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· **Product Identifier**
· **Trade Name:** **EP1290 GRAY A**
· **Application of the Substance or Mixture:** Epoxy Resin

· **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)

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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
Polymer of Epoxy resin and Bisphenol-A
· **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.

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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)**

Health = 2
Fire = 1
Reactivity = 0

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

· **HMIS System**
· **HMIS Ratings (scale 0 - 4)**

Health = 2
Fire = 1
Reactivity = 0

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

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3 Composition/information on ingredients

· **Chemical Characterization: Mixtures**

· Composition/Information on Ingredients		
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	60-70%
CAS: 25036-25-3 EC number: 607-500-3	Polymer of Epoxy resin and Bisphenol-A Skin Sens. 1, H317	5-<10%

· **Classification System:**
The Classifications were based on the Toxicological and Ecological Data of the substances/mixtures in the Section 11 and 12.

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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.

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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.

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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 (CO_2).
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.
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:
Phenolic compounds
Carbon dioxide (CO_2) and Carbon monoxide (CO)
Silicon oxide (SiO_2)
Titanium oxides
Aluminum oxide (Al_2O_3) dust, a serious respiratory irritant, may be formed during fires.

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Iron oxides

· **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** Ensure adequate and functional fire fighting facilities equipped in working area at all times.

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.
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.

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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.

· **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.

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

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8 Exposure controls/personal protection

· **Engineering Measures or Controls**

· Exposure Limit Values that Require Monitoring at the Workplace	
25036-25-3 Polymer of Epoxy resin and Bisphenol-A	
PEL	Short-term value: 5mg/m3 mg/m³ respirable particulate
TLV	Short-term value: 10mg/m3 mg/m³ inhalable particulate

· **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

· **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.

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9 Physical and chemical properties

· **Information on Basic Physical and Chemical Properties**

· **Appearance:**

· **Form:** Paste

· **Color:** Cream

· **Odor:** Mild epoxy odor

· **Odor Threshold:** Not determined.

· **PH-Value:** Not determined.

· **Change in Condition:**

· **Melting Point:** Not determined.

· **Boiling Point:** > 260 °C (> 500 °F)

· **Flash Point:** >113 °C (>235 °F)

· **Decomposition Temperature:** Not determined.

· **Flammability:** Not determined.

· **Explosion:** Not determined.

· **Explosion Limits:**

· **Lower:** Not determined.

· **Upper:** Not determined.

· **Vapor Pressure:** Not determined.

· **Vapor Density:** not determined

· **Density at 25 °C (77 °F):** 1.37 g/cm³ (11.433 lbs/gal)

· **Solubility in or Miscibility with**

· **Water:** Not miscible or difficult to mix.

· **Viscosity:**

· **Dynamic at 20 °C (68 °F):** 110000 mPas

· **Kinematic:** Not determined.

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

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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.

· **Possibility of Other Hazardous Reaction(s)** No further relevant information available.

· **Incompatible Material(s)**
Mercaptans
Amines.
Oxidizing agents, Acids, Bases

· **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.

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11 Toxicological information

· **Acute Toxicity**

· Oral		
25068-38-6 Bisphenol-A-(epichlorohydrin) epoxy resin		
Oral	LD50	11400 mg/kg (rat) 15600 mg/kg (mouse) Reference: NLM Toxnet (2010).
92704-41-1 Calcined Kaolin		
Oral	LD50	> 5000 mg/kg (rat) (EPA OPP81-1; Read-across from supporting substance (structural analogue or surrogate; no identification available)) All animals survived, and appeared active and healthy after a single oral administration of 5000 mg/kg bw of the substance. Reference: ECHA (2011).
25036-25-3 Polymer of Epoxy resin and Bisphenol-A		
Oral	LD50	11400 mg/kg (rat) (Read across from CAS 25068-38-6) > 2000 mg/kg (rat) Reference: ChemID (2010) and Dow (M)SDS (2003).

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

· Dermal		
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).
92704-41-1 Calcined Kaolin		
Dermal	LD50	> 5000 mg/kg (rat) (EPA OPP81-2; semiocclusive; Read-across from supporting substance (structural analogue or surrogate; no identification available)) All animals survived, gained weight, and appeared active and healthy after a single dermal administration with 5000 mg/kg bw of the test substance. Reference: ECHA (2011).
25036-25-3 Polymer of Epoxy resin and Bisphenol-A		
Dermal	LD50	20000 mg/kg (rabbit) (Read across from CAS 25068-38-6) Reference: NLM Toxnet (2010) and Royce (M)SDS (2012).

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

· Inhalative		
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)
92704-41-1 Calcined Kaolin		
Inhalative	LC50/4 h	(Test species: n/a) Due to the wetted form, inhalative effects of the substance can be seen as negligible
25036-25-3 Polymer of Epoxy resin and Bisphenol-A		
Inhalative	LC50/4 h	(Test species: n/a) (Toxicity not expected based on the acute oral data)

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

· Skin Corrosion or Irritation	
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).

