

Safety Data Sheet

According to 1907/2006/EC (REACH) and 1272/2008/EC (CLP)

Printing Date: 9/9/2016

Revision: 9/9/2016

Trade Name: E100-RT1™ COLD TEMP EPOXY - Part B

1 Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade Name: E100-RT1™ COLD TEMP EPOXY - Part B

1.2 Article No.: E100-RT1™ Part B

1.3 Details of the supplier of the Safety Data Sheet Manufacturer/Supplier:

Elite Crete Systems
1151 Transport Drive,
Valparaiso, IN 46383
Toll Free: 888.323.4445
Tel: (219) 465-7671
Fax: (219) 531-0898
www.elitecrete.com

1.4 Emergency telephone number:

CHEMTREC US DOMESTIC: (800-424-9300)
CHEMTREC INTERNATIONAL: (703-527-3887)
CANUTEC, CA DOMESTIC: (613-996-6666)

2 Hazards identification

2.1 Classification of the substance or mixture

Hazard classification

This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Acute toxicity - Category 4 - Oral
Acute toxicity - Category 4 - Dermal
Skin corrosion - Category 1A
Serious eye damage - Category 1
Skin sensitisation - Category 1

Label elements

Hazard pictograms Labeling according to Regulation (EC) No 1272/2008:

Hazard pictograms:



GHS05



GHS07



GHS09

word: **DANGER!**

Hazards

Harmful if swallowed or in contact with skin
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.

Precautionary statements

Prevention

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.

Safety Data Sheet

According to 1907/2006/EC (REACH) and 1272/2008/EC (CLP)

Printing Date: 9/9/2016

Revision: 9/9/2016

Trade Name: E100-RT1™ COLD TEMP EPOXY - Part B

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.

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 or doctor/ physician.

If skin irritation or rash occurs: Get medical advice/ attention.

Wash contaminated clothing before reuse.

Storage

Store locked up.

Disposal

Dispose of contents/ container to an approved waste disposal plant.

Other hazards

no data available

Hazard description:

Canadian WHMIS Classification:

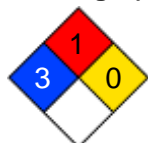
D2B – Toxic material causing other toxic effects.

E – Corrosive material

WHMIS-symbols:



NFPA ratings (scale 0 – 4)



Health = 3
Fire = 1
Reactivity = 0

HMIS-ratings (scale 0 – 4)

| | |
|------------|---|
| Health | 3 |
| Fire | 1 |
| Reactivity | 0 |

Health = 3
Fire = 1
Reactivity = 0

2.3 Other hazards

No known

3 Composition/information on ingredients

3.2 Mixture.

Description: Mixture of substances listed below with nonhazardous additives.

Hazardous components:

| Identification # | Description | WT. % |
|-------------------------------------|---|----------|
| CAS: 2579-20-6 EINECS: | 1,3,-Cyclohexanebis (Methylamine) HAZARD CLASSIFICATION: [C] Corrosive. [N] Dangerous to the Environment RISK PHRASES: R34, R51/53 | 25–<50% |
| CAS: 1477-55-0 EINECS: 216-032-5 | Benzene-1,3-dimethanamine HAZARD CLASSIFICATION: [C] Corrosive RISK PHRASES: R34 | 20–< 35% |
| | | |

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Revision: 9/9/2016

Trade Name: E100-RT1™ COLD TEMP EPOXY - Part B

| | | |
|--------------------------------------|--|---------|
| CAS: 69-72-7 EINECS: | Salicylic acid HAZARD CLASSIFICATION: [Xn] Harmful RISK PHRASES: R37, R43 | 5-<15% |
| CAS: 25154-52-3 EINECS: 246-672-0 | Nonyl Phenol HAZARD CLASSIFICATION: Repr Cat 3, [Xn] Harmful, [C] Corrosive, [N] Dangerous to the Environment RISK PHRASES: R22, R62, R63, R34, R50/53 | 1 – <5% |
| CAS: 61788-44-1 | Styrenated phenol HAZARD CLASSIFICATION: (Xn) Harmful RISK PHRASES: R36/38; Xi R43; N51/53; Aquatic Chronic 3, H412; Skin Irrit. 1C, H314, Eye Irrit. 2,H319, Skin Sens 1, H317 | 10-<25% |

Additional information: Balance of other ingredients are non-hazardous or less than 1% in concentration (or 0.1% for carcinogens, reproductive toxins, or respiratory sensitizers).

