

Safety Data Sheet acc. to OSHA HCS

Print Date 04/30/2015

Revision Date 04/30/2015

Product Identifier
Trade Name: EP1330

Application of the Substance or Mixture: One part, heat cured epoxy adhesive

Details of the Supplier of the Safety Data Sheet (SDS)
Manufacturer or Supplier:

 Resinlab, LLC
 N109 W13300 Ellsworth Drive,
 Germantown, WI 53022
 1-800-388-8605
 www.resinlab.com

Information Department: Product Safety Department: msds@resinlab.com

Emergency Telephone Number:

 North America - Chemtrec: 1-800-424-9300 (24 hours)
 International - Chemtrec: 01-703-527-3887 (24 hours)

2 Hazard(s) identification

Hazard Classification


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).

Pictogram(s)


GHS07 GHS09

Signal Word Warning

Hazard-determining Component(s)

 Bisphenol-A-(epichlorohydrin) epoxy resin
 Diglycidyl ether of neopentyl glycol

Hazard statements

 Causes skin irritation.
 Causes serious eye irritation.
 May cause an allergic skin reaction.
 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.
 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 skin irritation or rash occurs: Get medical advice/attention.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Print Date 04/30/2015

Revision Date 04/30/2015

Trade Name: EP1330

(Contd. of page 1)

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

Prevention

Avoid breathing dust/fume/gas/mist/vapors/spray
 Wear protective gloves/protective clothing/eye protection/face protection.
 Avoid release to the environment.
 Wash thoroughly after handling.
 Contaminated work clothing must not be allowed out of the workplace.

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

Hazard Rating System**NFPA System****NFPA Ratings (scale 0 - 4)**

NFPA special hazards (water reactivity and oxidizing property): None

HMIS System**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**Composition/Information on Ingredients**

CAS: 1344-28-1 EINECS: 215-691-6 RTECS: BD120000	Aluminum oxide	50-60%
CAS: 25068-38-6 NLP: 500-033-5 Index Number: 603-074-00-8	Bisphenol-A-(epichlorohydrin) epoxy resin ⚠ Aquatic Chronic 2, H411 ⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317	25-30%
	Epoxy Polyamine Adduct	5-<10%
CAS: 17557-23-2 EINECS: 241-536-7 Index Number: 603-094-00-7 RTECS: TX3760000	Diglycidyl ether of neopentyl glycol ⚠ Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335 ⚠ Eye Dam. 2B, H320	2.5-5%

Classification System:

The Classifications were based on the Toxicological and Ecological Data of the substances/mixtures in the Section 11 and 12.

(Contd. on page 3) US

Safety Data Sheet acc. to OSHA HCS

Print Date 04/30/2015

Revision Date 04/30/2015

Trade Name: EP1330

(Contd. of page 2)

4 First-aid measures

Description of First Aid Measures

General Information

Ensure medical personnel are aware of exposure and take precautions for their personal protection; see Section 8 for the information of personal protection.

After Inhalation

Remove victim from exposure to fresh air. Keep person at rest. Provide oxygen if person is not breathing. Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
Supply fresh air; consult doctor in case of complaints.

After Skin Contact

Remove all contaminated clothing and wash before reuse.
Wash contaminated skin with water and soap and rinse thoroughly.
Seek immediate medical advice.

After Eye Contact

Immediately bathe eyes for 15 minutes under running water.
Immediately remove contact lenses if present. Continue rinsing.
Seek immediate medical advice.

After Swallowing

If victim is unconscious; never give anything by mouth.
If victim is conscious; rinse out mouth and give victim small amounts of water.
Seek medical treatment in case of complaints.

After Exposure Seek medical treatment in case of complaints.

Information for Doctor Have chemical containers, labels and/or (M)SDS ready when calling or visiting a medical center.

Indication of any Immediate Medical Attention and Special Treatment Needed

After frequent or high intense exposure, the following medical tests are recommended:
eye tests
skin tests
Check section 11 Toxicological Information for further relevant information.

Additional Information

For additional information, please consult the corresponding first aid measures in the most current version of Emergency Response Guidebook which is produced by the US Department of Transportation.

5 Fire-fighting measures

Extinguishing Media

Suitable Extinguishing Agent(s)

Use fire fighting measures and extinguishing agents that suit the environment.
In case of fire, suitable extinguishing agents are:
Alcohol resistant foam.
Dry chemical or fire-extinguishing powder.
Carbon dioxide (CO₂).
Water spray or water fog.

Unsuitable Extinguishing Agent(s) Water with full jet

Firefighting Procedures

Isolate fire and deny unnecessary entry.
Immediately withdraw all personnel from the area in case of rising sound from venting safety device.
Eliminate all ignition sources if safe to do so.
Do not extinguish fire unless flow can be stopped.
Fight fire remotely due to the risk of explosion.
Burning liquids may be moved by flushing with water; protect personnel and minimize property damage.
Contain fire water runoff if possible to prevent environmental pollution.

(Contd. on page 4)

Safety Data Sheet acc. to OSHA HCS

Print Date 04/30/2015

Revision Date 04/30/2015

Trade Name: EP1330

(Contd. of page 3)

Fight fire from protected location or safe distance.
Contain fire water runoff if possible to prevent environmental pollution.

