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acc. to OSHA HCS

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· **Product Identifier**
· **Trade Name:** **EP1195 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)

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2 Hazard(s) identification

· **Hazard Classification**

GHS08 Health hazard

Resp. Sens. 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Muta. 2	H341	Suspected of causing genetic defects.
Carc. 2	H351	Suspected of causing cancer.

GHS05 Corrosion

Eye Dam. 1	H318	Causes serious eye damage.

GHS09 Environment

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

GHS07

Skin Irrit. 2	H315	Causes skin 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)**

GHS05 GHS08 GHS09

· **Signal Word** Danger

· **Hazard-determining Component(s)**
Bisphenol-A-(epichlorohydrin) epoxy resin
Butylglycidylether
· **Hazard statements**
Causes skin irritation.
Causes serious eye damage.

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May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
Suspected of causing cancer.
Toxic to aquatic life with long lasting effects.

· **Precautionary statements**
Wear respiratory protection.
Avoid breathing dust/fume/gas/mist/vapors/spray
Wear protective gloves.
Wear eye protection / face protection.
Avoid release to the environment.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.
Specific treatment (see on this label).
If experiencing respiratory symptoms: Call a poison center/doctor.
Wash contaminated clothing before reuse.
If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
IF exposed or concerned: Get medical advice/attention.
If skin irritation or rash occurs: Get medical advice/attention.
If on skin: Wash with plenty of water.
Collect spillage.
Take off contaminated clothing and wash it before reuse.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Prevention**
In case of inadequate ventilation wear respiratory protection.
Avoid breathing dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection.
Use personal protective equipment as required.
Avoid release to the environment.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.

· **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.

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· **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	50-60%
CAS: 21645-51-2 EINECS: 244-492-7 RTECS: BD 0940000	Aluminum hydroxide	25-30%
CAS: 2426-08-6 EINECS: 219-376-4 Index Number: 603-039-00-7 RTECS: TX 4200000	Butylglycidylether Flam. Liq. 3, H226 Acute Tox. 3, H331 Resp. Sens. 1, H334; Muta. 2, H341; Carc. 2, H351 Eye Dam. 1, H318 Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317 Aquatic Chronic 3, H412	5-<10%
CAS: 14807-96-6 EINECS: 238-877-9 RTECS: WW2710000	Talc	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.

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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.
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
If breathing is difficult, administer oxygen.
Seek immediate medical advice.

· **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.
Seek immediate medical advice.

· **After Eye Contact**
Immediately rinse opened eyes for at least 15 minutes under running water.
Immediately remove contact lenses if present. Continue rinsing.
Do not put any ointments, oils or medication in eyes without specific instructions.
IMMEDIATELY transport victim to a hospital even if no symptoms develop.

· **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** Get medical advice/attention at once.

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· **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
respiratory system 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
Magnesium oxide (MgO)
Carbon dioxide (CO_2) and Carbon monoxide (CO)
Silicon oxide (SiO_2)
Aluminum oxide (Al_2O_3) 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.

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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.

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· **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.

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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.
Avoid any body contact of containers or contents unless wearing appropriate personal protective equipment.
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.
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.

· **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**

2426-08-6 Butylglycidylether	
PEL	Long-term value: 270 mg/m³, 50 ppm
REL	Ceiling limit value: 30 mg/m³, 5.6 ppm *15-min
TLV	Long-term value: 16 mg/m³, 3 ppm Skin; DSEN

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1333-86-4 Carbon black	
PEL	Long-term value: 3.5 mg/m³
REL	Long-term value: 3.5* mg/m³ *0.1 in presence of PAHs;See Pocket Guide Apps.A+C
TLV	Long-term value: 3* mg/m³ *inhalable fraction
71-36-3 1-Butyl alcohol	
PEL	Long-term value: 300 mg/m³, 100 ppm
REL	Ceiling limit value: 150 mg/m³, 50 ppm Skin
TLV	Long-term value: 61 mg/m³, 20 ppm
14808-60-7 Quartz	
PEL	see Quartz listing
REL	Long-term value: 0.05* mg/m³ *respirable dust; See Pocket Guide App. A
TLV	Long-term value: 0.025* mg/m³ *as respirable fraction

· **Additional Information for the Limit Values**
As a SUSPECTED CARCINOGEN, there may be NO safe level of exposure; reduce all contact to the lowest possible level.