4 First aid measures

4.1 Description of first aid measures

Description of first aid measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air; if effects occur, consult a physician.

Skin contact: Immediate continued and thorough washing in flowing water for at least 30 minutes is imperative while removing contaminated clothing. Prompt medical consultation is essential. Wash clothing before reuse. Properly dispose of leather items such as shoes, belts, and watchbands. Suitable emergency safety shower facility should be immediately available.

Eye contact: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: Do not induce vomiting. Give one cup (8 ounces or 240 ml) of water or milk if available and transport to a medical facility. Do not give anything by mouth unless the person is fully conscious.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If burn is present, treat as any thermal burn, after decontamination. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

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Printing Date: 9/9/2016

Revision: 9/9/2016

Trade Name: E100-RT1™ COLD TEMP EPOXY - Part B

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable extinguishing media: Do not use direct water stream. May spread fire.

Special hazards arising from the substance or mixture

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections environmentally sensitive areas.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Evacuate area. Only trained and properly protected personnel must be involved in clean-up operations. Keep upwind of spill. Ventilate area of leak or spill. Refer to section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Absorb with materials such as: Sand. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

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Printing Date: 9/9/2016

Revision: 9/9/2016

Trade Name: E100-RT1™ COLD TEMP EPOXY - Part B

7 Handling and storage

7.1 Precautions for safe handling

As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat, drink, smoke, or apply cosmetics while handling this product. Avoid breathing vapors/mists generated by this product. Use in a well-ventilated location. Remove contaminated clothing immediately.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles:

Store between 5° and 300C and avoid contact with skin and eyes. Do not store near acids. Ground all transfer equipment. Hold bulk storage under a nitrogen blanket. This product should not come in contact with copper or copper-bearing alloys. Containers of this product must be properly labeled. Nitrogen purging of containers is ideal and good practice.

7.3 Specific end use(s): No information

8 Exposure controls/personal protection

Additional information about design of technical facilities:

Use with adequate ventilation to ensure exposure levels are maintained below the limits provided above. Use local exhaust ventilation to control airborne vapor. Ensure eyewash/safety shower stations are available near areas where this product is used.

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

Currently, International exposure limits are not established for the components of this product. Please check with competent authority in each country for the most recent limits in place.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132) or equivalent standard of Canada, or standards of EU member states (including EN 149 for respiratory PPE, and EN 166 for face/eye protection), and those of Japan. Please reference applicable regulations and standards for relevant details.

Respiratory protection: Maintain airborne contaminant concentrations below guidelines listed above, if applicable. If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, Canadian CSA Standard Z94.4-93, the European Standard EN149, or EU member states.

Protection of hands: Use chemical resistant gloves to prevent skin contact. If necessary, refer to U.S. OSHA 29 CFR 1910.138 or appropriate Standards of Canada.



Protective gloves

Material of gloves:

The selection of suitable gloves does not only depend on the material, but also on the quality, and varies from manufacturer to manufacturer.

Eye protection: Safety glasses or chemical goggles as appropriate to prevent eye contact. If necessary, refer to U.S. OSHA 29 CFR 1910.133 or appropriate Canadian Standards.



Safety goggles

Body Protection:

Use body protection appropriate to prevent contact (e.g. lab coat, overalls). If necessary, refer to appropriate Standards of Canada, or appropriate Standards of the EU, Australian Standards, or relevant Japanese Standards.

