EPOCAST® 1619 B US

Version	Revision Date:	SDS Number:	Date of last issue: 05/17/2016
1.1	08/01/2016	400001012497	Date of first issue: 05/17/2016

SECTION 1. IDENTIFICATION

Product name : EPOCAST® 1619 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
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

Acute toxicity (Inhalation) : Category 4

Skin corrosion : Category 1B

Serious eye damage : Category 1

Skin sensitisation : Category 1

Reproductive toxicity : Category 2

Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

Acute aquatic toxicity : Category 3

Chronic aquatic toxicity : Category 3

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H361 Suspected of damaging fertility or the unborn child.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
Monoethanolamine	141-43-5	>= 1 - <= 3
4,4'-isopropylidenediphenol	80-05-7	>= 13 - <= 30

2,2'-iminodi(ethylamine)	111-40-0	>= 13	- <= 30
9-Octadecenoic acid (9Z)-, polymer with N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]-1,2-ethanediamine	70321-87-8	>= 60	- <= 100

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

SECTION 4. FIRST AID MEASURES

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

If inhaled : Consult a physician after significant exposure.
If unconscious place in recovery position and seek medical advice.

In case of skin contact : Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
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 induce vomiting.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

Most important symptoms and effects, both acute and delayed : None known.

Notes to physician : No information available.

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.

Unsuitable extinguishing media	:	High volume water jet
		High volume water jet
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	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. Ensure adequate ventilation.
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 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	:	Avoid formation of aerosol. 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. To avoid spills during handling keep bottle on a metal tray. 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.
Do not breathe vapours or spray mist.

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.
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
2,2'-iminodi(ethylamine)	111-40-0	TWA	1 ppm	ACGIH
Monoethanolamine	141-43-5	TWA	3 ppm	ACGIH
		STEL	6 ppm	ACGIH
		TWA	3 ppm 6 mg/m3	OSHA Z-1

Personal protective equipment

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Respiratory protection : No personal respiratory protective equipment normally required.

Hand protection
Material : butyl-rubber
Ethyl Vinyl Alcohol Laminate (EVAL)

Break through time : > 8 h

Nitrile rubber
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	:	liquid
Colour	:	amber
Odour	:	ammoniacal
Odour Threshold	:	No data is available on the product itself.
pH	:	No data is available on the product itself.
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	171 °CMethod: Cleveland open 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	:	No data is available on the product itself.
Lower explosion limit	:	No data is available on the product itself.
Vapour pressure	:	> 1.333 hPa (20 °C)
Relative vapour density	:	1
Relative density	:	0.98
Density	:	No data is available on the product itself.
Solubility(ies)		
Water solubility	:	slightly soluble
Solubility in other solvents	:	No data is available on the product itself.
Partition coefficient: n-	:	No data is available on the product itself.

octanol/water		
Auto-ignition temperature	:	No data is available on the product itself.
Thermal decomposition	:	No data is available on the product itself.
Self-Accelerating decomposition temperature (SADT)	:	No data is available on the product itself.
Viscosity		
Viscosity, dynamic	:	400 mPa.s
Molecular weight	:	No data available

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
Incompatible materials	:	No data available
Hazardous decomposition products	:	Carbon oxides Burning produces noxious and toxic fumes. Nitrogen oxides (NOx)

SECTION 11. TOXICOLOGICAL INFORMATION

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

Acute toxicity

Acute oral toxicity - Product	:	Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method
Acute inhalation toxicity - Product	:	Acute toxicity estimate: 1.08 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity - Product	:	Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method
Acute toxicity (other routes of administration)	:	No data available

Skin corrosion/irritation

Product:

Remarks: Extremely corrosive and destructive to tissue.

Serious eye damage/eye irritation

Product:

Remarks: May cause irreversible eye damage.

Respiratory or skin sensitisation

Product:

Remarks: Causes sensitisation.

