

Safety Data Sheet acc. to OSHA HCS

Printing date 05/08/2023

Reviewed on 05/08/2023

1 Identification

- **Product identifier**
- **Trade name:** SikaBiresin CR77 FR (A) (Formerly EL319 (A) - Epoxy Laminating System - Resin)
- **Article number:** 657015
- **Application of the substance / the mixture** Epoxy resin
- **Details of the supplier of the safety data sheet**
 Sika Advanced Resins, US
 EHS Department
 advanced.resins.ehs@us.sika.com
- **Manufacturer/Supplier:**
 Manufacturer:
 Sika Advanced Resins
 30800 Stephenson Hwy
 Madison Heights
 MI 48071
 USA
- **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**



GHS08 Health hazard

Sensitization - Respiratory 1

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Toxic to Reproduction 2

H361 Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Repeated Exposure 2

H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Skin Irritation 2

H315 Causes skin irritation.

Eye Irritation 2A

H319 Causes serious eye irritation.

Sensitization - Skin 1

H317 May cause an allergic skin reaction.

- **Label elements**

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

(Contd. on page 2)

Safety Data Sheet acc. to OSHA HCS

Printing date 05/08/2023

Reviewed on 05/08/2023

Trade name: SikaBiresin CR77 FR (A) (Formerly EL319 (A) - Epoxy Laminating System - Resin)

(Contd. of page 1)

· **Hazard pictograms**



GHS08

· **Signal word** *Danger*

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

*Reaction Product of Bisphenol A and Epichlorohydrin
 Phosphate Ester
 Phenol, isopropylated,
 phosphate (3:1) [Triphenyl phosphate > 5%]
 1,4-bis[92,3-epoxypropoxy0methyl]cyclohexane
 Bis(1,2,2,6,6-pentamethyl-4-piperidyl sebacate
 Methyl (1,2,2,6,6-pentamethyl-4-piperidyl) sebacate*

· **Hazard statements**

*Causes skin irritation.
 Causes serious eye irritation.
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 May cause an allergic skin reaction.
 Suspected of damaging fertility or the unborn child.
 May cause damage to organs through prolonged or repeated exposure.*

· **Precautionary statements**

*Avoid breathing dust/fume/gas/mist/vapors/spray
 Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Do not breathe dust/fume/gas/mist/vapors/spray.
 Wash thoroughly after handling.
 Contaminated work clothing must not be allowed out of the workplace.
 Wear protective gloves/protective clothing/eye protection/face protection.
 [In case of inadequate ventilation] wear respiratory protection.
 If on skin: Wash with plenty of water.
 If inhaled: If breathing is difficult, 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.
 IF exposed or concerned: Get medical advice/attention.
 Specific treatment (see on this label).
 Get medical advice/attention if you feel unwell.
 Take off contaminated clothing and wash it before reuse.
 If skin irritation or rash occurs: Get medical advice/attention.
 If eye irritation persists: Get medical advice/attention.
 If experiencing respiratory symptoms: Call a poison center/doctor.
 Wash contaminated clothing before reuse.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.*

(Contd. on page 3)

Safety Data Sheet acc. to OSHA HCS

Printing date 05/08/2023

Reviewed on 05/08/2023

Trade name: SikaBiresin CR77 FR (A) (Formerly EL319 (A) - Epoxy Laminating System - Resin)

(Contd. of page 2)

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



· **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: 25068-38-6 NLP: 500-033-5 | Reaction Product of Bisphenol A and Epichlorohydrin | 50-100% |
| | Phosphate Ester | 20-50% |
| CAS: 14228-73-0 | 1,4-bis[92,3-epoxypropoxy0methyl]cyclohexane | 1-5% |
| CAS: 68937-41-7 | Phenol, isopropylated, phosphate (3:1) [Triphenyl phosphate > 5%] | 1-5% |
| CAS: 41556-26-7 | Bis(1,2,2,6,6-pentamethyl-4-piperidyl sebacate | 1-5% |
| CAS: 82919-37-7 | Methyl (1,2,2,6,6-pentamethyl-4-piperidyl) sebacate | ≥0.1-<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.

· **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.