Special Hazards Arising in Fire

Will not burn unless preheated.

In case of fire, following can be released:

Nitrogen oxides

May generate ammonia gas.

Carbon dioxide (CO₂) and Carbon monoxide (CO)

Phenolic compounds

Aluminum oxide (Al₂O₃) dust, a serious respiratory irritant, may be formed during fires.

Advice for Firefighters

If employees are expected to fight fires, they must be trained and equipped as stated in the OSHA fire brigades standard (29 CFR 1910.156).

As with any fire, wear positive-pressure self-contained breathing apparatus and full protective gear that are NIOSH approved.

Additional Information Be Caution! Finely dispersed substance may form explosive mixtures in air.

6 Accidental release measures

Personal Precautions

Do not breathe gas, vapors, dusts or mists if their inhalable particles occur during use.

Ensure personnel take precautions for their personal protection during clean up; see Section 8 for the specific requirements.

Environmental Precautions

Keep away from sewage system or other water courses; do not penetrate ground/soil.

Inform respective authorities in case of any seepage to the environment.

Cleaning Up Methods

Ensure adequate ventilation.

Eliminate all ignition sources.

Keep unauthorized personnel away.

For large spills:

Shut off source of leak if safe to do so.

Dike and contain.

Remove with vacuum trucks or pump to storage/salvage vessels.

Allow molten product to cool.

Absorb residues with liquid-binding materials.

Avoid confined spaces, such as sewers, because of the possibility of an explosion.

For small spills:

Ventilate and wash area after clean-up is complete.

Collect spills in suitable and properly labeled containers.

Do not use solvents unless following safe handling practices and within the recommended exposure guidelines.

Dispose contaminated chemicals as waste according to Section 13.

Additional Information No further relevant information.

7 Handling and storage

Handling

Precautions for Safe Handling

Obtain special instruction before use; do not handle until all safety precautions have been read and understood.

Do not breathe gas, vapors, dusts or mists if their inhalable particles occur during handling.

Wear respiratory protection when handling.

Keep away from incompatible material(s).

Avoid any release into the environment.

Observe all the personal protection requirements in Section 8.

Information about Protection Against Explosions and Fires

Will not burn unless preheated.

Keep away from heat, sparks, open flame and other ignition sources during handling.

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Print Date 04/30/2015

Revision Date 04/30/2015

Trade Name: EP1330

(Contd. of page 4)

Dust can combine with air to form an explosive mixture.

Storage

Requirements to be Met by Storerooms and Receptacles

Store in a well-ventilated place; provide ventilation for receptacles.
Keep stored in accordance with local, regional, national, and international regulations.

Information about Storage in One Common Storage Facility

Store away from incompatible material(s).
Store away from foodstuffs.
Avoid release to the environment.
Store away from direct sunlight.

Additional Information No further relevant information.

8 Exposure controls/personal protection

Engineering Measures or Controls

Exposure Limit Values that Require Monitoring at the Workplace

1344-28-1 Aluminum oxide

ACGIH	Long-term value: 1 mg/m ³ respirable fraction as Aluminum
OSHA	Long-term value: 15 TWA total dust mg/m ³

67762-90-7 Siloxanes and Silicones, di-Me, reaction products with silica

OSHA PEL	Short-term value: 15 mg/m ³
US ACGIH	Short-term value: 10 mg/m ³

1333-86-4 Carbon black

PEL	Long-term value: 3.5 mg/m ³
REL	Long-term value: 3.5* mg/m ³ *0.1 in presence of PAHs; See Pocket Guide Apps.A+C
TLV	Long-term value: 3* mg/m ³ *inhalable fraction

Other Engineering Measures or Controls

Ventilation rates should be matched to conditions.
If applicable, use process enclosure(s), local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

Personal Protective

General Protective and Hygienic Measures

Avoid any contact with eye.
Do not eat, drink or smoke during work.
Keep food, drink or feed away from working area.
Contaminated work clothing is not allowed out of workplace.
Clean hands and exposed skin thoroughly after work and before breaks.

Personal Protective Equipment (PPE)

Breathing Equipment

Caution! Improper use of respirators is dangerous.
In case of brief exposure or low pollution, use a respiratory filter device.
In case of intensive or longer exposure, use a positive-pressure respiratory protective device that is independent of circulating air.

Hand Protection



Protective gloves

Selection of glove material should take into consideration the penetration times, rates of diffusion, and the degradation.

Suggested glove type(s):
Nitrile Gloves
Butyl Rubber Gloves

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Print Date 04/30/2015

Revision Date 04/30/2015

Trade Name: EP1330

(Contd. of page 5)

Eye Protection



Tightly sealed goggles

Body Protection No relevant information.

Additional Information

All protective clothing (suits, gloves, footwear, headgear) should be clean, available every day, and put on before work. The Engineering measures or controls, and PPE recommendations are only guidelines and may not apply to every situation. For additional information, please consult the corresponding requirements under OSHA 29 CFR 1910.94-95, and 29 CFR 1910.132-138.

9 Physical and chemical properties

Information on Basic Physical and Chemical Properties

Appearance:

· Form:	Paste
· Color:	Black
· Odor:	Mild epoxy odor
· Odor Threshold:	Not determined.