· **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 skin or 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**

Brief or short term use: Tightly sealed goggles

Intensive or long term use: Tightly sealed goggles and Face Shields

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· **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:**	Liquid
· **Color:**	Black
· **Odor:**	Mild epoxy odor
· **Odor Threshold:**	Not determined.
· **PH-Value:**	Not determined.
· **Change in Condition:**	
· **Melting Point:**	Not determined.
· **Boiling Point:**	>165 °C (>329 °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.
· **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.
· **Segregation coefficient LogPow (n-octanol/ water):**	Not determined.
· **Viscosity:**	
· **Dynamic at 20 °C (68 °F):**	12000 mPas (Brookfield 4@10rpm@77F)
· **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** May polymerize when heated.

· **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)**
Oxidizing agents

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Acids
Chlorinated rubber
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).
21645-51-2 Aluminum hydroxide		
Oral	LD50	(rat) (LD0(OECD TG 401)>5000mg/kg: no death occurred) No mortality was observed after a single oral administration with 5000 mg/kg of the substance. Reference: ECHA (2011) and IUCLID Dataset (2000).
2426-08-6 Butylglycidylether		
Oral	LD50	1530 mg/kg (mouse) 1660 mg/kg (rat) Reference: NLM Toxnet (2011).
14807-96-6 Talc		
Oral	LD50	(No data available)

· **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).
21645-51-2 Aluminum hydroxide		
Dermal	LD50	(Test species: n/a) (Toxicity not expected based on acute oral data)
2426-08-6 Butylglycidylether		
Dermal	LD50	2290 mg/kg (rabbit) (Estimated from LD50 of 2.52mL/kg) > 2150mg/kg (rabbit) Reference: ChemID (2011).
14807-96-6 Talc		
Dermal	LD50	(Test species: n/a) (No adverse effects known) Reference: IUCLID Dataset (2000).

· **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)
21645-51-2 Aluminum hydroxide		
Inhalative	LC50/4 h	(Test species: n/a) (Toxicity not expected as a wetted form) Due to wetted form, inhalative effects of the substance can be seen as negligible.

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2426-08-6 Butylglycidylether		
Inhalative	LC50/4 h	10.96 mg/l (rat) (LC50/4 hrs; calculated from LC50/8 hrs of 1030 ppm) Reference: ChemID and EnviChem (2011).
14807-96-6 Talc		
Inhalative	LC50/4 h	(No data available) (Toxicity not anticipated under normal conditions)

· **Potential Health Effect(s):**
While not a classified inhalative acute toxicity hazard, the product may cause the following symptoms:
wheezing
incoordination
fainting
Not a classified acute inhalative hazard.
No further relevant information; classification is not possible.
cough, headache, sore throat, and passing out

· **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).
21645-51-2 Aluminum hydroxide	
Corrosion/Irritation	not irritating (rabbit) (OECD TG 404; semiocclusive; 4hr-contact; undiluted) Erythema and Edema: 0 (Time point: 24+48+72 hrs; mean score of all treated animals) Thus, the substance was not irritating to rabbit skin. Reference: ECHA (2011).
2426-08-6 Butylglycidylether	
Corrosion/Irritation	irritating (rabbit) (Draize test) Draize score was 3.3; thus, the substance was classified as a Category 2 skin irritant. irritating (human) Reference: HSNO CCID (2011).
14807-96-6 Talc	
Corrosion/Irritation	not irritating (Human) There was no or very slight irritation observed in humans. (rabbit) Primary cutaneous irritation tests showed no trace of irritation in rabbits. The substance was not classified as a dermal irritant. Reference: IUCLID Dataset (2000).

· **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.
21645-51-2 Aluminum hydroxide	
Damage/Irritation	slightly irrit. (rabbit) (OECD TG 405; 1hr-contact; undiluted powder) Conjunctivae: (0-1)/3 (Max. 3; Time point: 24 hrs; mean score of all treated animals) Conjunctivae: 0/3 (Max. 3; Time point: 48+72 hrs; mean score of all treated animals) Chemosis, Iris, and cornea: 0/3 (Time point: 24+48+72 hrs; mean score of all treated animals) slightly irritating (rabbit) (US FDA Draize and Kelly test; Read-across from CAS 1344-28-1) 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).
2426-08-6 Butylglycidylether	
Damage/Irritation	mildly irrit. (rabbit) The substance caused reversible damage to rabbit eyes when applied as drops. Reference: HSDB (2011).