Assessment: No data available

Germ cell mutagenicity

Components:

Monoethanolamine:
Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

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

Metabolic activation: negative
Result: negative

4,4'-isopropylidenediphenol:
Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Result: negative

Components:

Monoethanolamine:
Genotoxicity in vivo : Application Route: Oral
Exposure time: 24 h
Dose: 375 - 1500 mg/kg
Method: OECD Test Guideline 474
Result: negative

4,4'-isopropylidenediphenol:
Genotoxicity in vivo : Method: OECD Test Guideline 474
Result: negative

2,2'-iminodi(ethylamine):
Genotoxicity in vivo : Cell type: Somatic
Application Route: Oral
Dose: 85 - 850 mg/kg
Method: OECD Test Guideline 474
Result: negative

Application Route: Oral
Result: negative

Carcinogenicity

Components:

4,4'-isopropylidenediphenol:
Species: Rat, (male and female)
Application Route: Oral
Exposure time: 103 weeks
Frequency of Treatment: 7 daily
Result: negative

2,2'-iminodi(ethylamine):
Species: Mouse, (male)
Application Route: Dermal
Dose: 56.3 mg/kg
Frequency of Treatment: 3 daily
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.

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 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:

Monoethanolamine:
Effects on fertility : Species: Rat, male and female
Application Route: Oral
Target Organs: Reproductive organs
Method: OECD Test Guideline 416
Result: No effects on fertility and early embryonic development were detected.

4,4'-isopropylidenediphenol:
Species: Rat, male and female
Application Route: Oral
Method: OECD Test Guideline 416
Result: Embryotoxic effects and adverse effects on the offspring were detected.

2,2'-iminodi(ethylamine):
Species: Rat, male and female
Application Route: Oral
General Toxicity - Parent: No observed adverse effect level: 30 mg/kg wet weight

Method: OECD Test Guideline 421

Components:

Monoethanolamine:

Effects on foetal development : Species: Rat
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level: 120 mg/kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects

Species: Rat
Application Route: Dermal
General Toxicity Maternal: No observed adverse effect level: 75 mg/kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects

4,4'-isopropylidenediphenol:

Species: Rat, female
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level: < 160 mg/kg body weight
Method: OECD Test Guideline 416
Result: No teratogenic effects

2,2'-iminodi(ethylamine):

Species: Rat
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level: 100 mg/kg body weight
Method: OECD Test Guideline 421

Components:

4,4'-isopropylidenediphenol:

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

STOT - single exposure

Components:

Monoethanolamine:
Exposure routes: Inhalation
Target Organs: Respiratory Tract
Assessment: May cause respiratory irritation.

4,4'-isopropylidenediphenol:
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

2,2'-iminodi(ethylamine):
Target Organs: Respiratory Tract

Assessment: May cause respiratory irritation.

STOT - repeated exposure

No data available

Repeated dose toxicity

Components:

Monoethanolamine:
Species: Rat, male and female
NOEC: 300 mg/m3
Application Route: Ingestion
Test atmosphere: vapour
Exposure time: 672 h
Number of exposures: 7 d
Method: OECD Test Guideline 412

4,4'-isopropylidenediphenol:
Species: Dog, male and female
NOEC: 75 mg/kg, 10 mg/m3
Application Route: Ingestion
Test atmosphere: dust/mist
Exposure time: 2,160 h
Number of exposures: 7 d
Method: Subchronic toxicity

Species: Rat, male and female
LOAEL: 600 mg/kg
Application Route: Ingestion
Exposure time: 672 h
Number of exposures: 7 d
Method: Subchronic toxicity

2,2'-iminodi(ethylamine):
Species: Rat, male and female
NOEC: 70 - 80 mg/m3
Application Route: Ingestion
Test atmosphere: vapour
Exposure time: 360 h
Number of exposures: 7 d
Method: Subchronic toxicity

Species: Rat, male and female
NOAEL: 114 mg/kg/d
Application Route: Skin contact
Exposure time: 9,600 h
Number of exposures: 6 d
Method: Chronic toxicity

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

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Monoethanolamine:
Toxicity to fish : LC50 (Cyprinus carpio (Carp)): 349 mg/l
Exposure time: 96 h
Test Type: semi-static test
Test substance: Fresh water

4,4'-isopropylidenediphenol:
Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 7.5 mg/l
Exposure time: 96 h

2,2'-iminodi(ethylamine):
Toxicity to fish : LC50: 430 mg/l
Exposure time: 96 h
Test Type: semi-static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.1.