· **PH-Value at 20 °C (68 °F):** > 7

Change in Condition:

· Melting Point:	Not determined.
· Boiling Point:	>217 °C (>423 °F)
· Flash Point:	> 93 °C (> 199 °F)
· Decomposition Temperature:	Not determined.
· Flammability:	Not determined.
· Explosion:	Not determined.
· Explosion Limits:	
· Lower:	Not determined.
· Upper:	Not determined.

· Vapor Pressure:	Not determined.
· Density at 25 °C (77 °F):	2.00 g/cm ³ (16.69 lbs/gal)
· Solubility in or Miscibility with	
· Water:	Not miscible or difficult to mix.
· Viscosity:	
· Dynamic at 20 °C (68 °F):	500000 mPas
· Kinematic:	Not determined.

· **Additional Information** No further relevant information.

10 Stability and reactivity

- **Physical Hazard(s)** Not a regulated reactive or physical hazard under GHS.
- **Hazardous Reactivity and Chemical Stability** Stable under normal conditions of use, storage and temperatures.
- **Thermal Decomposition and Conditions to be Avoided**
 Keep away from incompatible material(s).
 Thermally decomposes during fire or high heat; keep away from heat, sparks, open flame and other ignition sources.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Print Date 04/30/2015

Revision Date 04/30/2015

Trade Name: EP1330

(Contd. of page 6)

· **Possibility of Other Hazardous Reaction(s)**

May act catalytically with ethylene oxide or vinyl chloride causing irreversible polymerization with considerable heat buildup.

· **Incompatible Material(s)**

Oxidizing agents
 aliphatic amines
 Mercaptans
 Chlorine trifluoride
 Ethylene oxide
 Mineral acid (or Inorganic acid)
 Organic acids
 Sodium hypochlorite
 Vinyl acetate
 Acids
 Chlorinated rubber
 Bases (Alkalis)
 Nitrates

· **Hazardous Decomposition Product(s)**

Thermally decomposes during fire or very high heat. See Section 5 for fire hazards evolved during thermal decomposition.

· **Hazardous Polymerization Product(s)** No relevant information.

· **Additional Information** No further relevant information.

11 Toxicological information

· **Acute Toxicity**

· **Oral**

1344-28-1 Aluminum oxide

Oral	LD50	> 5000 mg/kg (rat) (OECD TG 401) > 5050 mg/kg (rat) No mortality or abnormality was observed after an oral administration with 5050 mg/kg bw of the substance. Reference: IUCLID Dataset (2000) and OECD SIDS (2008).
------	------	--

25068-38-6 Bisphenol-A-(epichlorohydrin) epoxy resin

Oral	LD50	11400 mg/kg (rat) 15600 mg/kg (mouse) Reference: NLM Toxnet (2010).
------	------	---

Epoxy Polyamine Adduct

Oral	LD50	(No data available)
------	------	---------------------

17557-23-2 Diglycidyl ether of neopentyl glycol

Oral	LD50	4500 mg/kg (rat) Reference: ChemID (2010) and Momentive (M)SDS (2011).
------	------	---

· **Potential Health Effect(s):** Not a classified acute oral hazard.

· **Dermal**

1344-28-1 Aluminum oxide

Dermal	LD50	(Test species: n/a) (Toxicity not expected based on acute oral data) Based on the acute oral toxicity test, it was expected that toxicity to mammals via dermal application of the substance was not a significant concern and resulted in a similar lack of acute toxicity. Thus, the substance was not classified as an acute dermal hazard. Reference: OECD SIDS (2008).
--------	------	---

25068-38-6 Bisphenol-A-(epichlorohydrin) epoxy resin

Dermal	LD50	20000 mg/kg (rabbit) (Test guideline not available) > 1270 mg/kg (mouse) > 2000 mg/kg (rat) > 1600 mg/kg (rabbit); however, there was no fixed test result available; classification was not possible without further information. Reference: Royce (M)SDS (2011) and ChemID (2010).
--------	------	--

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Print Date 04/30/2015

Revision Date 04/30/2015

Trade Name: EP1330

(Contd. of page 7)

Epoxy Polyamine Adduct

Dermal LD50 (No data available)

17557-23-2 Diglycidyl ether of neopentyl glycol

Dermal LD50 (rat)

> 2000 mg/kg; end value or test detail was not available; classification was not possible.
 Reference: Momentive (M)SDS (2011).

Potential Health Effect(s): Not a classified acute dermal hazard.

Inhalative**1344-28-1 Aluminum oxide**

Inhalative LC50/4 h 7.6 mg/l (rat) (not given)

Vendor SDS 2014

Due to wetted form of the substance, inhalative effects from dust form can be seen as negligible. Meanwhile, based on the acute oral toxicity test, it was expected that toxicity to mammals via inhalation of the substance was not a significant concern and resulted in a similar lack of acute toxicity. Thus, the substance was not classified as an acute inhalation hazard as a wetted form.

Reference: OECD SIDS (2008).

