

Safety Data Sheet acc. to OSHA HCS

Print Date 02/17/2015

Revision Date 02/17/2015

Product Identifier

Trade Name: EP1199 BLACK 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)

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 substance 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

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.
If eye irritation persists: Get medical advice/attention.

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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.

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: 25068-38-6 | Bisphenol-A-(epichlorohydrin) epoxy resin | 90-100% |
| NLP: 500-033-5 | Aquatic Chronic 2, H411 | |
| Index Number: 603-074-00-8 | Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317 | |

Classification System:

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

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.

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· **After Skin Contact**

Remove all contaminated clothing and wash before reuse.

Wash contaminated skin with water and soap and rinse thoroughly.

As quickly as possible remove contaminated clothing, shoes, and leather goods (e.g. watchbands, belts). Quickly and gently blot or brush away excess chemical. Immediately flush with lukewarm water for 15 minutes. Completely decontaminate clothing, shoes, and leather goods before reuse or discard. If irritation persists, obtain medical advice.

· **After Eye Contact**

Immediately bathe eyes for 15 minutes under running water.

Immediately remove contact lenses if present. Continue rinsing.

Seek medical treatment in case of complaints.

· **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.

· **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.

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

· **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.

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 (CO₂) and Carbon monoxide (CO)

· **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.

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Additional Information Ensure adequate and functional fire fighting facilities equipped in working area at all times.

6 Accidental release measures

Personal Precautions

Avoid contact with skin, eyes, and clothing.

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.

Absorb spills with inert materials like sand and or vermiculite.

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.

7 Handling and storage

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.

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

The substance/mixture does not contain any relevant quantities of substances with critical values that have to be monitored at the workplace.

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 skin contact.

Do not eat, drink or smoke during work.

Avoid any contact with the eye.

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.

9 Physical and chemical properties

Information on Basic Physical and Chemical Properties

Appearance:

Form:

Liquid

Color:

Black

Odor:

Mild epoxy odor

Odor Threshold:

Not determined.

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| | |
|--|---------------------------------------|
| PH-Value: | Not determined. |
| Change in Condition: | |
| Melting Point: | Not determined. |
| Boiling Point: | >260 °C (>500 °F) |
| Flash Point: | 252 °C (486 °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): | 1.16 g/cm ³ (9.68 lbs/gal) |
| Solubility in or Miscibility with | |
| Water: | Not miscible or difficult to mix. |
| Henry's Law Constant: | Not determined |
| Viscosity: | |
| Dynamic at 20 °C (68 °F): | 14000 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.
- **Possibility of Other Hazardous Reaction(s)** No further relevant information available.
- **Incompatible Material(s)**
 Amines.
 Mercaptans
 Oxidizing agents
 Acids
 Bases (Alkalis)
- **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). |
|-----------|---|

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). |
|-------------|--|

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) |
|---------------------|--|

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). |
|----------------------|--|

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. |
|-------------------|---|

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) |

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.

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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).

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).

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).

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

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).

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

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 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).

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)

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

Additional Information No further relevant information.

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). |

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 cm ³ /molecule-sec (OH radical) (Half-life (T _{1/2}) = 1.92 hrs) However, photolysis in water is negligible. Reference: Dow (M)SDS (2010). |
| Stability in water | (No data available) |

Bioaccumulation and Distribution

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). |

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

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· **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**
· **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):**
· **Special Marking (IATA):**

Symbol (fish and tree)
Symbol (fish and tree)

· **Special Precautions:**

Warning: Miscellaneous dangerous substances and articles

· **Danger Code (Kemler):**
· **EMS Number:**

90
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)**
· **Excepted quantities (EQ)**

5L
Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

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UN "Model Regulation":

UN3082, Environmentally hazardous substances, liquid, n.o.s. (Bisphenol-A-(epichlorohydrin) epoxy resin), 9, III

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 | 90-100% |
| 1333-86-4 | Carbon black (Wetted form) | 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

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 (Wetted form) | A4 |
|-----------|----------------------------|----|

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

None of the ingredients is listed.

International Regulation Lists
Canadian Domestic Substance Listings:

All ingredients are listed.

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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.

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.

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

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

NLM TOXNET: US National Library of Medicine Toxicology Data Network

NITE: National Institute of Technology and Evaluation, Japan

OECD: Organisation for Economic Co-operation and Development

OSHA: US Occupational Safety and Health Administration

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Safety Data Sheet

acc. to OSHA HCS

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*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**ECHA: European Chemicals Agency's Dissemination portal with information on chemical substances registered under REACH***Date of preparation / last revision** 02/17/2015 / 3

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