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14807-96-6 Talc	
Damage/Irritation	mildly irritat. (rabbit) Slight irritation was observed after instilling the substance into conjunctival bags of rabbit eyes; the substance was classified as a mild eye irritant (Category 2B). Reference: IUCLID Dataset (2000).

· **Potential Health Effect(s):**
Causes serious eye damage.
In contact with eye, may cause:
decrease or loss of vision
redness, pain and severe deep burns

· **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)
21645-51-2 Aluminum hydroxide		
Sensitization	Skin	not sensitizing (guinea pig) (OECD TG 406; intradermal and epicutaneous) Skin sensitizing reaction was not observed; the substance was not classified as a skin sensitizer. Reference: ECHA (2011).
	Respiratory	(No data available) Due to wetted form, inhalative effects of the substance can be seen as negligible.
2426-08-6 Butylglycidylether		
Sensitization	Skin	sensitizing (Human) (Patch test) 5 out of 5 human subjects treated with neat substance showed positive reactions; 17 out of 25 human subjects treated with 10% concentrated solution of the substance showed positive reactions. Thus, the substance was classified as a skin sensitizer to humans. Reference: HSDB (2011).
	Respiratory	(No data available)
14807-96-6 Talc		
Sensitization	Skin	not sensitizing (Human) There were no sensitization effects in workers that were repeatedly exposed to the substance powder for many years. Reference: IUCLID Dataset (2000).
	Respiratory	(No data available)

· **Potential Health Effect(s):**
May cause an allergic skin reaction.
Repeated skin contact may cause dermatitis, skin rash or itchiness.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.

· **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).
21645-51-2 Aluminum hydroxide	
Mutagenicity	negative (rat) (In Vivo (micronucleus assay); OECD TG 474) In Vitro (mammalian cell gene mutation assay; OECD TG 476; mouse lymphoma L5178Y cells) - negative with and without metabolic activation. In Vivo (micronucleus assay; male rats; OECD TG 474; oral with up to 2000 mg/kg bw) - negative; the substance did not change the frequency of micronucleus in polychromatic erythrocytes in rat bone marrow. Reference: ECHA (2011).

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2426-08-6 Butylglycidylether	
Mutagenicity	positive (salmonella typhimurium) (In Vitro (Ames test)) Studies on Butyl Glycidyl Ether showed it to be mutagenic and genotoxic in bacterial and mammalian cell systems. (Germ cell mutagen Group 2) Royce SDS 2014. positive (Human) (In Vivo (DNA repair with mononucleated leukocytes)) negative (mouse) (In Vivo (Dominant lethal&Micronucleus assay)) REACh CLP, NIOSH ICSC, NJ-RTK, GHS-J, and NLM Toxnet all listed the substance as a suspected mutagen. When considering all of the evidence, the substance was classified as a suspected mutagen for safety reason. Reference: NLM CCRIS (2011) and GHS-J (2006).
14807-96-6 Talc	
Mutagenicity	negative (salmonella typhimurium) (In Vitro (Ames tests)) In Vitro (Ames tests in S. Typhimurium) - negative with and without metabolic activation. In Vitro (DNA damage and repair assay in rat pleural mesothelial cells) - negative In Vitro (Chromosomal aberrations in human W138 cells) - negative negative (rat) (In Vivo (chromosomal aberration&dominant lethal)) In Vivo (chromosomal aberration and dominant lethal mutations; rat; oral administration of 30 - 5000 mg/kg bw) - negative; the substance did not induce any mutagenic effects in rats. Reference: IUCLID Dataset (2000).

· **Potential Health Effect(s):** Suspected of causing genetic defects.