25068-38-6 Bisphenol-A-(epichlorohydrin) epoxy resin

Inhalative LC50/4 h (Test species: n/a) (Toxicity not expected based on the acute oral data)

Epoxy Polyamine Adduct

Inhalative LC50/4 h (No data available)

17557-23-2 Diglycidyl ether of neopentyl glycol

Inhalative LC50/4 h (No data available)

Potential Health Effect(s):

cough

sore throat

Not a classified acute inhalative hazard.

Skin Corrosion or Irritation**1344-28-1 Aluminum oxide**

Corrosion/Irritation not irritating (rabbit) (OECD TG 404)

Erythema score: 0.166/4 (Max. 4) in 2 out of 12 rabbits

Edema score: 0 (Max. 4)

Based on the classification criteria, the substance was not irritating to skin.

Reference: ECHA (2011).

Cabot SDS (2014)

25068-38-6 Bisphenol-A-(epichlorohydrin) epoxy resin

Corrosion/Irritation irritating (rabbit)

Acute skin irritation was mild, through repeated and prolonged exposure may cause severe irritation.

The substance was classified as Category 2 by GHS-J.

Reference: HSNO CCID (2010) and GHS-J (2006).

Epoxy Polyamine Adduct

Corrosion/Irritation (No data available)

17557-23-2 Diglycidyl ether of neopentyl glycol

Corrosion/Irritation irritating (rabbit) (No test detail available)

Based on manufacturer's (M)SDS, the substance was considered to be moderately irritating to rabbit skin.

Based on NIOSH ICSC, the substance irritated eyes and skin.

Reference: Momentive (M)SDS (2011) and NIOSH ICSC (2010).

Potential Health Effect(s):

Causes skin irritation.

In contact with skin, may cause:

redness and pain

Eye Serious Damage or Irritation**1344-28-1 Aluminum oxide**

(Contd. on page 9)

US

Safety Data Sheet
acc. to OSHA HCS

Print Date 04/30/2015

Revision Date 04/30/2015

Trade Name: EP1330

(Contd. of page 8)

Damage/Irritation	mildly irritat. (rabbit) (US FDA Draize and Kelly test) Cornea and Iris score: 0 (Time point: 24 hours) Conjunctivae: 1/3 (Max. 3; mean score of all treated rabbits); fully reversible in 7 days. Based on the classification criteria, the substance was mildly irritating to eyes (Category 2B). Reference: ECHA (2011).
25068-38-6 Bisphenol-A-(epichlorohydrin) epoxy resin	
Damage/Irritation	irritating (rabbit) The substance caused eye irritation (Category 2A) based on the dermal effect to rabbit skin.
Epoxy Polyamine Adduct	
Damage/Irritation	(No data available)
17557-23-2 Diglycidyl ether of neopentyl glycol	
Damage/Irritation	slightly (rabbit) (No test detail available) Based on manufacturer's MSDS, the substance was considered to be slightly irritating to rabbit eyes. Based on NIOSH ICSC, the substance irritated eyes and skin. Reference: Momentive (M)SDS (2011) and NIOSH ICSC.

Potential Health Effect(s):

Causes serious eye irritation.
In contact with eye, may cause:
redness and pain

Respiratory or Skin Sensitization

1344-28-1 Aluminum oxide		
Sensitization	Skin	not sensitizing (guinea pig) (Landsteiner/Draize method) 33% aqueous suspension induced mild to moderate skin reaction; however, significant difference between test and control groups with respect to the degree and incidence of erythema and oedema was not reported. Thus, the substance was not classified as a skin sensitizer. Reference: ECHA (2011).
	Respiratory	(No data available)
25068-38-6 Bisphenol-A-(epichlorohydrin) epoxy resin		
Sensitization	Skin	sensitizing (Human) Based on positive results from skin sensitization tests on human volunteers and guinea pigs, GHS-J classified the substance as a dermal sensitizer. Reference: GHS-J (2006).
	Respiratory	(No data available)
Epoxy Polyamine Adduct		
Sensitization	Skin	(No data available)
	Respiratory	(No data available)
17557-23-2 Diglycidyl ether of neopentyl glycol		
Sensitization	Skin	sensitizing (Test species: n/a) The substance was classified as a contact sensitizer. Reference: ERMA HSNO (2010), Momentive (M)SDS (2011) and NIOSH ICSC (2010).
	Respiratory	(No data available)

Potential Health Effect(s):

May cause an allergic skin reaction.
No relevant information for respiratory sensitization; classification is not possible.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

Germ Cell Mutagenicity

1344-28-1 Aluminum oxide	
Mutagenicity	negative (rat) (In Vivo (Chromosomal aberrations; Oral)) In Vitro (Ame test; salmonella typhimurium) - negative with and without metabolic activation. In Vitro (Bacillus subtilis recombination assay; Bacillus subtilis) - negative In Vivo (Chromosomal aberrations; rat bone marrow cells; Oral; up to 2000 mg/kg; bulk material) - negative. In Vivo (Chromosomal aberrations; rat bone marrow cells; Oral; up to 2000 mg/kg; particle size ranging from 30 mm – 40 mm) - positive. The positive result was exclusive for classification because particle size of the substance ranged from 1/2 inch (12.7mm) to 3/4 inch (19.1 mm). When considering all of the evidence, the substance was not classified as a mutagen. Reference: NLM CCRIS (2011), AluChem TDS (2002) and IUCLID Dataset (2000).

