

**EPOCAST® 1511 A US**

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**SECTION 1. IDENTIFICATION**

Product name : EPOCAST® 1511 A US

**Manufacturer or supplier's details**

Company name of supplier : Huntsman Advanced Materials Americas LLC  
Address : P.O. Box 4980  
The Woodlands,  
TX 77387  
United States of America (USA)  
Telephone : Non-Emergency: (800) 257-5547  
E-mail address of person responsible for the SDS : MSDS@huntsman.com  
Emergency telephone number : Chemtrec: (800) 424-9300 or (703) 527-3887

**Recommended use of the chemical and restrictions on use**

Recommended use : Epoxy constituents  
Epoxy constituents

**SECTION 2. HAZARDS IDENTIFICATION****GHS classification in accordance with 29 CFR 1910.1200**

Skin irritation : Category 2  
Eye irritation : Category 2A  
Skin sensitisation : Category 1  
Acute aquatic toxicity : Category 2  
Chronic aquatic toxicity : Category 2

**GHS label elements**

Hazard pictograms :



Signal word : Warning

Hazard statements : H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin thoroughly after handling.

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P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves/ eye protection/ face protection.

**Response:**

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

P391 Collect spillage.

**Storage:**

Not available

**Disposal:**

P501 Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Hazardous components**

Chemical name	CAS-No.	Concentration (% w/w)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	50 - 70
limestone	1317-65-3	5 - 10
p-tert-butylphenyl 1-(2,3-epoxy)propyl ether	3101-60-8	1 - 2.5

The specific chemical identity and/or exact percentage (concentration) of composition may be withheld as a trade secret.

**SECTION 4. FIRST AID MEASURES**

General advice : Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.

If inhaled : If unconscious, place in recovery position and seek medical advice.  
If symptoms persist, call a physician.

In case of skin contact : If skin irritation persists, call a physician.  
If on skin, rinse well with water.  
If on clothes, remove clothes.

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- In case of eye contact : Immediately flush eye(s) with plenty of water.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : None known.

**SECTION 5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : No data is available on the product itself.
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during firefighting : No data is available on the product itself.  
  
Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : No hazardous combustion products are known  
  
No data is available on the product itself.
- Specific extinguishing methods : No data is available on the product itself.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
- Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform

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respective authorities.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.

**SECTION 7. HANDLING AND STORAGE**

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Advice on safe handling : Do not breathe vapours/dust.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Dispose of rinse water in accordance with local and national regulations.  
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid : Strong acids  
  
Strong bases  
  
Strong oxidizing agents

Further information on storage stability : No decomposition if stored and applied as directed.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
limestone	1317-65-3	TWA (total dust)	15 mg/m <sup>3</sup>	OSHA Z-1
		TWA (respirable fraction)	5 mg/m <sup>3</sup>	OSHA Z-1

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**Personal protective equipment**

Hand protection

Material : butyl-rubber

Break through time : &gt; 8 h

Material : Solvent-resistant gloves (butyl-rubber)

Material : Nitrile rubber

Break through time : 10 - 480 min

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water  
Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.Skin and body protection : Impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.Hygiene measures : When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and at the end of workday.**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : paste

Colour : grey

Odour : slight

Odour Threshold : No data is available on the product itself.

pH : No data is available on the product itself.

Freezing point : No data is available on the product itself.

Melting point : No data is available on the product itself.

Boiling point : &gt; 200 °C

Flash point : > 200 °C  
Method: Pensky-Martens closed cup, closed cup

Evaporation rate : No data is available on the product itself.

Flammability (solid, gas) : No data is available on the product itself.

Flammability (liquids) : No data is available on the product itself.

Upper explosion limit / Upper flammability limit : No data is available on the product itself.

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Lower explosion limit / Lower flammability limit : No data is available on the product itself.

Vapour pressure : < 0.001 hPa (20 °C)

Relative vapour density : No data is available on the product itself.

Relative density : 1.5

Density : 1.2 g/cm3 (25 °C)

Solubility(ies)  
Water solubility : practically insoluble (20 °C)

Solubility in other solvents : No data is available on the product itself.

Partition coefficient: n-octanol/water : No data is available on the product itself.

Auto-ignition temperature : No data is available on the product itself.

Decomposition temperature : > 200 °C

Self-Accelerating decomposition temperature (SADT) : No data is available on the product itself.

Viscosity  
Viscosity, dynamic : 195,000 mPa.s (25 °C)

Explosive properties : No data is available on the product itself.

Oxidizing properties : No data is available on the product itself.

Particle size : No data is available on the product itself.

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : No decomposition if stored and applied as directed.

Possibility of hazardous reactions : No decomposition if stored and applied as directed.

Conditions to avoid : No data available

Hazardous decomposition products : Carbon oxides

Burning produces noxious and toxic fumes.