· 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).
21645-51-2 Aluminum hydroxide	
Carcinogenicity	negative (Human) (No cancer risks observed from human study reports) Based on human study reports, the substance was not associated with any cancer risks. (Test species: N/a) The substance was not regulated as a carcinogen by IARC, NTP, or OSHA. Reference: ECHA (2011).
2426-08-6 Butylglycidylether	
Carcinogenicity (dynamic)	N/A (Test species: n/a) The substance was listed as a suspected Carcinogen by IARC (Group 2). Reference: Royce SDS (2014) Substance is listed as Group 2 carcinogen by CLP regulations.
14807-96-6 Talc	
Carcinogenicity	negative (Human) The substance has been used as medication for pleural effusions and pneumothorax for over 60 years, and did not show an increased incidence of lung cancer, or any cases of mesothelioma in 210 patients. Thus, the substance was not expected to have a carcinogenic potential for humans. Reference: IUCLID Dataset (2000). IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Hydrous magnesium silicate) 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Hydrous magnesium silicate) NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

· **Potential Health Effect(s):** Suspected of causing cancer.

· 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).

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21645-51-2 Aluminum hydroxide	
Reproductive Toxi.	negative (rat) (OECD TG 414; oral; 10 day-treatment; twice/day) NOAEL (embryotoxicity and teratogenicity) = 266 mg/kg bw/day (maximum dose level): there was no developmental toxicity or embryotoxicity/teratogenicity potential observed. Reference: ECHA (2011).
2426-08-6 Butylglycidylether	
Reproductive Toxi.	Positive (Test species: n/a) (A known chemical to reproductive males) The substance was a listed chemical to male reproductive toxicity by California Proposition 65. Suspected of causing genetic defects. Royce SDS 2014.
14807-96-6 Talc	
Reproductive Toxi.	negative (Test species listed below) (No effect found in hamsters, rats, mice or rabbits) There were no teratological effects observed in hamsters, rats, mice or rabbits following a repeated oral administration with up to 1600 mg/kg/day of the substance. Reference: IUCLID Dataset (2000).

· **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).
21645-51-2 Aluminum hydroxide	
STOT-Single	Target: None (rat) (No mortality or any adverse effect observed) No mortality or any adverse effect was observed after a single oral administration of 2000 mg/kg to rats. Reference: ECHA (2011).
2426-08-6 Butylglycidylether	
STOT-Single	(mouse) (Respiratory tract irritation via Inhalation) Target Organs: Respiratory tract irritation (Category 3) Inhalation with 260 mg/m³ of the substance caused somnolence, dyspnea, and respiratory depression in mice. Reference: NLM Toxnet (2011) and ESIS CLP/GHS.
14807-96-6 Talc	
STOT-Single	(No data available)

· **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 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).
21645-51-2 Aluminum hydroxide	
STOT-Repeated	Target: None (rat) (OECD TG 407; neat substance; 28 days; oral) NOAEL (male rats) = 302 mg/kg bw/day: No mortality or any adverse effect was observed at daily doses up to 302 mg/kg body weight to rats. Reference: ECHA (2011).
2426-08-6 Butylglycidylether	
STOT-Repeated	(Test species: n/a) (Insufficient data for classification) NOAEL (Inhalation) = 0.52 mg/L/day. 1. Rats - Decreased body fat, thymic size, and lymphoid organs; abdominal and thoracic viscera; evidence of pneumonia and lethargy; emaciation; liver necrosis; significant increase in kidney/body and lung/body weight ratios; and high incidence of testicular atrophy and bronchopneumonia. 2. Rabbits - Decreased liver weights; decreased body fat and fecal material in GI tract; exudative rhinitis; and lethargy. 3. Mice - Decreased liver weights; decreases body fat, thymic size and lymphoid organs; postural and gait changes. No test method available; meanwhile, EU or HMIS didn't classify the substance as a chronic hazard. Without further information, classification is not possible. Reference: HPVIS (2011) and HSDB (2011).

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14807-96-6 Talc	
STOT-Repeated	(rat) (Target organs: None) No significant depression of mean lifespan was observed after a repeated oral application of 100 mg/day for 101 days to rats. Reference: IUCLID Dataset (2000).