(Contd. on page 4)

Safety Data Sheet acc. to OSHA HCS

Printing date 05/08/2023

Reviewed on 05/08/2023

Trade name: SikaBiresin CR77 FR (A) (Formerly EL319 (A) - Epoxy Laminating System - Resin)

(Contd. of page 3)

- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult 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**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:**
Mouth respiratory protective device.
Wear self-contained respiratory protective device.
- **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** Mount respiratory protective device.
- **Environmental precautions:**
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).
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:**

| | | |
|------------|---|----------------------|
| 25068-38-6 | Reaction Product of Bisphenol A and Epichlorohydrin | 90 mg/m ³ |
|------------|---|----------------------|

· **PAC-2:**

| | | |
|------------|---|-----------------------|
| 25068-38-6 | Reaction Product of Bisphenol A and Epichlorohydrin | 990 mg/m ³ |
|------------|---|-----------------------|

(Contd. on page 5)

Safety Data Sheet acc. to OSHA HCS

Printing date 05/08/2023

Reviewed on 05/08/2023

Trade name: SikaBiresin CR77 FR (A) (Formerly EL319 (A) - Epoxy Laminating System - Resin)

(Contd. of page 4)

· **PAC-3:**

25068-38-6 Reaction Product of Bisphenol A and Epichlorohydrin

5,900 mg/m³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **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.
- **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 product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **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 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

(Contd. on page 6)

Safety Data Sheet acc. to OSHA HCS

Printing date 05/08/2023

Reviewed on 05/08/2023

Trade name: SikaBiresin CR77 FR (A) (Formerly EL319 (A) - Epoxy Laminating System - Resin)

(Contd. of page 5)

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: | Liquid |
| Color: | Amber colored |
| Odor: | Characteristic |
| Odor threshold: | Not determined. |

| | |
|-----------|-----------------|
| pH-value: | Not determined. |
|-----------|-----------------|

· **Change in condition**

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

| | |
|--------------|-------------------|
| Flash point: | 251 °C (483.8 °F) |
|--------------|-------------------|

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

| | |
|----------------------------|-----------------|
| Decomposition temperature: | Not determined. |
|----------------------------|-----------------|

| | |
|-----------------------|------------------------------|
| Ignition temperature: | 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. |
|-----------------|-----------------|

(Contd. on page 7)

Safety Data Sheet acc. to OSHA HCS

Printing date 05/08/2023

Reviewed on 05/08/2023

Trade name: SikaBiresin CR77 FR (A) (Formerly EL319 (A) - Epoxy Laminating System - Resin)

(Contd. of page 6)

- **Density at 20 °C (68 °F):** 1.19 g/cm³ (9.93 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.
- Kinematic:** Not determined.

- **Solvent content:**
- Organic solvents:** 0.4 %
- VOC content:** 0.37 %
- 4.4 g/l / 0.04 lb/gal

- Solids content:** 0.4 %

- **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:** 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 inhalation.
- Sensitization possible through skin contact.
- **Additional toxicological information:**
- The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful

(Contd. on page 8)

Safety Data Sheet acc. to OSHA HCS

Printing date 05/08/2023

Reviewed on 05/08/2023

Trade name: SikaBiresin CR77 FR (A) (Formerly EL319 (A) - Epoxy Laminating System - Resin)

(Contd. of page 7)

Irritant

· **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:** 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.

· **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.

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

· **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.

14 Transport information

· **UN-Number**

· **DOT**

NA3082

(Contd. on page 9)

Safety Data Sheet


acc. to OSHA HCS

Printing date 05/08/2023

Reviewed on 05/08/2023

Trade name: SikaBiresin CR77 FR (A) (Formerly EL319 (A) - Epoxy Laminating System - Resin)

(Contd. of page 8)

| | |
|--|---|
| · IMDG, IATA | UN3082 |
| · UN proper shipping name · DOT · IMDG · IATA | Environmentally hazardous substance, liquid, n.o.s. (Epoxy Resin, Isopropylated Phenol Phosphate) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy Resin, Isopropylated Phenol Phosphate), MARINE POLLUTANT ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy Resin, Isopropylated Phenol Phosphate) |
| · Transport hazard class(es) · DOT, IMDG, IATA | |
|  | |
| · Class · Label | 9 Miscellaneous dangerous substances and articles 9 |
| · Packing group · DOT, IMDG, IATA | III |
| · Environmental hazards: · Marine pollutant: · Special marking (IATA): | Product contains environmentally hazardous substances: Isopropylated Phenol Phosphate Yes Symbol (fish and tree) Symbol (fish and tree) |
| · Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category | Warning: Miscellaneous dangerous substances and articles 90 F-A,S-F A |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: · DOT · Quantity limitations · Remarks: | On passenger aircraft/rail: No limit On cargo aircraft only: No limit Special marking with the symbol (fish and tree). |
| · IMDG · Limited quantities (LQ) | 5L |