**SECTION 11. TOXICOLOGICAL INFORMATION**

Information on likely routes of exposure : No data is available on the product itself.

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**Acute toxicity****Components:**

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane:  
Acute oral : LD50 (Rat, female): > 2,000 mg/kg  
toxicityComponents Method: OECD Test Guideline 420  
Assessment: The substance or mixture has no acute oral toxicity

limestone:  
Acute oral : LD50 (Rat): 6,450 mg/kg  
toxicityComponents

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:  
Acute oral : LD50 (Rat, female): > 2,000 mg/kg  
toxicityComponents Method: OECD Test Guideline 425  
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : No data available

**Components:**

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane:  
Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:  
Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

Acute toxicity (other routes of administration) : No data available

**Skin corrosion/irritation****Product:**

Remarks: May cause skin irritation and/or dermatitis.

**Serious eye damage/eye irritation****Product:**

Remarks: May cause irreversible eye damage.

**Respiratory or skin sensitisation****Product:**

Remarks: Causes sensitisation.

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Assessment: No data available

**Germ cell mutagenicity****Components:**

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane:  
Genotoxicity in vitro : Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: positive

Concentration: 0 - 5000 ug/plate

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: positive

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro

Test system: Chinese hamster ovary cells

Concentration: 50 ug/plate

Metabolic activation: negative

Method: OECD Test Guideline 473

Result: positive

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: positive

**Components:**

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane:

Genotoxicity in vivo : Cell type: Germ

Application Route: Oral

Method: OECD Test Guideline 478

Result: negative

Cell type: Somatic

Application Route: Oral

Dose: 0 - 5000 mg/kg

Method: OPPTS 870.5395

Result: negative

**Carcinogenicity****Components:**

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane:

Species: Rat, (male and female)

Application Route: Oral

Exposure time: 24 month(s)

Dose: 15 mg/kg

Frequency of Treatment: 7 days/week

Method: OECD Test Guideline 453

Result: negative



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Species: Mouse, (male)  
Application Route: Dermal  
Exposure time: 24 month(s)  
Dose: 0.1 mg/kg  
Frequency of Treatment: 3 days/week  
Method: OECD Test Guideline 453  
Result: negative

Species: Rat, (female)  
Application Route: Dermal  
Exposure time: 24 month(s)  
Dose: 1 mg/kg  
Frequency of Treatment: 5 days/week  
Method: OECD Test Guideline 453  
Result: negative

Carcinogenicity - Assessment : No data available

**IARC** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**ACGIH** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**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.

**Reproductive toxicity****Components:**

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane:

Effects on fertility : Test Type: Two-generation study  
Species: Rat, male and female  
Application Route: Oral  
Dose: >750 milligram per kilogram  
General Toxicity - Parent: No-observed-effect level: 540 mg/kg body weight  
General Toxicity F1: No-observed-effect level: 540 mg/kg body weight  
Symptoms: No adverse effects  
Method: OECD Test Guideline 416  
Result: No effects on fertility and early embryonic development were detected.

**Components:**

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane:

Effects on foetal development : Species: Rabbit, female  
Application Route: Dermal

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General Toxicity Maternal: No observed adverse effect level:  
30 mg/kg body weight  
Method: Other guidelines  
Result: No teratogenic effects

Species: Rabbit, female  
Application Route: Oral  
General Toxicity Maternal: No observed adverse effect level:  
60 mg/kg body weight  
Method: OECD Test Guideline 414  
Result: No teratogenic effects

Species: Rat, female  
Application Route: Oral  
General Toxicity Maternal: No observed adverse effect level:  
180 mg/kg body weight  
Method: OECD Test Guideline 414  
Result: No teratogenic effects

Reproductive toxicity - : No data available  
Assessment

**STOT - single exposure**

No data available

**STOT - repeated exposure**

No data available

**Repeated dose toxicity****Components:**

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane:

Species: Rat, male and female

NOAEL: 50 mg/kg

Application Route: Ingestion

Exposure time: 14 Weeks

Number of exposures: 7 d

Method: Subchronic toxicity

Species: Rat, male and female

NOEL: 10 mg/kg

Application Route: Skin contact

Exposure time: 13 Weeks

Number of exposures: 5 d

Method: Subchronic toxicity

Species: Mouse, male

NOAEL: 100 mg/kg

Application Route: Skin contact

Exposure time: 13 Weeks

Number of exposures: 3 d

Method: Subchronic toxicity

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Repeated dose toxicity - Assessment : No data available

**Aspiration toxicity**

No data available

**Experience with human exposure**

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

**Toxicology, Metabolism, Distribution**

No data available

**Neurological effects**

No data available

**Further information****Product:**

Remarks: No data available

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**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Components:**