Safety Data Sheet

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Printing Date: 9/9/2016

Revision: 9/9/2016

Trade Name: E100-RT1™ COLD TEMP EPOXY - Part B

9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form: Liquid
Color: Straw to dark brown
Odor: Ammonia like odor
Odor threshold: Not Available

pH-value: 8-11

Change in condition

Melting point/Melting range: No data available
Boiling point/Boiling range: >392°F (200°C)

Flash point: >392°F (>200°C)

Flammability (solid, gaseous): No data available

Auto/Self-ignition temperature: Not established

Decomposition temperature: No data available

Self-igniting: No data available

Danger of explosion: This product is a flammable liquid above flash point shown above.

Explosion limits

Lower: Not established
Upper: Not established

Vapor pressure at 20 °C: <5hPa @ 122°F (50°C)

Density at 20°C: 1.035

Relative density: 8.62 pounds per gallon @ 25°C

Vapor density: No data available

Evaporation rate: No data available

Solubility in / Miscibility with Water: Not Available

Specific Gravity 20oC: (Water = 1): 1.04

Viscosity:

Dynamic: No data available
Kinematic: 600 cSt @ 77°F (25°C) ASTM D 445

Solvent content:

Organic solvents: No data available
VOC (EC) 0.0

9.2 Other information No data available

Safety Data Sheet

According to 1907/2006/EC (REACH) and 1272/2008/EC (CLP)

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Revision: 9/9/2016

Trade Name: E100-RT1™ COLD TEMP EPOXY - Part B

10 Stability and reactivity

10.1 Reactivity

10.2 Chemical stability: Product is stable

Thermal decomposition / conditions to be avoided: When heated to decomposition this product produces noxious gases such as CO, CO₂, NO_x, amines, ammonia and others.

10.3 Possibility of hazardous reactions: No data available

10.4 Conditions to avoid: Contact with incompatible materials

10.5 Incompatible materials: Oxidizing agents and amines should be avoided as these will cause exothermic polymerization. Avoid extreme heat

10.6 Hazardous decomposition products: Will not occur

11 Toxicological information

Toxicological information on this product or its components appear in this section when such data is available.

Acute toxicity

Acute oral toxicity

Low toxicity if swallowed. Swallowing may result in gastrointestinal irritation or ulceration. Swallowing may result in burns of the mouth and throat.

As product: Single dose oral LD₅₀ has not been determined. Based on information for component(s): LD₅₀, Rat, > 1,000 mg/kg Estimated.

Acute dermal toxicity

Prolonged or widespread skin contact may result in absorption of potentially harmful amounts.

As product: The dermal LD₅₀ has not been determined. Based on information for component(s): LD₅₀, Rabbit, > 1,000 mg/kg Estimated.

Acute inhalation toxicity

Vapor may cause severe irritation of the upper respiratory tract (nose and throat). Mist may cause irritation of upper respiratory tract (nose and throat).

The LC₅₀ has not been determined.

Skin corrosion/irritation

Brief contact may cause severe skin burns. Symptoms may include pain, severe local redness and tissue damage.

Serious eye damage/eye irritation

May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Vapor may cause severe eye irritation.

Sensitization

A component in this mixture has caused allergic skin reactions in humans.

Contains component(s) which have demonstrated the potential for contact allergy in mice.

Contains component(s) which have caused allergic skin sensitization in guinea pigs.

Individuals having an allergic skin reaction to this product may have an allergic skin reaction to similar material(s).

The similar material(s) is/are:

Triethylenetetramine (TETA).

Aminoethylethanolamine (AEEA).

Piperazine.

For respiratory sensitization:

Relevant data not available.

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Safety Data Sheet

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Revision: 9/9/2016

Trade Name: E100-RT1™ COLD TEMP EPOXY - Part B

Specific Target Organ Systemic Toxicity (Repeated Exposure)

For the component(s) tested:

In humans, effects have been reported on the following organs:

Heart.

Kidney.

Liver.

Spleen.

In animals, effects have been reported on the following organs:

Thyroid.

Nervous system.

Respiratory tract.

Central nervous system.