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92704-41-1 Calcined Kaolin	
Corrosion/Irritation	(rabbit) (OECD TG 404; semiocclusive; Read-across from supporting substance (structural analogue or surrogate; no identification available)) Erythema and edema: 0 (Time-point: 24, 48 hrs and 72hrs; mean score of all treated animals) Thus, the substance was not irritating to rabbit skin. Reference: ECHA (2011).
25036-25-3 Polymer of Epoxy resin and Bisphenol-A	
Corrosion/Irritation	(No data available)

· **Potential Health Effect(s):**
Causes skin irritation.
In contact with skin, may cause:
redness and pain

· **Eye Serious Damage or Irritation**

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.
92704-41-1 Calcined Kaolin	
Damage/Irritation	(rabbit) (EPA OPPTS 870.2400; 0.1 mL neat substance; Read-across from supporting substance (structural analogue or surrogate; no identification available)) Cornea, iris, and chemosis: 0 (Time point: 24+48+72hrs; mean score of 3 rabbits) Conjunctiva: 0.33/3 (Max. 3; 1 out of 3 rabbits; Time point: 24 hrs); fully reversible in 48hrs Conjunctiva: 0 (Max. 3; 2 out of 3 rabbits; Time point: 24+48+72hrs) Thus, the substance was not irritating to rabbit eyes based on the classification criteria. Reference: ECHA (2011).
25036-25-3 Polymer of Epoxy resin and Bisphenol-A	
Damage/Irritation	(No data available)

· **Potential Health Effect(s):**
Causes serious eye irritation.
In contact with eye, may cause:
redness and pain

· **Respiratory or Skin Sensitization**

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)
92704-41-1 Calcined Kaolin		
Sensitization	Skin	not sensitizing (mouse) (OECD TG 429; Read-across from 1335-30-4) None of the measured parameters reached or exceeded the positive levels that can define sensitization by comparing the treated animals with the control groups. Reference: ECHA (2011).
	Respiratory	(Test species: n/a) Due to the wetted form, inhalative effects of the substance can be seen as negligible.
25036-25-3 Polymer of Epoxy resin and Bisphenol-A		
Sensitization	Skin	sensitizing (guinea pig) Based on the manufacture's (M)SDS, the substance is sensitizing to pig skin. (Read across from CAS 25068-38-6) Based on positive results from skin sensitization tests on human volunteers and guinea pigs, GHS-J classified the substance as a dermal sensitizer. Reference: Dow(M)SDS (2003) and GHS-J (2006).
	Respiratory	(No data available)

· **Potential Health Effect(s):**
May cause an allergic skin reaction.
No relevant information for respiratory sensitization; classification is not possible.

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· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

· **Germ Cell Mutagenicity**

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).

92704-41-1 Calcined Kaolin

Mutagenicity	(Test species listed below) (Read-across from supporting substance (structural analogue or surrogate; no identification available)) In Vitro (bacterial reverse mutation assay; TA97a, TA98, TA100, TA102, TA1535 Salmonella typhimurium; OECD TG 471) - negative with and without metabolic activation In Vitro (mammalian chromosome aberration test; human embryonic lung cultures) - negative without metabolic activation In Vitro (mammalian cell gene mutation assay; CHO-K1-BH4 (Chinese Hamster Ovary); OECD TG 476) - negative with and without metabolic activation In Vivo (chromosome aberration assay; rat; oral with up to 425 mg/kg bw; OECD TG 475) - negative; no detectable significant aberration of the bone marrow metaphase chromosomes was observed. Thus, the substance can be considered as non-mutagenic. Reference: ECHA (2011).

25036-25-3 Polymer of Epoxy resin and Bisphenol-A

Mutagenicity	(No data available)

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

· **Carcinogenicity**

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).

92704-41-1 Calcined Kaolin

Carcinogenicity	(rat) (Read-across from supporting substance (structural analogue or surrogate; no identification available)) NOAEL (Oral; OECD TG 453; 103 weeks; both males and females) = 1760 mg/kg bw/day: there was no adverse effect regarding carcinogenicity observed during the 103-week oral study. Thus, the substance was not classified as a carcinogen. Reference: ECHA (2011).

25036-25-3 Polymer of Epoxy resin and Bisphenol-A

Carcinogenicity	negative (Test species: n/a) (Not listed by ACGIH, IARC, NTP, or OSHA)

· **Potential Health Effect(s):** Not a known Carcinogen.

· **Reproductive Toxicity**

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).

92704-41-1 Calcined Kaolin

Reproductive Toxi.	negative (rabbit) (Read-across from supporting substance (structural analogue or surrogate; no identification available)) NOAEL (Maternal toxicity and teratogenicity; Oral; Day 6 to 18 of gestation) = 1600 mg/kg bw/day (maximum dose test). There was no developmental toxicity observed. Reference: ECHA (2011).