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1.5 mg/l  
Exposure time: 96 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 203

limestone:

Toxicity to fish : LC50: > 56,000 mg/l  
Exposure time: 96 h

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 7.5 mg/l

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Exposure time: 96 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 203

**Components:**

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2.7 mg/l  
Exposure time: 48 h  
Test Type: static test  
Test substance: Fresh water

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): ca. 67.9 mg/l  
Exposure time: 48 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 202

**Components:**

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane:

Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): 9.4 mg/l  
Exposure time: 72 h  
Test Type: static test  
Test substance: Fresh water  
Method: EPA-660/3-75-009

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:

Toxicity to algae : EbC50 (Selenastrum capricornutum (green algae)): ca. 9 mg/l  
Exposure time: 72 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : No data available

Toxicity to fish (Chronic toxicity) : No data available

**Components:**

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane:

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.3 mg/l  
Exposure time: 21 d  
Test Type: semi-static test  
Test substance: Fresh water  
Method: OECD Test Guideline 211

limestone:

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC50 (Daphnia magna (Water flea)): > 350 mg/l  
Exposure time: 125 d  
Test Type: semi-static test  
Test substance: Fresh water

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M-Factor (Chronic aquatic toxicity) : No data available

**Components:**

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane:

Toxicity to microorganisms : IC50 (activated sludge): > 100 mg/l  
Exposure time: 3 h  
Test Type: static test  
Test substance: Fresh water

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:

Toxicity to microorganisms : EC50: > 1,000 mg/l  
Exposure time: 3 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 209

Toxicity to soil dwelling organisms : No data available

Plant toxicity : No data available

Sediment toxicity : No data available

Toxicity to terrestrial organisms : No data available

Ecotoxicology Assessment  
Acute aquatic toxicity : No data available

Chronic aquatic toxicity : No data available

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

**Persistence and degradability****Components:**

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane:

Biodegradability : Inoculum: Sewage (STP effluent)  
Concentration: 20 mg/l  
Result: Not readily biodegradable.  
Biodegradation: 5 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:

Biodegradability : Test Type: aerobic  
Inoculum: activated sludge  
Concentration: 5 mg/l  
Result: Not readily biodegradable.  
Biodegradation: ca. 1.1 %  
Exposure time: 28 d

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Method: OECD Test Guideline 301D

Biochemical Oxygen Demand (BOD) : No data available

Chemical Oxygen Demand (COD) : No data available

BOD/COD : No data available

ThOD : No data available

BOD/ThOD : No data available

Dissolved organic carbon (DOC) : No data available

Physico-chemical removability : No data available

**Components:**

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane:

Stability in water : Degradation half life(DT50): 4.83 d (25 °C) pH: 4  
Method: OECD Test Guideline 111  
Remarks: Fresh waterDegradation half life(DT50): 7.1 d (25 °C) pH: 9  
Method: OECD Test Guideline 111  
Remarks: Fresh waterDegradation half life(DT50): 3.58 d (25 °C) pH: 7  
Method: OECD Test Guideline 111  
Remarks: Fresh water

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:

Stability in water : Degradation half life(DT50): ca. 17 d (25 °C) pH: 7  
Method: OECD Test Guideline 111  
Remarks: Fresh waterDegradation half life(DT50): ca. 7.98 d (25 °C) pH: 4  
Method: OECD Test Guideline 111  
Remarks: Fresh waterDegradation half life(DT50): ca. 10.8 d (25 °C) pH: 9  
Method: OECD Test Guideline 111  
Remarks: Fresh water

Photodegradation : No data available

Impact on Sewage Treatment : No data available

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**Bioaccumulative potential****Components:**

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane:  
Bioaccumulation : Bioconcentration factor (BCF): 31  
Remarks: Does not bioaccumulate.

**Components:**

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane:  
Partition coefficient: n-octanol/water : log Pow: 3.242 (25 °C)  
pH: 7.1  
Method: OECD Test Guideline 117

limestone:

Partition coefficient: n-octanol/water : log Pow: < 1  
Method: No information available.

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:

Partition coefficient: n-octanol/water : log Pow: 3.59 (20 °C)  
pH: 7  
Method: OECD Test Guideline 107

**Mobility in soil**

Mobility : No data available

**Components:**

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane:  
Distribution among environmental compartments : Koc: 445  
p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:  
Distribution among environmental compartments : OECD Test Guideline 121  
Koc: ca. 755, log Koc: ca. 2.88  
Method: OECD Test Guideline 121

Stability in soil : No data available

**Other adverse effects**

Environmental fate and pathways : No data available

Results of PBT and vPvB assessment : No data available

Endocrine disrupting potential : No data available

Adsorbed organic bound halogens (AOX) : No data available

**Hazardous to the ozone layer**

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82  
Protection of Stratospheric Ozone - CAA Section 602 Class I

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**Substances**

Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information - Product : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Toxic to aquatic life with long lasting effects.