· **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)
21645-51-2 Aluminum hydroxide	
Aspiration Hazard	(No data available)
2426-08-6 Butylglycidylether	
Aspiration Hazard	(No data available)
14807-96-6 Talc	
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)
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).
21645-51-2 Aluminum hydroxide	
Algae Toxicity	> 100 mg/l (Selenastrum capricornum) (NOEC (72 hrs); OECD TG 201)
Crustacean Toxicity (static)	> 100 mg/l (Daphnia magna (water flea)) (NOEC (48 hrs); OECD TG 202)
Fish Toxicity	> 100 mg/l (Brown trout (Salmo trutta or Sea trout)) (NOEC (96 hrs); OECD TG 203) The acute No Observed Effect Concentration (NOEC) for algae, crustacea and fish are all over 100 mg/L; the substance is not classified as an aquatic environmental hazard. Reference: IUCLID Dataset (2000).
2426-08-6 Butylglycidylether	
Algae Toxicity	35 mg/l (Selenastrum capricornum) (LC50 (96 hrs); OECD TG 201)
Crustacean Toxicity	3.9 mg/l (Daphnia magna (water flea)) (EC50 (48 hrs); OECD TG 202) Based on the acute EC50 < 10 mg/L and the rapid degradability, the substance is classified as a Chronic-3 environmental hazard. Reference: HPVIS (2011)
Fish Toxicity	(No data available)
14807-96-6 Talc	
Algae Toxicity	(No data available)
Crustacean Toxicity	(No data available)
Fish Toxicity	> 100000 mg/l (Brachydanio rerio (Zebra fish)) (LC50 (24 hrs), NFT90.303) The substance was classified as non-hazardous to aquatic environment. Reference: IUCLID Dataset (2000).

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

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· 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 (T1/2) = 1.92 hrs) However, photolysis in water is negligible. Reference: Dow (M)SDS (2010).
Stability in water	(No data available)

21645-51-2 Aluminum hydroxide

Biodegradation	non-biodegrad. (Test species: n/a) (Due to being persistent)
Persistence	(Test species: n/a) (The substance is persistent) Reference: Canada DSL (2007).
Photodegradation	(No data available)
Stability in water	(No data available)

2426-08-6 Butylglycidylether

Biodegradation	readily biodeg. (Test species: n/a) (Biodegradation (OECD TG 301C) ≥ 40%) Biodegradation (Direct Analysis from TOC and GC; 28 days) = 56% and 68% Biodegradation (Indirect Analysis from BOD; 28 days) = 40% The substance is readily biodegradable. Reference: CHRIP (2011).
Persistence	(Test species: n/a) (The substance is not persistent) Reference: Canada DSL (2007).
Photodegradation	1.99E-11 cm^3/molecule-sec (Test species: n/a) Half-life (1.5E6 OH/cm^3; calculated by EPIWIN program) = 6.47 hours Reference: NLM Toxnet (2011) and HPVIS (2011).
Stability in water	stable (Test species: n/a) (Half-life (OECD TG 111; PH=7) = 486.7 hours) Thus, the substance is hydrotically stable in the aquatic environment. Reference: HPVIS (2011).

14807-96-6 Talc

Biodegradation	(Test species: n/a) (biodegradation of the substance is not expected) As an inorganic metal compound, biodegradation of the substance is not expected.
Persistence	persistent (Test species: n/a) The substance is persistent. Reference: Canada DSL (2007).
Photodegradation	(Test species: n/a) (photodegradation of the substance is not expected) As an inorganic metal compound, photodegradation of the substance is not expected.
Stability in water	stable (Test species: n/a) The substance is expected to be hydrolytically stable in water. Reference: IUCLID Dataset (2000).

· 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).

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21645-51-2 Aluminum hydroxide	
BCF	(Test species: n/a) (The substance is not bioaccumulative) Reference: Canada DSL (2007).
Koc	(No data available)
LogPow	(No data available)
2426-08-6 Butylglycidylether	
BCF	3.16 (Test species: n/a) (The substance is not bioaccumulative) Reference: Canada DSL (2007) and CCR (2011).
Koc	(No data available)
LogPow	0.63 (Test species: n/a) Reference: NLM Toxnet (2011).
14807-96-6 Talc	
BCF	(Test species: n/a) (The substance is not bioaccumulative) Reference: Canada DSL (2007).
Koc	(No data available) As a natural component of soil when present, the substance has a strong potential to be absorbed to soil, sediment or sludge. The Koc value is expected be very low. Reference: IUCLID Dataset (2000).
LogPow	(Test species: n/a) (test of LogPow is not applicable) As an insoluble inorganic metal compound, test of LogPow is not applicable. Reference: IUCLID Dataset (2000).