(Contd. on page 10)

Safety Data Sheet
acc. to OSHA HCS

Print Date 04/30/2015

Revision Date 04/30/2015

Trade Name: EP1330

(Contd. of page 9)

25068-38-6 Bisphenol-A-(epichlorohydrin) epoxy resin

Mutagenicity positive (Chinese hamster lung fibroblast cells) (In Vitro (Chromosomal Aberration))
In Vitro (Chromosomal Aberration; Chinese hamster lung fibroblast cells) - Positive without metabolic activation; negative with metabolic activation.
Positive (salmonella typhimurium) (In Vitro (Ames assay)). Due to the absence from In Vivo tests, it was not possible to make a conclusion of mutagenicity of the substance.
Reference: NLM CCRIS (2010).

Epoxy Polyamine Adduct

Mutagenicity (No data available)

17557-23-2 Diglycidyl ether of neopentyl glycol

Mutagenicity (salmonella typhimurium)
In Vitro (Ames tests with salmonella typhimurium; strains: TA100 and TA1535) - Positive with and without metabolic activation.
Due to the absence of In Vivo test results, the substance can't be classified as a germ cell mutagen.
Reference: NLM TOXNET CCRIS (2010).

Potential Health Effect(s): No further relevant information; classification is not possible.

Carcinogenicity

1344-28-1 Aluminum oxide

Carcinogenicity negative (rat) (Carcinogenicity not expected due to wetted form)
There was some evidence of carcinogenicity via intraperitoneal routes which can be seen as negligible due to wetted form of the substance.
Reference: NLM CCRIS (2011).
Not classified as a human carcinogen. AluChem SDS (2014)

25068-38-6 Bisphenol-A-(epichlorohydrin) epoxy resin

Carcinogenicity negative (Test species: n/a) (Not listed by ACGIH, IARC, NTP, or OSHA)
(Mouse)
1 out of 4 cases with female mice showed positive carcinogenic results after a repeated dermal application with 10% concentration of the substance for two years. When considering all of the evidence, the substance was not classified as a carcinogen.
Reference: Dow (M)SDS (2010).

Epoxy Polyamine Adduct

Carcinogenicity (No data available)

17557-23-2 Diglycidyl ether of neopentyl glycol

Carcinogenicity negative (Test species: n/a)
Not listed as a carcinogen by IARC.

Potential Health Effect(s): No further relevant information; classification is not possible.

Reproductive Toxicity

1344-28-1 Aluminum oxide

Reproductive Toxi. (No data available)

25068-38-6 Bisphenol-A-(epichlorohydrin) epoxy resin

Reproductive Toxi. negative (Test species: n/a) (no reproductive or developmental effect observed)
There was no reproductive or developmental effect observed at dosing levels that were toxic to parental animals.
Reference: GHS-J (2006).

Epoxy Polyamine Adduct

Reproductive Toxi. (No data available)

17557-23-2 Diglycidyl ether of neopentyl glycol

Reproductive Toxi. (No data available)

Potential Health Effect(s): Not a known Reproductive hazard.

Specific Target Organ Toxicity - Single Exposure

1344-28-1 Aluminum oxide

STOT-Single Target: None (Test species: n/a) (Systemic toxicity not expected due to wetted form)
Based on upper respiratory irritation reports from NIOSH ICSC, GHS-J classified the substance as Category 3 (respiratory tract irritation). However, inhalative effects can be seen as negligible due to wetted form of the substance.
Reference: NIOSH ICSC (2000) and GHS-J (2006).

(Contd. on page 11)

Safety Data Sheet
acc. to OSHA HCS

Print Date 04/30/2015

Revision Date 04/30/2015

Trade Name: EP1330

(Contd. of page 10)

25068-38-6 Bisphenol-A-(epichlorohydrin) epoxy resin

STOT-Single | Target: None (Rats and Mice) (No effect after single oral doses)
Somnolence (general depressed activity) and dyspnea were observed after a single oral application with 11400 mg/kg to rats, or 15600 mg/kg to mice of the substance. However, the dose levels were both outside of the guidance value ranges.
Reference: NLM Toxnet (2010).

Epoxy Polyamine Adduct

STOT-Single | (No data available)

17557-23-2 Diglycidyl ether of neopentyl glycol

STOT-Single | (No data available)

Potential Health Effect(s): Not a known hazard to organs upon single exposure.

Specific Target Organ Toxicity - Repeated Exposure

1344-28-1 Aluminum oxide

STOT-Repeated | Target: None (Test species: n/a) (Systemic toxicity not expected due to wetted form)
The substance was classified as Category 1 to lungs by inhalation according to statement that pulmonary fibrosis occurred after long term exposure to the substance dust. However, inhalative effects can be seen as negligible due to wetted form of the substance.
Reference: GHS-J (2006).

25068-38-6 Bisphenol-A-(epichlorohydrin) epoxy resin

STOT-Repeated | Target: N/A (guinea pig) (insufficient data for classification)
With dermal application of the substance for 55 days, increased seromucoid concentrations, decreased lactate-dehydrogenase (LDH), and decreased leucyl-naphthylamidase (LNA) were observed in the test animals. Meanwhile, the substance caused a toxic effect on blood components of female guinea-pigs with greater effects on pregnant animals. However, there was no detail available regarding the dose level or test guideline, classification was thus not possible.
Reference: HSNO CCID (2010).