Global warming potential (GWP) : No data available

**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.

**SECTION 14. TRANSPORT INFORMATION****International Regulations****IATA**

UN/ID No. : UN 3082  
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.  
(BISPHENOL A EPOXY RESIN)  
Class : 9  
Packing group : III  
Labels : Miscellaneous  
Packing instruction (cargo aircraft) : 964  
Packing instruction (passenger aircraft) : 964

**IMDG**

UN number : UN 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S.  
(BISPHENOL A EPOXY RESIN)  
Class : 9  
Packing group : III



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Labels	: 9
EmS Code	: F-A, S-F
Marine pollutant	: yes

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**National Regulations****DOT Classification**

UN/ID/NA number	: UN 3082
Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BISPHENOL A EPOXY RESIN)
Class	: 9
Packing group	: III
Labels	: CLASS 9
ERG Code	: 171
Marine pollutant	: yes(BISPHENOL A EPOXY RESIN)

**SECTION 15. REGULATORY INFORMATION****EPCRA - Emergency Planning and Community Right-to-Know Act**

<b>SARA 311/312 Hazards</b>	: Skin corrosion or irritation Serious eye damage or eye irritation Respiratory or skin sensitisation
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<b>SARA 313</b>	: 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.
-----------------	---

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

**California Prop. 65**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**The components of this product are reported in the following inventories:**

CH INV	: The formulation contains substances listed on the Swiss Inventory, On the inventory, or in compliance with the inventory
DSL	: This product contains one or several components listed in the Canadian NDSL.
AICS	: On the inventory, or in compliance with the inventory
NZIoC	: Not in compliance with the inventory
ENCS	: Not in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: On the inventory, or in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory
TCSI	: On the inventory, or in compliance with the inventory

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TSCA : On the inventory, or in compliance with the inventory

**Inventories**

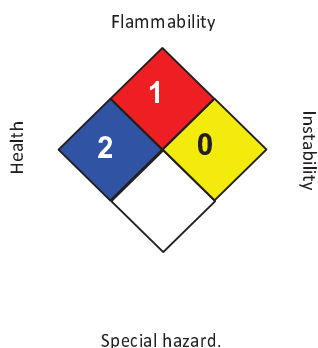
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

**TSCA - 5(a) Significant New Use Rule List of Chemicals**

No substances are subject to a Significant New Use Rule.

**US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)**

No substances are subject to TSCA 12(b) export notification requirements.

**SECTION 16. OTHER INFORMATION****Further information****NFPA:****HMIS® IV:**

HEALTH		2
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Revision Date : 08/30/2017

OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1  
Limits for Air Contaminants

OSHA Z-1 / TWA : 8-hour time weighted average

The information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

# SAFETY DATA SHEET



Enriching lives through innovation

## EPOCAST® 1511 A US

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Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

The trademarks above are the property of Huntsman Corporation or an affiliate thereof.

NO PERSON OR ORGANIZATION EXCEPT A DULY AUTHORIZED HUNTSMAN EMPLOYEE IS AUTHORIZED TO PROVIDE OR MAKE AVAILABLE DATA SHEETS FOR HUNTSMAN PRODUCTS. DATA SHEETS FROM UNAUTHORIZED SOURCES MAY CONTAIN INFORMATION THAT IS NO LONGER CURRENT OR ACCURATE.

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**SECTION 1. IDENTIFICATION**

Product name : EPOCAST® 1511 B US

**Manufacturer or supplier's details**

Company name of supplier : Huntsman Advanced Materials Americas LLC  
Address : P.O. Box 4980  
The Woodlands,  
TX 77387  
United States of America (USA)  
Telephone : Non-Emergency: (800) 257-5547  
E-mail address of person responsible for the SDS : MSDS@huntsman.com

Emergency telephone number : Chemtrec: (800) 424-9300 or (703) 527-3887

**Recommended use of the chemical and restrictions on use**

Recommended use : Hardener

**SECTION 2. HAZARDS IDENTIFICATION****GHS classification in accordance with 29 CFR 1910.1200**

Skin irritation : Category 2  
Eye irritation : Category 2A  
Skin sensitisation : Category 1

**GHS label elements**

Hazard pictograms :



Signal word : Warning

Hazard statements : H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.

Precautionary statements : **Prevention:**  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin thoroughly after handling.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves/ eye protection/ face protection.  
**Response:**  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water

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for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

P337 + P313 If eye irritation persists: Get medical advice/attention.

P362 Take off contaminated clothing and wash before reuse.