(Contd. on page 10)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/08/2023

Reviewed on 05/08/2023

Trade name: SikaBiresin CR77 FR (A) (Formerly EL319 (A) - Epoxy Laminating System - Resin)

(Contd. of page 9)

| | |
|-----------------------------------|---|
| · 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 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXY RESIN, ISOPROPYLATED PHENOL PHOSPHATE), 9, III |

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
 No further relevant information available.

· **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):**

All components have the value ACTIVE.

· **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.

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

98-82-8 | cumene

· **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**

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

None of the ingredients is listed.

(Contd. on page 11)

Safety Data Sheet acc. to OSHA HCS

Printing date 05/08/2023

Reviewed on 05/08/2023

Trade name: SikaBiresin CR77 FR (A) (Formerly EL319 (A) - Epoxy Laminating System - Resin)

(Contd. of page 10)

· **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**



GHS08

· **Signal word** Danger

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

Reaction Product of Bisphenol A and Epichlorohydrin

Phosphate Ester

Phenol, isopropylated,

phosphate (3:1) [Triphenyl phosphate > 5%]

1,4-bis[92,3-epoxypropoxy0methyl]cyclohexane

Bis(1,2,2,6,6-pentamethyl-4-piperidyl sebacate

Methyl (1,2,2,6,6-pentamethyl-4-piperidyl) sebacate

· **Hazard statements**

Causes skin irritation.

Causes serious eye irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

Suspected of damaging fertility or the unborn child.

May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Contaminated work clothing must not be allowed out of the workplace.

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

[In case of inadequate ventilation] wear respiratory protection.

If on skin: Wash with plenty of water.

If inhaled: If breathing is difficult, 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.

If exposed or concerned: Get medical advice/attention.

Specific treatment (see on this label).

Get medical advice/attention if you feel unwell.

Take off contaminated clothing and wash it before reuse.

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

If eye irritation persists: Get medical advice/attention.

If experiencing respiratory symptoms: Call a poison center/doctor.

(Contd. on page 12)

Safety Data Sheet acc. to OSHA HCS

Printing date 05/08/2023

Reviewed on 05/08/2023

Trade name: SikaBiresin CR77 FR (A) (Formerly EL319 (A) - Epoxy Laminating System - Resin)

(Contd. of page 11)

Wash contaminated clothing before reuse.

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.

· **Contact:**

· **Date of preparation / last revision** 05/08/2023

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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

Skin Irritation 2: Skin corrosion/irritation – Category 2

Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A

Sensitization - Respiratory 1: Respiratory sensitisation – Category 1

Sensitization - Skin 1: Skin sensitisation – Category 1

Toxic to Reproduction 2: Reproductive toxicity – Category 2

Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2

· *** Data compared to the previous version altered.**

Safety Data Sheet acc. to OSHA HCS

Printing date 05/09/2023

Reviewed on 05/09/2023

1 Identification

- **Product identifier**
- **Trade name:** SikaBiresin CH77-2 (B) Fast (Formerly EL-319 (B) Fast Hardener)
- **Article number:** 657016-1
- **Application of the substance / the mixture** Hardening agent/ Curing agent
- **Details of the supplier of the safety data sheet**
 Sika Advanced Resins, US
 EHS Department
 advanced.resins.ehs@us.sika.com
- **Manufacturer/Supplier:**
 Manufacturer:
 Sika Advanced Resins
 30800 Stephenson Hwy
 Madison Heights
 MI 48071
 USA
- **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**



GHS05 Corrosion

Skin Corrosion 1A H314 Causes severe skin burns and eye damage.

Eye Damage 1 H318 Causes serious eye damage.



GHS07

Sensitization - Skin 1 H317 May cause an allergic skin reaction.