Epoxy Polyamine Adduct

STOT-Repeated | (No data available)

17557-23-2 Diglycidyl ether of neopentyl glycol

STOT-Repeated | (No data available)

Potential Health Effect(s): No further relevant information; classification is not possible.

Aspiration Hazard

1344-28-1 Aluminum oxide

Aspiration Hazard | (No data available)

25068-38-6 Bisphenol-A-(epichlorohydrin) epoxy resin

Aspiration Hazard | (No data available)

Epoxy Polyamine Adduct

Aspiration Hazard | (No data available)

17557-23-2 Diglycidyl ether of neopentyl glycol

Aspiration Hazard | (No data available)

Potential Health Effect(s): No relevant information; classification is not possible.

Additional Information No further relevant information.

12 Ecological information

Aquatic Environmental Toxicity

1344-28-1 Aluminum oxide

Algae Toxicity	> 100 mg/l (Selenastrum capricornum) (NOEC (72 hrs), OECD TG 201) AluChem SDS (2014)
Crustacean Toxicity	> 100 mg/l (Daphnia magna (water flea)) (NOEC (48 hrs), OECD TG 202) AluChem SDS (2014)
Fish Toxicity	> 100 mg/l (Brown trout (Salmo trutta or Sea trout)) (NOEC (96 hrs), OECD TG 203) Reference: IUCLID Dataset (2000). AluChem SDS (2014)

(Contd. on page 12)

Safety Data Sheet

acc. to OSHA HCS

Print Date 04/30/2015

Revision Date 04/30/2015

Trade Name: EP1330

(Contd. of page 11)

25068-38-6 Bisphenol-A-(epichlorohydrin) epoxy resin

Algae Toxicity	(No data available)
Crustacean Toxicity	1.4 - 1.7 mg/l (<i>Daphnia magna</i> (water flea)) (EC50 (48 hrs))
Fish Toxicity	1.41 mg/l (<i>Oryzias latipes</i> (Rice fish)) (LC50 (96 hrs)) 3.1 mg/l (<i>Pimephales promelas</i> (fathead minnow)) (LC50 (96 hrs)) Based on the non-rapid degradability and the acute LC50 < 10 mg/L, the substance is classified as a Chronic-2 environmental hazard. Reference: Dow (M)SDS (2010) and CHRIP (2010).

Epoxy Polyamine Adduct

Algae Toxicity	(No data available)
Crustacean Toxicity	(No data available)
Fish Toxicity	(No data available)

17557-23-2 Diglycidyl ether of neopentyl glycol

Algae Toxicity	(No data available)
Crustacean Toxicity	(No data available)
Fish Toxicity	(No data available)

Aquatic Environmental Toxicity Assessment: Toxic to aquatic life with long lasting effects.

Degradability and Stability**1344-28-1 Aluminum oxide**

Biodegradation	non-biodegrad. (Test species: n/a) (As an inorganic and insoluble compound) As an inorganic and insoluble compound, biodegradation of the substance is not expected.
Persistence	(Test species: n/a) (The substance is persistent) Reference: Canada DSL (2007).
Photodegradation	(No data available) As an inorganic and insoluble compound, photodegradation of the substance is not expected.
Stability in water	stable (Test species: n/a) (As an inorganic and insoluble compound) As an insoluble inorganic metal compound, hydrolysis of the substance is not expected.

25068-38-6 Bisphenol-A-(epichlorohydrin) epoxy resin

Biodegradation	non-biodegrad. (Test species: n/a) (Biodegradation (OECD TG 302B; 28 days) = 12%) (Activated Sludge) (OECD TG 301C; 4 weeks; Conc. 100 mg/L) Biodegradation (Indirect Analysis from BOD) = 0% Biodegradation (Direct Analysis from HPLC) = 0% The substance is non-biodegradable. Reference: Dow (M)SDS (2010) and CHRIP (2010).
Persistence	(Test species: n/a) (This substance is persistent) Reference: Canada DSL (2007) and CHRIP (2010).
Photodegradation	6.69E-11 cm ³ /molecule-sec (OH radical) (Half-life (T1/2) = 1.92 hrs) However, photolysis in water is negligible. Reference: Dow (M)SDS (2010).
Stability in water	(No data available)

Epoxy Polyamine Adduct

Biodegradation	(No data available)
Persistence	(No data available)
Photodegradation	(No data available)
Stability in water	(No data available)

17557-23-2 Diglycidyl ether of neopentyl glycol

Biodegradation	(No data available)
Persistence	(Test species: n/a) This substance is not persistent. Reference: Canada DSL (2007).
Photodegradation	(No data available)
Stability in water	(No data available)

(Contd. on page 13)

Safety Data Sheet

acc. to OSHA HCS

Print Date 04/30/2015

Revision Date 04/30/2015

Trade Name: EP1330

(Contd. of page 12)

