

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/13/2015

Reviewed on 05/13/2015

1 Identification

- **Product identifier**
- **Trade name:** L&M EPOBOND Resin
- **Article number:** I013244-1
- **Application of the substance / the mixture** Epoxy resin
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Company Name: Axson USA, Inc.

- Headquarters:
31200 Stephenson Hwy
Madison Heights, MI 48071
USA

- ehs-us@axson.com
- **Information department:** Product safety department
- **Emergency telephone number:**
During normal opening times: +1(248) 588-2270
Chemtec 24-hour Emergency: +1 (800) 424-9300

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 2 H351 Suspected of causing cancer.



GHS09 Environment

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



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

Skin Sens. 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**



GHS07



GHS08



GHS09

- **Signal word** Warning

(Contd. on page 2)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/13/2015

Reviewed on 05/13/2015

Trade name: L&M EPOBOND Resin

(Contd. of page 1)

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

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)
butyl glycidyl ether

· **Hazard statements**

Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
Suspected of causing cancer.
Toxic to aquatic life with long lasting effects.

· **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapors/spray
Wear protective gloves.
Wear eye protection / face protection.
Avoid release to the environment.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Specific treatment (see on this label).
Wash contaminated clothing before reuse.
IF exposed or concerned: Get medical advice/attention.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
If on skin: Wash with plenty of water.
Collect spillage.
Take off contaminated clothing and wash it 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)**

| | | |
|------------|---|----------------|
| HEALTH | 1 | Health = *1 |
| 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.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/13/2015

Reviewed on 05/13/2015

Trade name: **L&M EPOBOND Resin**

(Contd. of page 2)

· Dangerous components:

| | | |
|-------------------------------------|---------------------------------------------------------------------------------------------------------|-----------|
| CAS: 25068-38-6 NLP: 500-033-5 | reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight \leq 700) | 50 - 100% |
| CAS: 2426-08-6 EINECS: 219-376-4 | butyl glycidyl ether | 1 - 5% |

4 First-aid measures

- **Description of first aid measures**
- **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:** 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** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **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).
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.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.

(Contd. on page 4)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/13/2015

Reviewed on 05/13/2015

Trade name: L&M EPOBOND Resin

(Contd. of page 3)

- Prevent formation of aerosols.
- **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.
- **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:**

2426-08-6 butyl glycidyl ether

| | |
|-----|----------------------------------------------------------------|
| PEL | Long-term value: 270 mg/m ³ , 50 ppm |
| REL | Ceiling limit value: 30 mg/m ³ , 5.6 ppm *15-min |
| TLV | Long-term value: 16 mg/m ³ , 3 ppm Skin; DSEN |

- **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:**
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 5)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/13/2015

Reviewed on 05/13/2015

Trade name: L&M EPOBOND Resin

(Contd. of page 4)

· Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

| | |
|--------------------|-----------------|
| · Form: | Viscous |
| · Color: | Amber colored |
| · Odor: | Amine-like |
| · Odour threshold: | Not determined. |

· pH-value: Not determined.

· Change in condition

| | |
|--------------------------------|-----------------|
| · Melting point/Melting range: | Undetermined. |
| · Boiling point/Boiling range: | 164 °C (327 °F) |

· Flash point: 251 °C (484 °F)

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature:

· Decomposition temperature: Not determined.

· Auto igniting: 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.

· Density at 20 °C (68 °F): 1.1575 g/cm³ (9.659 lbs/gal)

· Relative density: Not determined.

· Vapour 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: 0.0 %

· Other information: No further relevant information available.

USA

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/13/2015

Reviewed on 05/13/2015

Trade name: L&M EPOBOND Resin

(Contd. of page 5)

10 Stability and reactivity

- **Reactivity**
- **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:**

| | | |
|--------|------|----------------------|
| Oral | LD50 | 2000 mg/kg (rat) |
| Dermal | LD50 | >2000 mg/kg (rabbit) |

2426-08-6 butyl glycidyl ether

| | | |
|--------|------|---------------------|
| Oral | LD50 | 2050 mg/kg (rat) |
| Dermal | LD50 | 2520 mg/kg (rabbit) |

- **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:
Irritant

- **Carcinogenic categories**

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

| | | |
|----------|---------------------------|----|
| 106-89-8 | 1-chloro-2,3-epoxypropane | 2A |
|----------|---------------------------|----|

· **NTP (National Toxicology Program)**

| | | |
|----------|---------------------------|---|
| 106-89-8 | 1-chloro-2,3-epoxypropane | R |
|----------|---------------------------|---|