Gastrointestinal tract.

Based on information for component(s):

May cause methemoglobinemia, thereby impairing the blood's ability to transport oxygen.

Carcinogenicity

Contains component(s) which did not cause cancer in laboratory animals.

Teratogenicity

Contains component(s) which caused birth defects in laboratory animals only at doses toxic to the mother.

Contains component(s) which did not cause birth defects in laboratory animals.

Reproductive toxicity

Contains component(s) which did not interfere with reproduction in animal studies.

Mutagenicity

Contains component(s) which were negative in some in vitro genetic toxicity studies and positive in others.

Contains a component(s) which were negative in in vitro genetic toxicity studies. Contains component(s) which were negative in animal genetic toxicity studies.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

COMPONENTS INFLUENCING TOXICOLOGY:

Styrenated phenol

Acute inhalation toxicity

Mist may cause irritation of upper respiratory tract (nose and throat).

Salicylic acid

Acute inhalation toxicity

The LC50 has not been determined.

1,3-Cyclohexanebis(methylamine)

Acute inhalation toxicity

As product: The LC50 has not been determined.

Vapor may cause severe irritation of the upper respiratory tract (nose and throat).

Aminoethylpiperazine

Acute inhalation toxicity

The LC50 has not been determined. 8 Hour, vapour, No deaths occurred following exposure to a saturated atmosphere.

1,3-Dihydroxybenzene

Acute inhalation toxicity

At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous.

LC0, Rat, female, 1 Hour, dust/mist, 1.732 mg/l No deaths occurred at this concentration.

1,3-Benzenedimethanamine

Acute inhalation toxicity

Prolonged excessive exposure may cause serious adverse effects, even death. Excessive exposure may cause severe irritation to upper respiratory tract (nose and throat) and lungs. Salivation.

LC50, Rat, 4 Hour, dust/mist, 1.34 mg/l

Safety Data Sheet

According to 1907/2006/EC (REACH) and 1272/2008/EC (CLP)

Printing Date: 9/9/2016

Revision: 9/9/2016

Trade Name: E100-RT1™ COLD TEMP EPOXY - Part B

12 Ecological information

Ecotoxicological information on this product or its components appear in this section when such data is available.

Toxicity

Styrenated phenol

Acute toxicity to fish

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LL50, Brachydanio rerio (zebrafish), semi-static test, 96 Hour, 14.8 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates

EL50, Daphnia magna, Static, 48 Hour, > 1 - 10 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants

EL50, Desmodesmus subspicatus (green algae), Static, 72 Hour, 3.14 mg/l, OECD Test Guideline 201

Chronic toxicity to fish

NOEC, Oryzias latipes (Orange-red killifish), flow-through, 14 d, 1.9 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, Daphnia magna, 21 d, 0.2 mg/l

Salicylic acid

Acute toxicity to fish

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

LC50, emerald shiner (Notropis atherinoides), 96 Hour, > 150 mg/l, Method Not Specified.

LC50, Leuciscus idus (Golden orfe), static test, 48 Hour, 90 mg/l, Method Not Specified.

Acute toxicity to aquatic invertebrates

LC50, Daphnia magna (Water flea), 24 Hour, 105 - 230 mg/l, Method Not Specified.

Toxicity to bacteria

EC50, activated sludge, 3 Hour, > 3,200 mg/l, OECD 209 Test

1,3-Cyclohexanebis(methylamine)

Acute toxicity to fish

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

LC50, Leuciscus idus (Golden orfe), 96 Hour, > 100 mg/l, Method Not Specified.