· **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.

· **RCRA Waste:**

2426-08-6	Butylglycidylether	D001	5-<10%
71-36-3	1-Butyl alcohol	U031 (n-Butyl alcohol (I))	0.1-<1%

· **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**

· **ADR, IMDG, IATA** UN3082

· **UN Proper Shipping Name** Environmentally hazardous substance, liquid, N.O.S. (Bisphenol-A-(epichlorohydrin)epoxy resin)

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· **Transport hazard class(es)**

· **DOT, IMDG, IATA**

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

· **ADR**

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

· **Packing group**
· **DOT, ADR, IMDG, IATA** III

· **Environmental Hazards:** Product contains environmentally hazardous substances: Bisphenol-A-(epichlorohydrin) epoxy resin
· **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**
· **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)**

71-36-3	1-Butyl alcohol	0.1-<1%

· **Section 311/312 (Hazardous Chemical Inventory Reporting)**

25068-38-6	Bisphenol-A-(epichlorohydrin) epoxy resin	A, C	50-60%
2426-08-6	Butylglycidylether	A, C, F	5-<10%
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)**

25068-38-6	Bisphenol-A-(epichlorohydrin) epoxy resin
21645-51-2	Aluminum hydroxide
2426-08-6	Butylglycidylether
14807-96-6	Talc
1333-86-4	Carbon black
71-36-3	1-Butyl alcohol
14808-60-7	Quartz

· **Proposition 65**

· **Chemicals Known to Cause Cancer**

1333-86-4	Carbon black
14808-60-7	Quartz
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)**

71-36-3	1-Butyl alcohol	D

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

14807-96-6	Talc	2B
14808-60-7	Quartz	1

· **NTP (National Toxicology Program)**

14808-60-7	Quartz	K

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

14807-96-6	Talc	A4
1333-86-4	Carbon black	A4

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14808-60-7	Quartz	A2

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

14808-60-7	Quartz

· **International Regulation Lists**

· **Canadian Domestic Substance Listings:**

25068-38-6	Bisphenol-A-(epichlorohydrin) epoxy resin
21645-51-2	Aluminum hydroxide
14807-96-6	Talc
1333-86-4	Carbon black
71-36-3	1-Butyl alcohol
14808-60-7	Quartz

· **Canadian Ingredient Disclosure list (limit 0.1%)**

2426-08-6	Butylglycidylether

· **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.

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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
ADR: European Agreement Concerning the International Carriage of Dangerous Goods by Road
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DOT: US Department of Transportation
HMIS: US National Paint & Coatings Association (NPCA) Hazardous Materials Identification System
IARC: International Agency for Research on Cancer developed by United Nations World Health Organisation (WHO)
ICAO-TI: Technical Instructions (TI) by the International Civil Aviation Organization (ICAO)
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)
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
OSHA: US Occupational Safety and Health Administration
P: Marine Pollutant

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RCRA: Resource Conservation and Recovery Act (USA)
REACh: EU Registry, Evaluation and Authorisation of Chemicals
SARA: US Superfund Amendments and Reauthorization Act
TEEL: Temporary Emergency Exposure Limit developed by US Subcommittee on Consequence Assessment and Protective Actions (SCAPA) of US Department of Energy (DOE)
TSCA: US Toxic Substance Control Act
ACToR: US EPA Aggregated Computational Toxicology Resource
BCF: Bioconcentration Factor
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
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
HSDB: US NLM TOXNET Hazardous Substances Databank
HSNO CCID: New Zealand Hazardous Substances and New Organisms Chemical Classification Information Database
IATA-DGR: Dangerous Goods Regulations (DGR) by the International Air Transport Association (IATA)
ICSC: International Chemical Safety Cards
IUCLID: EU REACh International Uniform Chemical Information Database
Koc: Partition coefficient, soil Organic Carbon to water
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
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
SIDS: OECD existing chemicals Screening Information Data Sets
SVHC: EU ECHA Substance of Very High Concern
TOXLINE: US NLM bibliographic database search system

· **Date of preparation / last revision** *05/04/2015 / 2*