**Storage:**

Not available

**Disposal:**

P501 Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Hazardous components**

Chemical name	CAS-No.	Concentration (% w/w)
Formaldehyde, reaction products with hexahydro-1,3-isobenzofurandione and triethylenetetramine	68478-68-2	70 - 90
silicic acid, calcium salt	1344-95-2	10 - 20
Silicon, amorphous	112945-52-5	5 - 10
crystobalite	14464-46-1	0.1 - 1
trientine	112-24-3	0.25 - 1
quartz (SiO <sub>2</sub> )	14808-60-7	0.1 - 1

The specific chemical identity and/or exact percentage (concentration) of composition may be withheld as a trade secret.

**SECTION 4. FIRST AID MEASURES**

General advice : Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.

If inhaled : Move to fresh air.  
Keep patient warm and at rest.  
If symptoms persist, call a physician.

If unconscious, place in recovery position and seek medical advice.

If symptoms persist, call a physician.

In case of skin contact : Take off contaminated clothing and shoes immediately.  
Wash off with soap and plenty of water.  
If symptoms persist, call a physician.

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- If skin irritation persists, call a physician.  
If on skin, rinse well with water.  
If on clothes, remove clothes.
- In case of eye contact : Immediately flush eye(s) with plenty of water.  
Remove contact lenses.  
Seek medical advice.
- Immediately flush eye(s) with plenty of water.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Rinse mouth with water.  
Do NOT induce vomiting.  
Consult a physician if necessary.
- Keep respiratory tract clear.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : None known.

**SECTION 5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- No data is available on the product itself.
- Carbon dioxide (CO<sub>2</sub>)
- Unsuitable extinguishing media : None known.
- High volume water jet
- No data is available on the product itself.
- Specific hazards during firefighting : Do not use a solid water stream as it may scatter and spread fire.  
Do not allow run-off from fire fighting to enter drains or water courses.
- No data is available on the product itself.
- Hazardous combustion products : No data is available on the product itself.
- No hazardous combustion products are known

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- Specific extinguishing methods : No data is available on the product itself.
- No data is available on the product itself.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- For safety reasons in case of fire, cans should be stored separately in closed containments.  
Use a water spray to cool fully closed containers.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
- Wear self-contained breathing apparatus for firefighting if necessary.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Ensure adequate ventilation.  
Use personal protective equipment.
- Environmental precautions : Prevent product from entering drains.  
Do not allow contact with soil, surface or ground water.
- Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.
- Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.
- Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).  
Keep in suitable, closed containers for disposal.

**SECTION 7. HANDLING AND STORAGE**

- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Do not spray on a naked flame or any incandescent material.  
Keep away from open flames, hot surfaces and sources of ignition.
- Advice on safe handling : Avoid contact with skin and eyes.  
For personal protection see section 8.

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Smoking, eating and drinking should be prohibited in the application area.  
Dispose of rinse water in accordance with local and national regulations.

Avoid formation of aerosol.  
Do not breathe vapours/dust.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Dispose of rinse water in accordance with local and national regulations.  
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Conditions for safe storage : Keep containers tightly closed in a cool, well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.

No smoking.  
Keep in a well-ventilated place.  
Observe label precautions.  
Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid : Strong acids  
  
Strong bases  
  
Strong oxidizing agents

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
silicic acid, calcium salt	1344-95-2	TWA (total dust)	15 mg/m <sup>3</sup>	OSHA Z-1
		TWA (respirable fraction)	5 mg/m <sup>3</sup>	OSHA Z-1
Silicon, amorphous	112945-52-5	TWA (Dust)	20 Million particles per cubic foot (Silica)	OSHA Z-3



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		TWA (Dust)	80 mg/m <sup>3</sup> / %SiO <sub>2</sub> (Silica)	OSHA Z-3
		TWA (Dust)	20 Million particles per cubic foot (Silica)	OSHA Z-3
		TWA (Dust)	80 mg/m <sup>3</sup> / %SiO <sub>2</sub> (Silica)	OSHA Z-3
cristobalite	14464-46-1	TWA (Respirable fraction)	0.025 mg/m <sup>3</sup> (Silica)	ACGIH
		TWA (Respirable dust)	0.05 mg/m <sup>3</sup>	OSHA Z-1
quartz (SiO <sub>2</sub> )	14808-60-7	TWA (respirable)	10 mg/m <sup>3</sup> / %SiO <sub>2</sub> +2	OSHA Z-3
		TWA (respirable)	250 mppcf / %SiO <sub>2</sub> +5	OSHA Z-3
		TWA (Respirable fraction)	0.025 mg/m <sup>3</sup> (Silica)	ACGIH
		TWA (Respirable dust)	0.05 mg/m <sup>3</sup>	OSHA Z-1

**Personal protective equipment**

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines  
Combined particulates and organic vapour type