· **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

(Contd. on page 7)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/13/2015

Reviewed on 05/13/2015

Trade name: **L&M EPOBOND Resin**

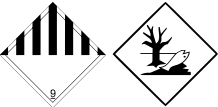
(Contd. of page 6)

- **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.
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

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> · UN-Number · DOT · IMDG, IATA | <p style="margin-left: 20px;">not regulated UN3082</p> |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT · IMDG · IATA | <p style="margin-left: 20px;">not regulated ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)), MARINE POLLUTANT ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700))</p> |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT · Class | <p style="margin-left: 20px;">not regulated</p> |
| <ul style="list-style-type: none"> · IMDG, IATA <div style="text-align: center; margin: 10px 0;">  </div> | <p style="margin-left: 20px;">9 Miscellaneous dangerous substances and articles 9</p> |
| <ul style="list-style-type: none"> · Class · Label | <p style="margin-left: 20px;">9 Miscellaneous dangerous substances and articles 9</p> |
| <ul style="list-style-type: none"> · Packing group · DOT | <p style="margin-left: 20px;">not regulated</p> |

(Contd. on page 8)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/13/2015

Reviewed on 05/13/2015

Trade name: L&M EPOBOND Resin

(Contd. of page 7)

| | |
|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| · IMDG, IATA | III |
| · Environmental hazards: | Product contains environmentally hazardous substances: reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700) |
| · Marine pollutant: | Yes Symbol (fish and tree) |
| · Special marking (IATA): | Symbol (fish and tree) |
| · Special precautions for user | Warning: Miscellaneous dangerous substances and articles |
| · Danger code (Kemler): | 90 |
| · EMS Number: | F-A,S-F |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · IMDG | |
| · Limited quantities (LQ) | 5L |
| · Excepted quantities (EQ) | Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml |
| · UN "Model Regulation": | UN3082, Environmentally hazardous substances, liquid, n.o.s. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)), 9, III |

15 Regulatory information

| | | |
|---------------------------------------------------------------------------------------------------------|---------------------------|----|
| · Safety, health and environmental regulations/legislation specific for the substance or mixture | | |
| · Sara | | |
| · Section 355 (extremely hazardous substances): | | |
| 106-89-8 | 1-chloro-2,3-epoxypropane | |
| · Section 313 (Specific toxic chemical listings): | | |
| 106-89-8 | 1-chloro-2,3-epoxypropane | |
| · TSCA (Toxic Substances Control Act): | | |
| All ingredients are listed. | | |
| · Proposition 65 | | |
| · Chemicals known to cause cancer: | | |
| 106-89-8 | 1-chloro-2,3-epoxypropane | |
| · Chemicals known to cause reproductive toxicity for females: | | |
| None of the ingredients is listed. | | |
| · Chemicals known to cause reproductive toxicity for males: | | |
| 106-89-8 | 1-chloro-2,3-epoxypropane | |
| · Chemicals known to cause developmental toxicity: | | |
| None of the ingredients is listed. | | |
| · Carcinogenic categories | | |
| · EPA (Environmental Protection Agency) | | |
| 106-89-8 | 1-chloro-2,3-epoxypropane | B2 |

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/13/2015

Reviewed on 05/13/2015

Trade name: **L&M EPOBOND Resin**

(Contd. of page 8)

· **TLV (Threshold Limit Value established by ACGIH)**

106-89-8 1-chloro-2,3-epoxypropane

A3

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

106-89-8 1-chloro-2,3-epoxypropane

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

· **Hazard pictograms**



GHS07

GHS08

GHS09

· **Signal word** Warning

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

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)
butyl glycidyl ether

· **Hazard statements**

Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
Suspected of causing cancer.
Toxic to aquatic life with long lasting effects.

· **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapors/spray
Wear protective gloves.
Wear eye protection / face protection.
Avoid release to the environment.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
Specific treatment (see on this label).
Wash contaminated clothing before reuse.
IF exposed or concerned: Get medical advice/attention.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
If on skin: Wash with plenty of water.
Collect spillage.
Take off contaminated clothing and wash it 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.

· **Date of preparation / last revision** 05/13/2015 / -

(Contd. on page 10)

USA

Safety Data Sheet
acc. to OSHA HCS

Printing date 05/13/2015

Reviewed on 05/13/2015

Trade name: L&M EPOBOND Resin

(Contd. of page 9)

· 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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Muta. 2: Germ cell mutagenicity, Hazard Category 2

Carc. 2: Carcinogenicity, Hazard Category 2

Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

USA