Components:

Monoethanolamine:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 65 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.2.

4,4'-isopropylidenediphenol:
Toxicity to daphnia and other aquatic invertebrates : EC50: 3.9 - 10.2 mg/l
Exposure time: 48 h

(Ceriodaphnia dubia (Water flea)):

2,2'-iminodi(ethylamine):
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 32 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water

Components:

Monoethanolamine:
Toxicity to algae : ErC50 (Selenastrum capricornutum (green algae)): 2.5 mg/l
Exposure time: 72 h
Test substance: Fresh water
Method: OECD Test Guideline 201

4,4'-isopropylidenediphenol:
Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): 2.5 - 3.1 mg/l
Exposure time: 96 h

2,2'-iminodi(ethylamine):
Toxicity to algae : EbC50 (Selenastrum capricornutum (green algae)): 1,164 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

Components:

Monoethanolamine:
Toxicity to fish (Chronic toxicity) : NOEC (Oryzias latipes (Orange-red killifish)): 1.2 mg/l
Exposure time: 30 d
Test substance: Fresh water
Method: OECD Test Guideline 210

4,4'-isopropylidenediphenol:
Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 0.016 mg/l
Exposure time: 444 d

Test Type: flow-through test
Test substance: Fresh water
Method: Fish Life Cycle Toxicity
Remarks: Toxic to aquatic organisms.

2,2'-iminodi(ethylamine):
Toxicity to fish (Chronic toxicity) : NOEC: 10 mg/l
Exposure time: 28 d
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 210

Components:

Monoethanolamine:
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.85 mg/l
Exposure time: 21 d
Test substance: Fresh water
Method: OECD Test Guideline 211

2,2'-iminodi(ethylamine):
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 5.6 mg/l
Exposure time: 21 d
Test Type: semi-static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.20

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

Toxicity to bacteria : No data available

Components:

2,2'-iminodi(ethylamine):
Toxicity to soil dwelling organisms : EC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg
Exposure time: 56 d
Method: OECD Test Guideline 222

Plant toxicity : No data available

Sediment toxicity : No data available

Toxicity to terrestrial organisms : No data available

Ecotoxicology Assessment

Components:

Monoethanolamine:
Acute aquatic toxicity : Harmful to aquatic life.

2,2'-iminodi(ethylamine):
Acute aquatic toxicity : This product has no known ecotoxicological effects.

Components:

4,4'-isopropylidenediphenol:

Chronic aquatic toxicity	:	Toxic to aquatic life with long lasting effects.
Toxicity Data on Soil	:	No data available
Other organisms relevant to the environment	:	No data available

Further information:
No data available

Persistence and degradability

Components:

Monoethanolamine:

Biodegradability	:	Inoculum: activated sludge Concentration: 20 mg/l Result: Readily biodegradable Biodegradation: > 90 % Exposure time: 21 d Method: OECD Test Guideline 301A

4,4'-isopropylidenediphenol:

Biodegradability	:	Result: Not readily biodegradable. Biodegradation: 1 - 2 % Exposure time: 28 d

2,2'-iminodi(ethylamine):

Biodegradability	:	Inoculum: activated sludge Result: Readily biodegradable Biodegradation: 87 % Exposure time: 21 d 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
Stability in water	:	No data available

Components:

Monoethanolamine:
Photodegradation : Test Type: Air
Rate constant: 35.844
Degradation (direct photolysis): 50 %

2,2'-iminodi(ethylamine):
Photodegradation : Test Type: Air
Rate constant: 500000
Degradation (direct photolysis): 50 %

Impact on Sewage Treatment : No data available

Bioaccumulative potential

Components:

2,2'-iminodi(ethylamine):
Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 0.3 - 6.3
Exposure time: 42 d
Test substance: Fresh water
Method: flow-through test
Remarks: Bioaccumulation is unlikely.