Filter type : Combined particulates and organic vapour type

**Hand protection**

Material : butyl-rubber  
Material : Ethyl Vinyl Alcohol Laminate (EVAL)  
Break through time : > 8 h

Material : Nitrile rubber  
Break through time : 10 - 480 min

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.  
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).  
The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Safety glasses  
Eye wash bottle with pure water  
Tightly fitting safety goggles

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Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Protective suit  
Impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.  
When using do not eat, drink or smoke.  
Wash hands before breaks and at the end of workday.  
When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and at the end of workday.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	: paste
Colour	: off-white tan
Odour	: No data is available on the product itself.
Odour Threshold	: No data is available on the product itself.
pH	: No data is available on the product itself.
Freezing point	: No data is available on the product itself.
Melting point	: No data is available on the product itself.
Boiling point	: > 200 °C
Flash point	: > 100 °C Method: Pensky-Martens closed cup, closed cup
Evaporation rate	: < 1
Flammability (solid, gas)	: No data is available on the product itself.
Flammability (liquids)	: No data is available on the product itself.
Upper explosion limit	: No data is available on the product itself.
Lower explosion limit	: No data is available on the product itself.
Vapour pressure	: No data is available on the product itself.
Relative vapour density	: No data is available on the product itself.
Relative density	: 1.05

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Density	: 1.15 g/cm <sup>3</sup> (25 °C)
Solubility(ies)	
Water solubility	: practically insoluble (20 °C)
Solubility in other solvents	: No data is available on the product itself.
Partition coefficient: n-octanol/water	: No data is available on the product itself.
Auto-ignition temperature	: No data is available on the product itself.
Decomposition temperature	: > 200 °C
Self-Accelerating decomposition temperature (SADT)	: No data is available on the product itself.
Viscosity	: No data is available on the product itself.
Explosive properties	: No data is available on the product itself.
Oxidizing properties	: No data is available on the product itself.
Particle size	: No data is available on the product itself.

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	: Stable under recommended storage conditions. No decomposition if stored and applied as directed.
Chemical stability	: No decomposition if stored and applied as directed. No decomposition if stored and applied as directed.
Possibility of hazardous reactions	: Stable under normal conditions.  No decomposition if stored and applied as directed.  Vapours may form explosive mixture with air.
Conditions to avoid	: None known.  Heat, flames and sparks.
Incompatible materials	: Strong acids and strong bases Strong oxidizing agents
Hazardous decomposition products	: Carbon oxides  Burning produces noxious and toxic fumes.

**SECTION 11. TOXICOLOGICAL INFORMATION**

Information on likely routes of exposure	: No data is available on the product itself.
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**Acute toxicity****Components:**

Silicon, amorphous:

Acute oral : LD50 (Rat): > 5,000 mg/kg  
toxicityComponents Method: OECD Test Guideline 401

trientine:

Acute oral : LD50 (Rat, male and female): 1,716.2 mg/kg  
toxicityComponents Method: OECD Test Guideline 401

**Components:**

Silicon, amorphous:

Acute inhalation toxicity : LC50 (Rat, male and female): > 58.8 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403

**Components:**

Silicon, amorphous:

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

trientine:

Acute dermal toxicity : LD50 (Rabbit, male and female): 1,465.4 mg/kg  
Method: OECD Test Guideline 402

Acute toxicity (other routes of : No data available  
administration)

**Skin corrosion/irritation****Product:**

Species: Rabbit

Assessment: Mild skin irritant

Result: Skin irritation

Remarks: May cause skin irritation and/or dermatitis.

**Serious eye damage/eye irritation****Product:**

Species: Rabbit

Result: Eye irritation

Assessment: Mild eye irritant

Remarks: May cause irreversible eye damage.

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**Respiratory or skin sensitisation****Product:**

Remarks: Causes sensitisation.

Assessment: No data available

**Germ cell mutagenicity****Components:**

Silicon, amorphous:

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative

Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative

Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative

trientine:

Genotoxicity in vitro : Concentration: 0 - 200 µg/L  
Metabolic activation: negative  
Method: OECD Test Guideline 482  
Result: negative

**Components:**

Silicon, amorphous:

Genotoxicity in vivo : Application Route: Inhalation  
Dose: 50 mg/m3  
Result: negative

trientine:

Genotoxicity in vivo : Application Route: Intraperitoneal injection  
Dose: 0 - 600 mg/kg  
Method: OECD Test Guideline 474  
Result: negative

**Carcinogenicity****Components:**

Silicon, amorphous:

Species: Rat, (male and female)  
Application Route: Oral  
Exposure time: 103 weeks  
Dose: 1800 - 3200 mg/kg  
Frequency of Treatment: 7 daily  
Method: OECD Test Guideline 453  
Result: negative

trientine:

Species: Mouse, (male)

