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

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.

· **Date of preparation / last revision** 06/26/2017 / 3

· **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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 3: Acute toxicity – Category 3

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Skin Sens. 1A: Skin sensitisation – Category 1A

Repr. 2: Reproductive toxicity – Category 2

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

Aquatic Acute 3: Hazardous to the aquatic environment - acute aquatic hazard – Category 3

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3