Components:

Monoethanolamine:
Partition coefficient: n-octanol/water : log Pow: -1.31 (25 °C)

2,2'-iminodi(ethylamine):
Partition coefficient: n-octanol/water : log Pow: -1.58 (20 °C)
pH: 7

Mobility in soil

Mobility : No data available

Components:

Monoethanolamine:
Distribution among environmental compartments : Koc: 1.167

2,2'-iminodi(ethylamine):
Distribution among environmental compartments : Koc: 19111

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 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. Harmful 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 Regulation

IATA

UN/ID No.	:	UN 2079
Proper shipping name	:	Diethylenetriamine SOLUTION
Class	:	8
Packing group	:	II
Labels	:	Corrosive
Packing instruction (cargo aircraft)	:	855
Packing instruction	:	851

(passenger aircraft)

IMDG

UN number	:	UN 2079
Proper shipping name	:	DIETHYLENETRIAMINE SOLUTION
Class	:	8
Packing group	:	II
Labels	:	8
EmS Code	:	F-A, S-B
Marine pollutant	:	no

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 2079
Proper shipping name	:	DIETHYLENETRIAMINE SOLUTION
Class	:	8
Packing group	:	II
Labels	:	CORROSIVE
ERG Code	:	154
Marine pollutant	:	no

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
2,2'-iminodiethanol	111-42-2	100	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 311/312 Hazards : Acute Health Hazard

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

4,4'-isopropylidenediphenol	80-05-7	13.7352 %

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 WARNING! This product contains a chemical known to the State of California to cause cancer.

2,2'-iminodiethanol	111-42-2

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

4,4'-isopropylidenediphenol	80-05-7

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
TSCA	:	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 determined
ENCS	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	Not 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

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)

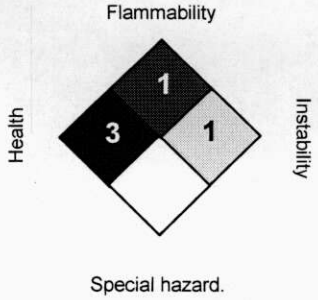
TSCA - 5(a) Significant New Use Rule List of Chemicals
No substances are subject to a Significant New Use Rule.

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 III:

HEALTH	3
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,

2 = Moderate, 3 = High

4 = Extreme, * = Chronic

Revision Date : 08/01/2016

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.

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.

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.

EPOCAST® 1619 A US

Version	Revision Date:	SDS Number:	Date of last issue: 09/11/2015
1.2	09/11/2015	400001008109	Date of first issue: 09/11/2015

SECTION 1. IDENTIFICATION

Product name : EPOCAST® 1619 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
Telephone : Non-Emergency: (800) 257-5547

E-mail address of person responsible for the SDS : MSDS@huntsman.com

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

Recommended use of the chemical and restrictions on use

Recommended use : Epoxy constituents

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Skin irritation : Category 2

Serious eye damage : Category 1

Skin sensitization : Category 1

Carcinogenicity : Category 2

Acute aquatic toxicity : Category 2

Chronic aquatic toxicity : Category 2

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H411 Toxic to aquatic life with long lasting effects.
H351 Suspected of causing cancer.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing must not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 + P310 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.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P391 Collect spillage.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 9.7091 %

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
BISPHENOL A EPOXY RESIN	25068-38-6	30 - 60
[(dibromomethylphenoxy)methyl]oxirane	75150-13-9	7 - 13
butanedioldiglycidyl ether	2425-79-8	3 - 7
diantimony trioxide	1309-64-4	1 - 3
1,6,7,8,9,14,15,16,17,17,18,18-dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene	13560-89-9	1 - 3
p-tert-butylphenyl 1-(2,3-epoxy)propyl ether	3101-60-8	0.1 - 1
o-cresyl glycidyl ether	2210-79-9	0.1 - 1

