



BUILDING TRUST



Safety Data Sheet

acc. to OSHA HCS

Printing date 05/17/2018

Reviewed on 09/17/2015

1 Identification

- **Product identifier**
- **Trade name:** ES 229 Resin
- **Article number:** 1229088
- **Application of the substance / the mixture** Epoxy resin
- **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**



GHS02 Flame

Water-react. 3 H261 In contact with water releases flammable gas.



GHS09 Environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Acute Tox. 4 H312 Harmful in contact with skin.
Skin Irrit. 2 H315 Causes skin irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.

Eye Irrit. 2B H320 Causes eye irritation.
Aquatic Acute 2 H401 Toxic to aquatic life.

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

GHS02

GHS07

GHS09

· **Signal word** Warning· **Hazard-determining components of labeling:***bis[4-(2,3-epoxypropoxy)phenyl]propane**Epoxy phenol novolac resin**Reaction product of Phenol-Formaldehyde Novolac with Epichlorohydrin**1,3-bis(2,3-epoxypropoxy)-2,2-dimethylpropane*· **Hazard statements***In contact with water releases flammable gas.**Harmful if swallowed or in contact with skin.**Causes skin and eye irritation.**May cause an allergic skin reaction.**Toxic to aquatic life.**Toxic to aquatic life with long lasting effects.*· **Precautionary statements***Avoid breathing dust/fume/gas/mist/vapors/spray**Handle under inert gas. Protect from moisture.**Avoid breathing dust/fume/gas/mist/vapors/spray**Avoid release to the environment.**Wear protective gloves/protective clothing/eye protection/face protection.**If swallowed: Call a poison center/doctor if you feel unwell.**Rinse mouth.**If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.**Continue rinsing.**If skin irritation or rash occurs: Get medical advice/attention.**Wash contaminated clothing before reuse.**Dispose of contents/container in accordance with local/regional/national/international regulations.*· **Classification system:**· **NFPA ratings (scale 0 - 4)**

Health = 1

Fire = 0

Reactivity = 2

The substance demonstrates unusual reactivity with water.· **HMIS-ratings (scale 0 - 4)**

HEALTH 1 Health = 1

FIRE 0 Fire = 0

REACTIVITY 2 Reactivity = 2

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- **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: 1675-54-3 EINECS: 216-823-5	bis[4-(2,3-epoxypropoxy)phenyl]propane	≥25-≤50%
CAS: 28064-14-4	Epoxy phenol novolac resin Reaction product of Phenol-Formaldehyde Novolac with Epichlorohydrin	10-20%
CAS: 17557-23-2 EINECS: 241-536-7	1,3-bis(2,3-epoxypropoxy)-2,2-dimethylpropane	≥5-<10%
CAS: 67762-90-7	Silicones and siloxanes, dimethyl-, reaction products with silica	1-5%
CAS: 872-50-4 EINECS: 212-828-1	N-methyl-2-pyrrolidone	0.1-1%

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
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. If symptoms persist, consult a doctor.
- **After swallowing:** 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.
- **For safety reasons unsuitable extinguishing agents:** Water
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

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· **Additional information**

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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.

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).

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· **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:**

1675-54-3	bis[4-(2,3-epoxypropoxy)phenyl]propane	39 mg/m ³
28064-14-4	Epoxy phenol novolac resin Reaction product of Phenol-Formaldehyde Novolac with Epichlorohydrin	30 mg/m ³
67762-90-7	Silicones and siloxanes, dimethyl-, reaction products with silica	120 mg/m ³
2530-83-8	[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	9.3 mg/m ³
872-50-4	N-methyl-2-pyrrolidone	30 ppm
7447-41-8	lithium chloride	2.3 mg/m ³

· **PAC-2:**

1675-54-3	bis[4-(2,3-epoxypropoxy)phenyl]propane	430 mg/m ³
28064-14-4	Epoxy phenol novolac resin Reaction product of Phenol-Formaldehyde Novolac with Epichlorohydrin	330 mg/m ³
67762-90-7	Silicones and siloxanes, dimethyl-, reaction products with silica	1,300 mg/m ³
2530-83-8	[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	100 mg/m ³
872-50-4	N-methyl-2-pyrrolidone	32 ppm
7447-41-8	lithium chloride	25 mg/m ³

· **PAC-3:**

1675-54-3	bis[4-(2,3-epoxypropoxy)phenyl]propane	2,600 mg/m ³
28064-14-4	Epoxy phenol novolac resin Reaction product of Phenol-Formaldehyde Novolac with Epichlorohydrin	2,000 mg/m ³
67762-90-7	Silicones and siloxanes, dimethyl-, reaction products with silica	7,900 mg/m ³
2530-83-8	[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	230 mg/m ³
872-50-4	N-methyl-2-pyrrolidone	190 ppm

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7447-41-8 lithium chloride

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150 mg/m³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **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 constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

872-50-4 N-methyl-2-pyrrolidone

WEEL	Long-term value: 10 ppm
	Skin

- **Ingredients with biological limit values:**

872-50-4 N-methyl-2-pyrrolidone

BEI	100 mg/L
	Medium: urine
	Time: end of shift
	Parameter: 5-Hydroxy-N-methyl-2-pyrrolidone

- **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.
Avoid contact with the eyes and skin.
- **Breathing equipment:** Not required.