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, 29 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition, 276 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to soil-dwelling organisms

EC50, Eisenia fetida (earthworms), 14 d, growth, >= 1,000 mg/kg

Aminoethylpiperazine

Acute toxicity to fish

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

LC50, Pimephales promelas (fathead minnow), static test, 96 Hour, 2,190 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), static test, 48 Hour, 58 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition, > 1,000 mg/l, OECD Test Guideline 201 or Equivalent

1,3-Dihydroxybenzene

Acute toxicity to fish

Safety Data Sheet

According to 1907/2006/EC (REACH) and 1272/2008/EC (CLP)

Printing Date: 9/9/2016

Revision: 9/9/2016

Trade Name: E100-RT1™ COLD TEMP EPOXY - Part B

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50, Oncorhynchus mykiss (rainbow trout), flow-through test, 96 Hour, > 100 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

LC50, Daphnia magna (Water flea), 48 Hour, 1.28 mg/l

EC50, Daphnia magna (Water flea), static test, 48 Hour, <0.8 mg/l

Acute toxicity to algae/aquatic plants

ErC50, alga Scenedesmus sp., 96 Hour, Growth rate inhibition, 60 mg/l

EC50, Chlorella pyrenoidosa (aglae), 72 Hour, Growth rate, 1.1 mg/l, Method Not Specified.

1,3-Benzenedimethanamine

Acute toxicity to fish

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

LC50, Leuciscus idus (Golden orfe), 96 Hour, 75 mg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), static test, 48 Hour, 15.2 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

EC50, alga Scenedesmus sp., static test, 72 Hour, Biomass, 12 mg/l, OECD Test Guideline 201 or Equivalent

Chronic toxicity to aquatic invertebrates

NOEC, Daphnia magna (Water flea), 21 d, number of offspring, 4.7 mg/l

Persistence and degradability

Styrenated phenol

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

For similar material(s):

Biodegradation: 4 %

Method: OECD Test Guideline 310

Salicylic acid

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Not applicable

Biodegradation: 88.1 %

Exposure time: 14 d

Method: OECD Test Guideline 301C or Equivalent

Theoretical Oxygen Demand: 1.62 mg/mg

Photodegradation

Test Type: Half-life (indirect photolysis)

Sensitizer: OH radicals

Atmospheric half-life: 0.823 d

Method: Estimated.

1,3-Cyclohexanebis(methylamine)

Biodegradability: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

10-day Window: Fail

Biodegradation: 29 %

Exposure time: 28 d

Method: OECD Test Guideline 301B or Equivalent

10-day Window: Not applicable

Biodegradation: 92 - 96 %

Exposure time: 28 d

Method: OECD Test Guideline 303A or Equivalent

Theoretical Oxygen Demand: 3.37 mg/mg

Aminoethylpiperazine

Safety Data Sheet

According to 1907/2006/EC (REACH) and 1272/2008/EC (CLP)

Printing Date: 9/9/2016

Revision: 9/9/2016

Trade Name: E100-RT1™ COLD TEMP EPOXY - Part B

Biodegradability: Material is not readily biodegradable according to OECD/EEC guidelines.

10-day Window: Fail

Biodegradation: 0 %

Exposure time: 28 d

Method: OECD Test Guideline 301F or Equivalent

Theoretical Oxygen Demand: 3.34 mg/mg

Chemical Oxygen Demand: 1.84 mg/mg

Photodegradation

Atmospheric half-life: 0.05 d

Method: Estimated.

1,3-Dihydroxybenzene

Biodegradability: Material is expected to be readily biodegradable.

10-day Window: Not applicable

Biodegradation: 66.7 %

Exposure time: 14 d

Method: OECD Test Guideline 301C or Equivalent

10-day Window: Not applicable

Biodegradation: 97 %

Exposure time: 4 d

Method: OECD Test Guideline 302B or Equivalent

10-day Window: Not applicable

Biodegradation: 88.1 %

Exposure time: 14 d

Method: OECD Test Guideline 301C or Equivalent

Theoretical Oxygen Demand: 1.62 mg/mg

Photodegradation

Test Type: Half-life (indirect photolysis)

Sensitizer: OH radicals

Atmospheric half-life: 0.823 d

Method: Estimated.