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Application Route: Dermal  
Dose: 42 mg/kg  
Frequency of Treatment: 3 days/week  
Method: OECD Test Guideline 451  
Result: negative

Species: Mouse, (male)  
Application Route: Dermal  
Exposure time: 104 weeks  
Dose: 16.8 mg/kg  
Frequency of Treatment: 3 days/week  
Method: OECD Test Guideline 451

Carcinogenicity - Assessment : No data available

**IARC** Group 1: Carcinogenic to humans  
  
cristobalite  
  
quartz (SiO<sub>2</sub>)

**ACGIH** Suspected human carcinogen  
  
cristobalite  
  
quartz (SiO<sub>2</sub>)

**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.

**NTP** Known to be human carcinogen  
  
quartz (SiO<sub>2</sub>)

**Reproductive toxicity**

Effects on fertility : No data available

**Components:**

Silicon, amorphous:  
Effects on foetal development

: Species: Mouse  
Application Route: Oral  
General Toxicity Maternal: No observed adverse effect level:  
1,340 mg/kg body weight  
Method: OECD Test Guideline 414  
Result: No teratogenic effects

Species: Rabbit  
Application Route: Oral  
General Toxicity Maternal: No observed adverse effect level:  
1,600 mg/kg body weight  
Method: OECD Test Guideline 414  
Result: No teratogenic effects

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Species: Rat  
Application Route: Oral  
General Toxicity Maternal: No observed adverse effect level:  
1,350 mg/kg body weight  
Method: OECD Test Guideline 414  
Result: No teratogenic effects

trientine:

Species: Rat  
Application Route: Oral  
General Toxicity Maternal: No observed adverse effect level:  
> 750 mg/kg body weight  
Method: OECD Test Guideline 414  
Result: No teratogenic effects

Species: Rabbit  
Application Route: Dermal  
General Toxicity Maternal: No observed adverse effect level:  
125 mg/kg body weight  
Method: OECD Test Guideline 414  
Result: No teratogenic effects

Reproductive toxicity - : No data available  
Assessment

**STOT - single exposure**

No data available

**STOT - repeated exposure**

No data available

**Repeated dose toxicity****Components:**

Silicon, amorphous:  
Species: Rat, male and female  
NOAEL: 7950 - 8980 mg/kg  
Application Route: Ingestion  
Exposure time: 4,320 h  
Number of exposures: 7 d  
Method: Subchronic toxicity

Species: Rat, male and female  
: 4000 - 4500 mg/m<sup>3</sup>  
Application Route: Ingestion  
Test atmosphere: dust/mist  
Exposure time: 13 Weeks  
Number of exposures: 7 d  
Method: OECD Test Guideline 413

cristobalite:

Species: Rat  
LOEC: 25.9 mg/m<sup>3</sup>

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Test atmosphere: dust/mist  
Exposure time: 192 h  
Number of exposures: 6 h

trientine:  
Species: Rat, male and female  
NOAEL: 50 mg/kg/d  
Application Route: Ingestion  
Exposure time: 26 Weeks  
Number of exposures: 7 d  
Method: Subchronic toxicity

Repeated dose toxicity - : No data available  
Assessment

**Aspiration toxicity**

No data available

**Experience with human exposure**

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

**Toxicology, Metabolism, Distribution**

No data available

**Neurological effects**

No data available

**Further information****Product:**

Remarks: No data available



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**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Components:**

Silicon, amorphous:

Toxicity to fish : LL50 (Brachydanio rerio (zebrafish)): > 10,000 mg/l  
 Exposure time: 96 h  
 Test Type: static test  
 Test substance: Fresh water  
 Method: OECD Test Guideline 202

trientine:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 330 mg/l  
 Exposure time: 96 h  
 Test Type: static test  
 Test substance: Fresh water  
 Method: Fish Acute Toxicity Test

**Components:**

Silicon, amorphous:

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): >= 1,000 mg/l  
 Exposure time: 24 h  
 Test Type: static test  
 Test substance: Fresh water  
 Method: OECD Test Guideline 202

trientine:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 31.1 mg/l  
 Exposure time: 48 h  
 Test Type: static test  
 Test substance: Fresh water  
 Method: Directive 67/548/EEC, Annex V, C.2.