Bioaccumulation and Distribution

1344-28-1 Aluminum oxide

BCF	(Test species: n/a) (The substance is not bioaccumulative) Reference: Canada DSL (2007).
Koc	(No data available) As an inorganic and insoluble compound, mobility of the substance is expected to be very low.
LogPow	(No data available)

25068-38-6 Bisphenol-A-(epichlorohydrin) epoxy resin

BCF	0.56-42 (Cyprinus carpio) (The substance is low-bioaccumulative) BCF (28 days; Concentration: 10 µg/L) = 0.56 - 0.67, 3.3 - 4.2 BCF (28 days; Concentration: 1 µg/L) = 5.6 - 6.8, 33 - 42 Reference: CHRIP (2010).
Koc	1800 - 4400 L/kg (soil) Potential for mobility in soil is moderate. Reference: Dow (M)SDS (2010).
LogPow	3.7 - 3.9 (Test species: n/a) Reference: Dow (M)SDS (2010).

Epoxy Polyamine Adduct

Koc	(No data available)
LogPow	(No data available)

17557-23-2 Diglycidyl ether of neopentyl glycol

BCF	(Test species: n/a) The substance is not bioaccumulative. Reference: Canada DSL (2007).
Koc	(No data available)
LogPow	0.23 (Test species: n/a) Reference: CHRIP (2011).

Degradability and Bioaccumulation Assessment: Non-rapidly degradable, and low bioaccumulative.

Additional Information No further relevant information.

13 Disposal considerations

Hazardous Waste List

Description: It may be necessary to contain and dispose of the substance/mixture as a hazardous waste.

Waste Treatment Recommendation:

Generation of waste should be avoided or minimized wherever possible.

Chemical waste, even small quantities, is neither allowed to be poured down drains, sewage system or waterways; nor disposed with household garbage.

Dispose of contents/containers in accordance with local, regional, national, and international regulations.

Unused and Uncontaminated Packagings

Recommendation Dispose of according to your local waste regulations.

14 Transport information

UN-Number

DOT, ADR, IMDG, IATA UN3082

UN Proper Shipping Name

DOT, ADR, IMDG, IATA Environmentally hazardous substances, liquid, n.o.s. (Bisphenol-A-(epichlorohydrin) epoxy resin)

(Contd. on page 14)

Safety Data Sheet

acc. to OSHA HCS

Print Date 04/30/2015

Revision Date 04/30/2015

Trade Name: EP1330

(Contd. of page 13)

Transport hazard class(es)

· DOT, IMDG, IATA


 · Class
 · Label

 9 Miscellaneous dangerous substances and articles
 9

· ADR


 · Class
 · Label

 9 (M6) Miscellaneous dangerous substances and articles
 9

Packing group

· DOT, ADR, IMDG, IATA

III

Environmental Hazards:

· Marine Pollutant:

 Yes
 Symbol (fish and tree)

· Special Marking (ADR):

Symbol (fish and tree)

· Special Marking (IATA):

Symbol (fish and tree)

Special Precautions:

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:

· DOT

· Quantity limitations

 On passenger aircraft/rail: No limit
 On cargo aircraft only: No limit

· Remarks:

Special marking with the symbol (fish and tree).

· ADR

· Excepted quantities (EQ)

 Code: E1
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 1000 ml

· 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. (Bisphenol-A-epichlorohydrin) epoxy resin), 9, III

US

(Contd. on page 15)

Safety Data Sheet

acc. to OSHA HCS

Print Date 04/30/2015

Revision Date 04/30/2015

Trade Name: EP1330

(Contd. of page 14)

15 Regulatory information

USA Regulation Lists

SARA (Superfund Amendments and Reauthorization Act of 1986)

Section 302 (Extremely Hazardous Substances)

None of the ingredients is listed.

Section 313 (Toxics Release Inventory (TRI) reporting)

None of the ingredients is listed.

Section 311/312 (Hazardous Chemical Inventory Reporting)

25068-38-6	Bisphenol-A-(epichlorohydrin) epoxy resin	A, C	25-30%
1333-86-4	Carbon black	A, C	0.1-<1%

Hazard Abbreviations for SARA 311/312

- A - Acute Health Hazard
- C - Chronic Health Hazard
- F - Fire Hazard
- R - Reactive Hazard
- S - Sudden Release of Pressure Hazard

TSCA (Toxic Substances Control Act)

All ingredients are listed.

Proposition 65

Chemicals Known to Cause Cancer

1333-86-4	Carbon black
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

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.

IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

NTP (National Toxicology Program)

None of the ingredients is listed.

TLV (Threshold Limit Value Established by ACGIH)

1333-86-4	Carbon black	A4
-----------	--------------	----

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

None of the ingredients is listed.

International Regulation Lists

Canadian Domestic Substance Listings:

1344-28-1	Aluminum oxide
25068-38-6	Bisphenol-A-(epichlorohydrin) epoxy resin
17557-23-2	Diglycidyl ether of neopentyl glycol
67762-90-7	Siloxanes and Silicones, di-Me, reaction products with silica
1333-86-4	Carbon black

(Contd. on page 16)

Safety Data Sheet

acc. to OSHA HCS

Print Date 04/30/2015

Revision Date 04/30/2015

Trade Name: EP1330

(Contd. of page 15)

Canadian Ingredient Disclosure list (limit 0.1%)

None of the ingredients is listed.