1,3-Cyclohexanebis(methylamine)

Biodegradability: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

10-day Window: Fail

Biodegradation: 29 %

Exposure time: 28 d

Method: OECD Test Guideline 301B or Equivalent

10-day Window: Not applicable

Biodegradation: 92 - 96 %

Exposure time: 28 d

Method: OECD Test Guideline 303A or Equivalent

Theoretical Oxygen Demand: 3.37 mg/mg

Aminoethylpiperazine

Biodegradability: Material is not readily biodegradable according to OECD/EEC guidelines.

10-day Window: Fail

Biodegradation: 0 %

Exposure time: 28 d

Method: OECD Test Guideline 301F or Equivalent

Theoretical Oxygen Demand: 3.34 mg/mg

Chemical Oxygen Demand: 1.84 mg/mg

Photodegradation

Atmospheric half-life: 0.05 d

Method: Estimated.

Safety Data Sheet

According to 1907/2006/EC (REACH) and 1272/2008/EC (CLP)

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Revision: 9/9/2016

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1,3-Dihydroxybenzene

Biodegradability: Material is expected to be readily biodegradable.

10-day Window: Not applicable

Biodegradation: 66.7 %

Exposure time: 14 d

Method: OECD Test Guideline 301C or Equivalent

10-day Window: Not applicable

Biodegradation: 97 %

Exposure time: 4 d

Method: OECD Test Guideline 302B or Equivalent

10-day Window: Not applicable

Biodegradation: 90 - 95 %

Exposure time: 7 - 15 d

Method: OECD Test Guideline 302B or Equivalent

Theoretical Oxygen Demand: 1.89 mg/mg

| Biological oxygen demand (BOD) Incubation Time | BOD |
|--|----------|
| 5 d | 75.000 % |
| 10 d | 79.000 % |
| 20 d | 90.000 % |

Theoretical Oxygen Demand: 3.17 mg/mg

Photodegradation

Test Type: Half-life (indirect photolysis)

Sensitizer: OH radicals

Atmospheric half-life: 0.15 d

Method: Estimated.

Bioaccumulative potential

Styrenated phenol

Bioaccumulation: No relevant data found.

Salicylic acid

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 2.26 Measured

1,3-Cyclohexanebis(methylamine)

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 0.44 OECD Test Guideline 107 or Equivalent

Aminoethylpiperazine

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): -1.48 Measured

1,3-Dihydroxybenzene

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 0.8 - 0.97 Estimated.

1,3-Benzenedimethanamine

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 0.18 OECD Test Guideline 107 or Equivalent

Bioconcentration factor (BCF): < 3 Cyprinus carpio (Carp) 42 d Measured

Mobility in soil

Styrenated phenol

No relevant data found.

Salicylic acid

Potential for mobility in soil is very high (Koc between 0 and 50).

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Partition coefficient(Koc): 24 Estimated.

1,3-Cyclohexanebis(methylamine)

Potential for mobility in soil is high (Koc between 50 and 150).

Safety Data Sheet

According to 1907/2006/EC (REACH) and 1272/2008/EC (CLP)

Printing Date: 9/9/2016

Revision: 9/9/2016

Trade Name: E100-RT1™ COLD TEMP EPOXY - Part B

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Partition coefficient(Koc): > 141 - 832 Measured

Aminoethylpiperazine

Expected to be relatively immobile in soil (Koc > 5000).

Partition coefficient(Koc): 37000 Estimated.

1,3-Dihydroxybenzene

No relevant data found.

1,3-Benzenedimethanamine

Potential for mobility in soil is low (Koc between 500 and 2000).

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Partition coefficient(Koc): 910 Estimate

13 Disposal considerations

13.1 Waste treatment methods

Recommendations:

Waste disposal must be in accordance with appropriate Federal, State, and local regulations, those of Canada, Australia, EU Member States and Japan.