**Components:**

Silicon, amorphous:

Toxicity to algae : EL50 (Desmodesmus subspicatus (Scenedesmus subspicatus)): > 10,000 mg/l  
 Exposure time: 72 h  
 Test Type: static test  
 Test substance: Fresh water  
 Method: OECD Test Guideline 201

trientine:

Toxicity to algae : ErC50 (Selenastrum capricornutum (green algae)): 20 mg/l  
 Exposure time: 72 h  
 Test Type: semi-static test  
 Test substance: Fresh water  
 Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : No data available

Toxicity to fish (Chronic) : No data available

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toxicity)

**Components:**

trientine:

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10 (Daphnia magna (Water flea)): 1.9 mg/l  
Exposure time: 21 d  
Test Type: semi-static test  
Test substance: Fresh water  
Method: OECD Test Guideline 202

M-Factor (Chronic aquatic toxicity) : No data available

**Components:**

trientine:

Toxicity to microorganisms : EC50 (activated sludge): 800 mg/l  
Exposure time: 0.5 h  
Test Type: static test  
Test substance: Fresh water

Toxicity to soil dwelling organisms : No data available

Plant toxicity : No data available

Sediment toxicity : No data available

Toxicity to terrestrial organisms : No data available

Ecotoxicology Assessment  
Acute aquatic toxicity : No data available

Chronic aquatic toxicity : No data available

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

**Persistence and degradability****Components:**

Formaldehyde, reaction products with hexahydro-1,3-isobenzofurandione and triethylenetetramine:

Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 15 %  
Exposure time: 29 d  
Method: OECD Test Guideline 301B

trientine:

Biodegradability : Inoculum: activated sludge  
Result: Not readily biodegradable.  
Biodegradation: 0 %

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Exposure time: 162 d  
Method: OECD Test Guideline 301D

Inoculum: activated sludge  
Result: Not readily biodegradable.  
Biodegradation: 20 %  
Exposure time: 84 d  
Method: Inherent Biodegradability: Modified SCAS Test

Biochemical Oxygen Demand (BOD) : No data available

Chemical Oxygen Demand (COD) : No data available

BOD/COD : No data available

ThOD : No data available

BOD/ThOD : No data available

Dissolved organic carbon (DOC) : No data available

Physico-chemical removability : No data available

Stability in water : No data available

Photodegradation : No data available

Impact on Sewage Treatment : No data available

**Bioaccumulative potential**

Bioaccumulation : No data available

**Components:**

trientine:

Partition coefficient: n-octanol/water : log Pow: -2.65 (20 °C)  
Method: OECD Test Guideline 117

**Mobility in soil**

Mobility : No data available

**Components:**

trientine:

Distribution among environmental compartments : Koc: 1584.9 - 5012 Method: OECD Test Guideline 106

Stability in soil : No data available

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**Other adverse effects**

Environmental fate and pathways : No data available

Results of PBT and vPvB assessment : No data available

Endocrine disrupting potential : No data available

Adsorbed organic bound halogens (AOX) : No data available

**Hazardous to the ozone layer**

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances  
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information - Product : No data available

Global warming potential (GWP) : No data available

**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues : Can be landfilled or incinerated, when in compliance with local regulations.  
Where possible recycling is preferred to disposal or incineration.  
Send to a licensed waste management company.

Do not dispose of waste into sewer.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.

Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.  
Do not burn, or use a cutting torch on, the empty drum.

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**SECTION 14. TRANSPORT INFORMATION****International Regulations****IATA**

Not regulated as dangerous goods

**IMDG**

Not regulated as dangerous goods

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**National Regulations****DOT Classification**

Not regulated as dangerous goods

**SECTION 15. REGULATORY INFORMATION****EPCRA - Emergency Planning and Community Right-to-Know Act****SARA 311/312 Hazards** : No SARA Hazards**SARA 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.

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

**California Prop. 65**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**The components of this product are reported in the following inventories:**

CH INV	: The formulation contains substances listed on the Swiss Inventory, Not in compliance with the inventory
DSL	: This product contains one or several components listed in the Canadian NDSL.
AICS	: On the inventory, or in compliance with the inventory
NZIoC	: Not in compliance with the inventory
ENCS	: Low volume exemption, On the inventory, or in compliance with the inventory
KECI	: Not in compliance with the inventory
PICCS	: Not in compliance with the inventory
IECSC	: Low volume exemption, On the inventory, or in compliance with the inventory

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TCSI : Not in compliance with the inventory  
TSCA : On the inventory, or in compliance with the inventory

**Inventories**

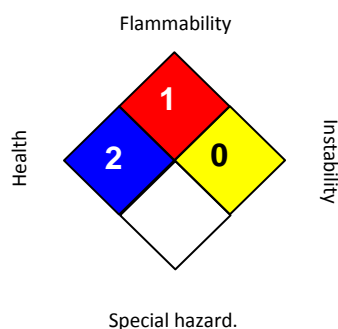
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

**TSCA - 5(a) Significant New Use Rule List of Chemicals**

No substances are subject to a Significant New Use Rule.

**US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)**

No substances are subject to TSCA 12(b) export notification requirements.

**SECTION 16. OTHER INFORMATION****Further information****NFPA:****HMIS® IV:**

HEALTH		2
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

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The information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

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Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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