Canadian Ingredient Disclosure list (limit 1%)

None of the ingredients is listed.

Chinese Chemical Inventory of Existing Chemical Substances:

1344-28-1	Aluminum oxide
25068-38-6	Bisphenol-A-(epichlorohydrin) epoxy resin
17557-23-2	Diglycidyl ether of neopentyl glycol
67762-90-7	Siloxanes and Silicones, di-Me, reaction products with silica
1333-86-4	Carbon black

Japanese Existing and New Chemical Substance List:

1344-28-1	Aluminum oxide
25068-38-6	Bisphenol-A-(epichlorohydrin) epoxy resin
17557-23-2	Diglycidyl ether of neopentyl glycol
67762-90-7	Siloxanes and Silicones, di-Me, reaction products with silica
1333-86-4	Carbon black

Korean Existing Chemical Inventory:

1344-28-1	Aluminum oxide
25068-38-6	Bisphenol-A-(epichlorohydrin) epoxy resin
17557-23-2	Diglycidyl ether of neopentyl glycol
67762-90-7	Siloxanes and Silicones, di-Me, reaction products with silica
1333-86-4	Carbon black

European Pre-registered substances:

1344-28-1	Aluminum oxide
25068-38-6	Bisphenol-A-(epichlorohydrin) epoxy resin
17557-23-2	Diglycidyl ether of neopentyl glycol
67762-90-7	Siloxanes and Silicones, di-Me, reaction products with silica
1333-86-4	Carbon black

REACH - Substances of Very High Concern (SVHC) List:

None of the ingredients is listed.

Restriction of Hazardous Substances Directive (RoHS) list:

None of the ingredients is listed.

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.

Department Issuing (M)SDS: Product Safety Department

Contact: msds@resinlab.com

Abbreviations and acronyms:

ACGIH: American Conference of Governmental Industrial Hygienists
 ACToR: US EPA Aggregated Computational Toxicology Resource
 ADR: European Agreement Concerning the International Carriage of Dangerous Goods by Road
 BCF: Bioconcentration Factor
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 CCRIS: US NLM TOXNET Chemical Carcinogenesis Research Information System
 CHRIP: Japan NITE Information on Biodegradation and Bioconcentration of the Existing Chemical Substances in the Chemical Risk Information Platform
 DOT: US Department of Transportation
 DSL: Canada Domestic Substance List

(Contd. on page 17)

US

Safety Data Sheet acc. to OSHA HCS

Print Date 04/30/2015

Revision Date 04/30/2015

Trade Name: EP1330

(Contd. of page 16)

ECHA: European Chemicals Agency's Dissemination portal with information on chemical substances registered under REACH
ESIS: European Chemical Substances Information System
HMS: US National Paint & Coatings Association (NPCA) Hazardous Materials Identification System
HSDB: US NLM TOXNET Hazardous Substances Databank
HSNO CCID: New Zealand Hazardous Substances and New Organisms Chemical Classification Information Database
IARC: International Agency for Research on Cancer developed by United Nations World Health Organisation (WHO)
IATA-DGR: Dangerous Goods Regulations (DGR) by the International Air Transport Association (IATA)
ICAO-TI: Technical Instructions (TI) by the International Civil Aviation Organization (ICAO)
ICSC: International Chemical Safety Cards
IMDG: International Maritime Dangerous Goods; the principal international rules for International Carriage of Dangerous Goods by SEA under the Recommendations on the Transport of Dangerous Goods by United Nations (RTDG)
IUCLID: EU REACH International Uniform Chemical Information Database
Koc: Partition coefficient, soil Organic Carbon to water
LC50/LD50: Lethal Concentration/Dose, 50 percent
N/a: Not available or Not applicable
NFPA: US National Fire Protection Association
NIOSH: US National Institute of Occupational Safety and Health
NITE: National Institute of Technology and Evaluation, Japan
NLM TOXNET: US National Library of Medicine Toxicology Data Network
OECD: Organisation for Economic Co-operation and Development
OSHA: US Occupational Safety and Health Administration
P: Marine Pollutant
RCRA: Resource Conservation and Recovery Act (USA)
REACH: EU Registry, Evaluation and Authorisation of Chemicals
RID: the Regulations Concerning the International Carriage of Dangerous Goods by Rail; published by the Central Office for International Carriage by Rail (OTIF)
RTDG: the Recommendations on the Transport of Dangerous Goods by United Nations (UN)
RTECS: US Registry of Toxic Effects of Chemical Substances
SARA: US Superfund Amendments and Reauthorization Act
SIDS: OECD existing chemicals Screening Information Data Sets
SVHC: EU ECHA Substance of Very High Concern
TEEL: Temporary Emergency Exposure Limit developed by US Subcommittee on Consequence Assessment and Protective Actions (SCAPA) of US Department of Energy (DOE)
TOXLINE: US NLM bibliographic database search system
TSCA: US Toxic Substance Control Act
ChemID (Full Record): US NLM Chemical Information Database (or its Full Record) designed to help search for information by chemical name or structure

Date of preparation / last revision 04/30/2015 / 1

US