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· 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.

· 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: Thixotropic Paste

Color: Silver grey

· Odor: Amine-like

· Odor threshold: Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 201 °C (393.8 °F)

· Flash point: Not applicable.

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 400 °C (752 °F)

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Not determined.

· Explosion limits:

Lower: Not determined.

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Upper:	Not determined.
· Vapor pressure:	Not determined.
· Density at 20 °C (68 °F):	1.75 g/cm ³ (14.6 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0.2 %
VOC content:	0.21 %
	3.6 g/l / 0.03 lb/gl
· Solids content:	39.3 %
· 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** Contact with water releases flammable gases.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
- ?
- Carbon monoxide and carbon dioxide

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**
- The product shows the following dangers according to internally approved calculation methods for preparations:
- Harmful
- Irritant

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· **Carcinogenic categories**· **IARC (International Agency for Research on Cancer)**

1675-54-3 bis[4-(2,3-epoxypropoxy)phenyl]propane

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· **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:** No further relevant information available.· **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:** Toxic for fish· **Additional ecological information:**· **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

· **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.

14 Transport information

· **UN-Number**· **DOT**· **IMDG, IATA**

not regulated

UN3082

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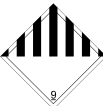

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<ul style="list-style-type: none"> · UN proper shipping name · DOT · IMDG · IATA 	<p>not regulated</p> <p>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy phenol novolac resin), MARINE POLLUTANT</p> <p>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy phenol novolac resin)</p>
<ul style="list-style-type: none"> · Transport hazard class(es) · DOT · Class 	<p>not regulated</p>
<ul style="list-style-type: none"> · IMDG, IATA <div style="display: flex; justify-content: space-around; align-items: center;">   </div>	
<ul style="list-style-type: none"> · Class · Label 	<p>9 Miscellaneous dangerous substances and articles</p> <p>9</p>
<ul style="list-style-type: none"> · Packing group · DOT · IMDG, IATA 	<p>not regulated</p> <p>III</p>
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: · Special marking (IATA): 	<p>Yes</p> <p>Symbol (fish and tree)</p> <p>Symbol (fish and tree)</p>
<ul style="list-style-type: none"> · Special precautions for user · EMS Number: · Stowage Category 	<p>Warning: Miscellaneous dangerous substances and articles</p> <p>F-A,S-F</p> <p>A</p>
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code 	<p>Not applicable.</p>
<ul style="list-style-type: none"> · UN "Model Regulation": 	<p>UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (EPOXY PHENOL NOVOLAC RESIN), 9, III</p>

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):**

7429-90-5 aluminum powder (stabilised)

872-50-4 N-methyl-2-pyrrolidone

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

All ingredients are listed.

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· Chemicals regulated by TSCA Section 12(b)

None of the ingredients is listed.

· Chemical regulated by TSCA 5(a)(2)rule:

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:

872-50-4 | N-methyl-2-pyrrolidone

· Carcinogenic categories
· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

7429-90-5 | aluminum powder (stabilised)

A4

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

None of the ingredients is listed.

· Listed in CWC Regulations

None of the ingredients is listed.

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

· Hazard pictograms


GHS02

GHS07

GHS09

· Signal word Warning

· Hazard-determining components of labeling:

bis[4-(2,3-epoxypropoxy)phenyl]propane

Epoxy phenol novolac resin

Reaction product of Phenol-Formaldehyde Novolac with Epichlorohydrin

1,3-bis(2,3-epoxypropoxy)-2,2-dimethylpropane

· Hazard statements

In contact with water releases flammable gas.

Harmful if swallowed or in contact with skin.

Causes skin and eye irritation.

May cause an allergic skin reaction.

Toxic to aquatic life.

Toxic to aquatic life with long lasting effects.

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· **Precautionary statements**

Handle under inert gas. Protect from moisture.

Avoid breathing dust/fume/gas/mist/vapors/spray

Avoid release to the environment.

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

If swallowed: Call a poison center/doctor if you feel unwell.

Rinse mouth.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

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** 05/17/2018 / 4

· **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)

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

BEI: Biological Exposure Limit

Water-react. 3: Substances and mixtures which in contact with water emit flammable gases – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2B: Serious eye damage/eye irritation – Category 2B

Skin Sens. 1: Skin sensitisation – Category 1

Aquatic Acute 2: Hazardous to the aquatic environment - acute aquatic hazard – Category 2

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2