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this material 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.
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	:	Induce vomiting immediately and call a physician. 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. Take victim immediately to hospital.
Most important symptoms and effects, both acute and delayed	:	None known.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	No data is available on the product itself.
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	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 fire-fighters	:	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 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 vapors/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 sensitization 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. 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

Ingredients with workplace control parameters

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis

diantimony trioxide	1309-64-4	TWA	0.5 mg/m3 (antimony)	OSHA Z-1
		TWA	0.5 mg/m3 (antimony)	OSHA P0
		TWA	0.5 mg/m3 (antimony)	NIOSH REL

Personal protective equipment

Respiratory protection : In the case of vapor formation use a respirator with an approved filter.

Hand protection

Material : butyl-rubber
Ethyl Vinyl Alcohol Laminate (EVAL)

Break through time : > 8 h

Neoprene
Nitrile rubber
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

Color : off-white

Odor : slight

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

pH : No data is available on the product itself.

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.

Upper explosion limit	:	No data is available on the product itself.
Lower explosion limit	:	No data is available on the product itself.
Vapor pressure	:	< 1 hPa (20 °C)
Relative vapor density	:	No data is available on the product itself.
Relative density	:	0.7
Density	:	0.6 g/cm3 (25 °C)
Solubility(ies)		
Water solubility	:	partly soluble (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.
Autoignition temperature	:	No data is available on the product itself.
Thermal decomposition	:	No data is available on the product itself.
Viscosity	:	No data is available on the product itself.
Self-Accelerating decomposition temperature (SADT)	:	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 obnoxious and toxic fumes.

SECTION 11. TOXICOLOGICAL INFORMATION

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

Acute toxicity

Acute oral toxicity - Product	:	Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method

Acute inhalation toxicity - Product	:	Acute toxicity estimate: > 40 mg/l Exposure time: 4 h Test atmosphere: vapor Method: Calculation method
Acute dermal toxicity - Product	:	Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method
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 sensitization

Product:

Remarks: Causes sensitization.

Assessment: No data available

Germ cell mutagenicity

Ingredients:

BISPHENOL A EPOXY RESIN:

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

butanedioldiglycidyl ether:

Genotoxicity in vitro	:	Concentration: 10 - 5000 ug/plate Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: positive Concentration: 1 - 100 µg/L Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 473 Result: positive

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:
Genotoxicity in vitro : Concentration: 50 ug/plate
Metabolic activation: negative
Method: OECD Test Guideline 473
Result: positive

Concentration: 33 ug/plate
Metabolic activation: negative
Method: OECD Test Guideline 471
Result: positive

o-cresyl glycidyl ether:
Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: positive

Ingredients:

BISPHENOL A EPOXY RESIN:
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

butanedioldiglycidyl ether:
Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Mouse
Cell type: Somatic
Application Route: Oral
Exposure time: 4 d
Dose: 187.5 - 750 mg/kg
Method: OECD Test Guideline 474
Result: negative

Test Type: unscheduled DNA synthesis assay
Species: Rat
Cell type: Liver cells
Application Route: Oral
Method: OECD Test Guideline 486
Result: negative

o-cresyl glycidyl ether:
Genotoxicity in vivo : Application Route: Oral
Dose: 2000 mg/kg
Method: OECD Test Guideline 474
Result: negative

Application Route: Dermal
Exposure time: 5 d
Dose: 500 mg/kg
Result: negative

Application Route: Dermal
Exposure time: 8 Weeks
Dose: 1.5 mg/kg
Method: OECD Test Guideline 478
Result: positive

Ingredients:

BISPHENOL A EPOXY RESIN:
Germ cell mutagenicity-Assessment : Weight of evidence does not support classification as a germ cell mutagen.

butanedioldiglycidyl ether:
Germ cell mutagenicity-Assessment : Weight of evidence does not support classification as a germ cell mutagen.