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



GHS05



GHS07

(Contd. on page 2)

Safety Data Sheet acc. to OSHA HCS

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Reviewed on 05/09/2023

Trade name: SikaBiresin CH77-2 (B) Fast (Formerly EL-319 (B) Fast Hardener)

(Contd. of page 1)

· **Signal word** *Danger*

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

3,6-diazaoctanethylenediamin
 Polyoxypropylenediamine

· **Hazard statements**

Causes severe skin burns and eye damage.
May cause an allergic skin reaction.

· **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapors/spray
Do not breathe dusts or mists.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
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.
Specific treatment (see on this label).
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



· **Other hazards**

· **Results of PBT and vPvB assessment**

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

(Contd. on page 3)

Safety Data Sheet acc. to OSHA HCS

Printing date 05/09/2023

Reviewed on 05/09/2023

Trade name: SikaBiresin CH77-2 (B) Fast (Formerly EL-319 (B) Fast Hardener)

(Contd. of page 2)

3 Composition/information on ingredients

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

· **Dangerous components:**

| | | |
|------------------------------------|------------------------------|---------|
| CAS: 112-24-3 EINECS: 203-950-6 | 3,6-diazaoctanethylenediamin | 50-100% |
| CAS: 9046-10-0 | Polyoxypropylenediamine | 5-10% |

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **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. 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**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:**
Mouth respiratory protective device.
Wear self-contained respiratory protective device.
- **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**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.

(Contd. on page 4)

Safety Data Sheet acc. to OSHA HCS

Printing date 05/09/2023

Reviewed on 05/09/2023

Trade name: SikaBiresin CH77-2 (B) Fast (Formerly EL-319 (B) Fast Hardener)

(Contd. of page 3)

· **Environmental precautions:**

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:**

| | | |
|-----------|------------------------------|-----------------------|
| 112-24-3 | 3,6-diazaoctanethylenediamin | 3 ppm |
| 9046-10-0 | Polyoxypropylenediamine | 4.8 mg/m ³ |

· **PAC-2:**

| | | |
|-----------|------------------------------|----------------------|
| 112-24-3 | 3,6-diazaoctanethylenediamin | 14 ppm |
| 9046-10-0 | Polyoxypropylenediamine | 53 mg/m ³ |

· **PAC-3:**

| | | |
|-----------|------------------------------|-----------------------|
| 112-24-3 | 3,6-diazaoctanethylenediamin | 83 ppm |
| 9046-10-0 | Polyoxypropylenediamine | 320 mg/m ³ |

7 Handling and storage

· **Handling:**

· **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· **Information about protection against explosions and fires:** Keep respiratory protective device available.

· **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.

· **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.

(Contd. on page 5)

Safety Data Sheet acc. to OSHA HCS

Printing date 05/09/2023

Reviewed on 05/09/2023

Trade name: SikaBiresin CH77-2 (B) Fast (Formerly EL-319 (B) Fast Hardener)

(Contd. of page 4)

· **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 remaining constituent has no known exposure limits.

112-24-3 3,6-diazaoctanethylenediamin

| | |
|------|--|
| WEEL | Long-term value: 6 mg/m ³ , 1 ppm |
| | Skin |

· **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.

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.

· **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.

(Contd. on page 6)

Safety Data Sheet acc. to OSHA HCS

Printing date 05/09/2023

Reviewed on 05/09/2023

Trade name: SikaBiresin CH77-2 (B) Fast (Formerly EL-319 (B) Fast Hardener)

(Contd. of page 5)

· **Eye protection:**



Tightly sealed goggles

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: | 232 °C (449.6 °F) |

· **Flash point:** 122 °C (251.6 °F)

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

· **Auto igniting:** 335 °C (635 °F)

· **Decomposition temperature:** Not determined.

· **Ignition temperature:** Product is not selfigniting.

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

· **Explosion limits:**

| | |
|--------|-----------|
| Lower: | 0.7 Vol % |
| Upper: | 5 Vol % |

· **Vapor pressure:** Not determined.

· **Density at 20 °C (68 °F):** 0.98 g/cm³ (8.18 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.