RCRA WASTE CODE: D002

EU WASTE CODE: To Be Established

14 Transport information

14.1 UN-Number

DOT: CAN: ADN: IMDG: IATA: UN 2735

ADR UN2735

14.2 UN proper shipping name

DOT: CAN: ADN: IMDG: IATA: Amines, liquid, corrosive, n.o.s.(1,3-Cyclohexanebis(methylamine), 1,3-benzenedimethanamine)

ADR

14.3 Transport hazard class(es)

DOT: CAN: ADN: IMDG: IATA:

CLASS: 8 Corrosive substances

LABELS:



ADR:

CLASS: 8 (C7) Corrosive substances

LABELS:



Safety Data Sheet

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Printing Date: 9/9/2016

Revision: 9/9/2016

Trade Name: E100-RT1™ COLD TEMP EPOXY - Part B

14.4 Packing group

DOT: CAN: ADR: ADN: IMDG: IATA: **PG 1**

14.5 Environmental hazards:

Marine pollutant:

YES

Special marking (ADR)



14.6 Special precautions for user

Danger code (Kemler):

EMS Number:

Warning Corrosive substances

80

F-A,S-B

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:

No data available

Transport/Additional information

ADR

Limited Quantities (LQ)

Excepted Quantities (EQ)

5L

Code E1

Maximum net quantity per inner packaging 30 ml

Maximum net quantity per outer packaging 1000ml

Transport category

Tunnel restriction code

3

E

UN "Model Regulation":

UN2735 Amines, Liquid, Corrosive, N.O.S. (Contains Benzene-1,3-Dimethanamine, Trimethylhexane-1,6-Diamine), 8, II

15 Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture. United States (USA)

SARA: This product is not subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act.: None

Section 355 (extremely hazardous substances): None of the ingredients are listed.

Section 313 (Toxic Release Inventory): None of the ingredients are listed.

TSCA (Toxic Substances Control Act): All ingredients are listed.

Proposition 65 (California):

Chemicals known to cause cancer:

None of the ingredients is listed.

Canada

Canadian Domestic Substances List (DSL):

All ingredients are listed

Canadian Ingredient Disclosure list (limit 0.1%):

None of the ingredients are listed.

Canadian Ingredient Disclosure list (limit 1%):

None of the ingredients are listed.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

Safety Data Sheet

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Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Acute Health Hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Pennsylvania Worker and Community Right-To-Know Act:

The following chemicals are listed because of the additional requirements of Pennsylvania law:

Components

| | CASRN |
|--------------------------|--------------|
| Aminoethylpiperazine | 140-31-8 |
| 1,3-Dihydroxybenzene | 108-46-3 |
| 1,3-Benzenedimethanamine | 1477-55-0 |

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.

Hazard statements:

H361: Suspected of damaging fertility or the unborn child.
 H302 Harmful if swallowed.
 H332: Harmful inhaled.
 H315: Causes skin irritation.
 H317: May cause an allergic skin reaction.
 H400: Vary toxic to aquatic life.
 H401: Very toxic to aquatic life with long lasting effects.

Precautionary statements

P260: Do not breath dust/fume/gas/mist/vapors/spray
 P264: Wash hands thoroughly after handling
 P270: Do not eat, drink or smoke when using this product
 P271: Use only in well ventilated area.
 P273: Avoid release to the Environment
 P280: Wear protective gloves/protective clothing/eye protection/face protection
 P337+P313: If eye irritation persists: Get medical advice/attention.
 P370+P378: In case of fire: Use for extinction: CO2, powder or water spray.
 P302+P352: IF ON SKIN: Wash with plenty of soap and water.
 P391: Collect spillage.
 P403+P235: Store in a well-ventilated place. Keep cool.
 P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

Abbreviations and acronyms:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation.
 IATA: International Air Transport Association.
 ACGIH: American Conference of Governmental Industrial Hygienists.
 EINECS: European Inventory of Existing Commercial Chemical Substances.
 ELINCS: European List of Notified Chemical Substances.
 CAS: Chemical Abstracts Service (division of the American Chemical Society).
 NFPA: National Fire Protection Association (USA).
 HMIS: Hazardous Materials Identification System (USA).
 LC50: Lethal concentration, 50 percent.
 LD50: Lethal dose, 50 percent.