25036-25-3 Polymer of Epoxy resin and Bisphenol-A

Reproductive Toxi.	(No data available)

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

· Specific Target Organ Toxicity - Single Exposure	
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).
92704-41-1 Calcined Kaolin	
STOT-Single	(rat) (Read-across from supporting substance (structural analogue or surrogate; no identification available)) Target organ: None All animals survived, and appeared active and healthy after a single oral administration of 5000 mg/kg bw, or a single dermal application of 5000 mg/kg bw of the substance during a 14 day observation period. Reference: ECHA (2011).
25036-25-3 Polymer of Epoxy resin and Bisphenol-A	
STOT-Single	(No data available)

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

· Specific Target Organ Toxicity - Repeated Exposure	
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 leucylnaphthylamidase (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).
92704-41-1 Calcined Kaolin	
STOT-Repeated	negative (rat) (Read-across from supporting substance (structural analogue or surrogate; no identification available)) Target organ: None NOAEL (Oral; OECD TG 453; 103 weeks; both males and females) = 1760 mg/kg bw/day: there was no systemic effect observed during the 103-week oral study. The NOAEL was outside of guidance value ranges; not classified. Reference: ECHA (2011).
25036-25-3 Polymer of Epoxy resin and Bisphenol-A	
STOT-Repeated	(No data available)

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

· Aspiration Hazard	
25068-38-6 Bisphenol-A-(epichlorohydrin) epoxy resin	
Aspiration Hazard	(No data available)
92704-41-1 Calcined Kaolin	
Aspiration Hazard	(No data available)
25036-25-3 Polymer of Epoxy resin and Bisphenol-A	
Aspiration Hazard	(No data available)

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

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

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12 Ecological information

· Aquatic Environmental Toxicity	
25068-38-6 Bisphenol-A-(epichlorohydrin) epoxy resin	
Algae Toxicity	(No data available)

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Crustacean Toxicity	1.4 - 1.7 mg/l (Daphnia magna (water flea)) (EC50 (48 hrs))
Fish Toxicity	1.41 mg/l (Oryzias latipes (Rice fish)) (LC50 (96 hrs)) 3.1 mg/l (Pimephales promelas (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).
92704-41-1 Calcined Kaolin	
Algae Toxicity	> 100 mg/l (Scenedesmus subspicatus) (ErC50 (72 hrs); OECD TG 201)
Crustacean Toxicity	> 1 mg/l (Daphnia magna (water flea)) (EC50 (96 hrs); OECD TG 202)
Fish Toxicity	(Oncorhynchus mykiss (Rainbow trout)) LC50 (96 hrs; OECD TG 203 > 100 mg/L NOEC(30 day; growth rate) = 100 mg/L When considering all of the evidence, the substance is not classified as an environmental hazard. Reference: ECHA (2011) and IUCLID Dataset (2000).
25036-25-3 Polymer of Epoxy resin and Bisphenol-A	
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

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 cm³/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)
92704-41-1 Calcined Kaolin	
Biodegradation	(No data available) As an inorganic metal 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 metal compound, photodegradation of the substance is not expected.
Stability in water	(Test species: n/a) (Directive 84/449/EEC; abiotic; at 25 °C) Half-life (PH= 4, 7 and 9) > 1 year; the substance is expected to be hydrolytically stable. Reference: IUCLID Dataset (2000).
25036-25-3 Polymer of Epoxy resin and Bisphenol-A	
Biodegradation	(No data available)
Persistence	(Test species: n/a) (This substance is persistent) Reference: Canada DSL (2007).
Photodegradation	(No data available)
Stability in water	(No data available)

· Bioaccumulation and Distribution

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

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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).
92704-41-1 Calcined Kaolin	
BCF	(No data available) The substance is not bioaccumulative. Reference: Canada DSL (2007).
Koc	(No data available)
LogPow	(Not applicable)
25036-25-3 Polymer of Epoxy resin and Bisphenol-A	
BCF	(Test species: n/a) (The substance is low-bioaccumulative) Reference: Canada DSL (2007).
Koc	(No data available)
LogPow	(No data available)

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

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

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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.

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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)

· **Transport hazard class(es)**

· **DOT, IMDG, IATA**

· **Class** 9 Miscellaneous dangerous substances and articles

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· **Label** 9

· **ADR**

· **Class** 9 (M6) Miscellaneous dangerous substances and articles
· **Label** 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

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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.

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· Section 311/312 (Hazardous Chemical Inventory Reporting)

25068-38-6	Bisphenol-A-(epichlorohydrin) epoxy resin	A, C	60-70%
25036-25-3	Polymer of Epoxy resin and Bisphenol-A	C	5-<10%
2530-83-8	Glycidyloxypropyltrimethoxysilane	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

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

67-56-1	Methanol

· 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)
None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients is listed.

· International Regulation Lists

· Canadian Domestic Substance Listings:

25068-38-6	Bisphenol-A-(epichlorohydrin) epoxy resin
92704-41-1	Calcined Kaolin
25036-25-3	Polymer of Epoxy resin and Bisphenol-A
2530-83-8	Glycidyloxypropyltrimethoxysilane

· 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:
All ingredients are listed.

· Japanese Existing and New Chemical Substance List:
All ingredients are listed.

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· **Korean Existing Chemical Inventory:**
All ingredients are listed.

· **European Pre-registered substances:**
All ingredients are listed.

· **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.

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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
ECHA: European Chemicals Agency's Dissemination portal with information on chemical substances registered under REACH
ESIS: European Chemical Substances Information System
HMIS: 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

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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

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