(Contd. on page 7)



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Page 7/12

Safety Data Sheet acc. to OSHA HCS

Printing date 05/09/2023

Reviewed on 05/09/2023

Trade name: SikaBiresin CH77-2 (B) Fast (Formerly EL-319 (B) Fast Hardener)

(Contd. of page 6)

| | |
|----------------------------|--|
| · Viscosity: | |
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |
| · Solvent content: | |
| VOC content: | 0.00 % 0.0 g/l / 0.00 lb/gal |
| Solids content: | 0.0 % |
| · 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:** Carbon monoxide and carbon dioxide

11 Toxicological information

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

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

112-24-3 3,6-diazaoctanethylenediamin

| | | |
|--------|------|----------------------|
| Oral | LD50 | 2,000 mg/kg (rat) |
| Dermal | LD50 | 2,000 mg/kg (rabbit) |

- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:**
Strong caustic effect.
Strong irritant with the danger of severe eye injury.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Corrosive
Irritant
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

(Contd. on page 8)

US

Safety Data Sheet acc. to OSHA HCS

Printing date 05/09/2023

Reviewed on 05/09/2023

Trade name: SikaBiresin CH77-2 (B) Fast (Formerly EL-319 (B) Fast Hardener)

(Contd. of page 7)

· **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:** 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.

· **Additional ecological information:**

· **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.

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

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

· **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.

14 Transport information

· **UN-Number**

· **DOT**

NA2735

(Contd. on page 9)

Safety Data Sheet



acc. to OSHA HCS

Printing date 05/09/2023

Reviewed on 05/09/2023

Trade name: SikaBiresin CH77-2 (B) Fast (Formerly EL-319 (B) Fast Hardener)

(Contd. of page 8)

| | |
|--|--|
| · IMDG, IATA | UN2735 |
| · UN proper shipping name · DOT · IMDG, IATA | Polyamines, liquid, corrosive, n.o.s. (Triethylenetetramine) POLYAMINES, LIQUID, CORROSIVE, N.O.S. (TRIETHYLENETETRAMINE) |
| · Transport hazard class(es) · DOT | |
|  | |
| · Class · Label | 8 Corrosive substances 8 |
| · IMDG, IATA | |
|  | |
| · Class · Label | 8 Corrosive substances 8 |
| · Packing group · DOT, IMDG, IATA | II |
| · Environmental hazards: · Marine pollutant: | No |
| · Special precautions for user · EMS Number: · Segregation groups | Warning: Corrosive substances F-A,S-B (SGG18) Alkalis |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | UN 2735 POLYAMINES, LIQUID, CORROSIVE, N.O.S. (TRIETHYLENETETRAMINE), 8, II |

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
 No further relevant information available.

(Contd. on page 10)

Safety Data Sheet acc. to OSHA HCS

Printing date 05/09/2023

Reviewed on 05/09/2023

Trade name: SikaBiresin CH77-2 (B) Fast (Formerly EL-319 (B) Fast Hardener)

(Contd. of page 9)

· **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):**

All components have the value ACTIVE.

· **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.

· **Hazardous Air Pollutants**

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)**

None of the ingredients is listed.

· **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).

(Contd. on page 11)

Safety Data Sheet acc. to OSHA HCS

Printing date 05/09/2023

Reviewed on 05/09/2023

Trade name: SikaBiresin CH77-2 (B) Fast (Formerly EL-319 (B) Fast Hardener)

(Contd. of page 10)

· Hazard pictograms



GHS05 GHS07

· Signal word Danger

· Hazard-determining components of labeling:

3,6-diazaoctanethylenediamin

Polyoxypropylenediamine

· Hazard statements

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

· Precautionary statements

Do not breathe dusts or mists.

Wash thoroughly after handling.

Contaminated work clothing must not be allowed out of the workplace.

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.

Specific treatment (see on this label).

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

Wash contaminated clothing before reuse.

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.

· Contact:

· Date of preparation / last revision 05/09/2023

· Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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)

(Contd. on page 12)



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Page 12/12

Safety Data Sheet ***acc. to OSHA HCS***

Printing date 05/09/2023

Reviewed on 05/09/2023

Trade name: SikaBiresin CH77-2 (B) Fast (Formerly EL-319 (B) Fast Hardener)

(Contd. of page 11)

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
Skin Corrosion 1A: Skin corrosion/irritation – Category 1A
Eye Damage 1: Serious eye damage/eye irritation – Category 1
Sensitization - Skin 1: Skin sensitisation – Category 1
• *** Data compared to the previous version altered.**

US