Germ cell mutagenicity-Assessment : No data available

Carcinogenicity

Ingredients:

BISPHENOL A EPOXY RESIN:
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

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

diantimony trioxide:
Species: Rat, (female)
Application Route: Inhalation
Exposure time: 12 month(s)
Dose: 45 mg/m³
Frequency of Treatment: 7 hour

Method: OECD Test Guideline 451
Result: positive
Target Organs: Lungs

Carcinogenicity - Assessment : No data available

IARC Group 2B: Possibly carcinogenic to humans

diantimony trioxide

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

NTP No ingredient 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

Ingredients:

BISPHENOL A EPOXY RESIN:

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.

diantimony trioxide:

Species: Rat, male and female
Application Route: Oral
Method: OECD Test Guideline 408

Ingredients:

BISPHENOL A EPOXY RESIN:

Effects on fetal development : Species: Rabbit, female
Application Route: Dermal
General Toxicity Maternal: NOAEL (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: NOAEL (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: NOAEL (No observed adverse effect level): 180 mg/kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects.

diantimony trioxide:

Species: Rat, female
Application Route: Inhalation
General Toxicity Maternal: LOAEL (Lowest observed adverse effect level): 2.6 mg/m³
Method: OECD Test Guideline 414
Result: No teratogenic effects.

Reproductive toxicity - Assessment : No data available

STOT-single exposure

No data available

STOT-repeated exposure

No data available

Repeated dose toxicity

Ingredients:

BISPHENOL A EPOXY RESIN:
Species: Rat, male and female
NOAEL (No observed adverse effect level): 50 mg/kg
Application Route: Ingestion
Exposure time: 14 Weeks
Number of exposures: 7 d
Method: Subchronic toxicity

Species: Rat, male and female
No-observed-effect level: 10 mg/kg
Application Route: Skin contact
Exposure time: 13 Weeks
Number of exposures: 5 d
Method: Subchronic toxicity

Species: Mouse, male
NOAEL (No observed adverse effect level): 100 mg/kg
Application Route: Skin contact
Exposure time: 13 Weeks
Number of exposures: 3 d
Method: Subchronic toxicity

butanedioldiglycidyl ether:
Species: Rat, male and female

NOAEL (No observed adverse effect level): 200 mg/kg
Application Route: Ingestion
Exposure time: 28 d
Number of exposures: 7 d
Method: Subacute toxicity

diantimony trioxide:
Species: Rat, male and female
NOEC: 1686 - 1879 mg/kg, >= 0.51 mg/m3
Application Route: Ingestion
Test atmosphere: dust/mist
Exposure time: 2,160 h
Number of exposures: 6 h
Method: OECD Test Guideline 452

o-cresyl glycidyl ether:
Species: Rat, male and female
NOEC: > 4 ppm
Test atmosphere: vapor
Exposure time: 4 Weeks
Number of exposures: 6 h
Method: OECD Test Guideline 412

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

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Ingredients:

BISPHENOL A EPOXY RESIN:

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

butanedioldiglycidyl ether:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): 24 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 203

diantimony trioxide:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 14.4 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water

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

Toxicity to fish : LC50: 7.5 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 203

o-cresyl glycidyl ether:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2.8 - 5.1 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 203

LC50 (Brachydanio rerio (zebrafish)): ca. 6.5 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 203

Ingredients:

BISPHENOL A EPOXY RESIN:

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

butanedioldiglycidyl ether:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 75 mg/l
Exposure time: 24 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

diantimony trioxide:
Toxicity to daphnia and other aquatic invertebrates : LC50 (Other): 1.77 mg/l
Exposure time: 96 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

o-cresyl glycidyl ether:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): ca. 3.3 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

Ingredients:

BISPHENOL A EPOXY RESIN:
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

butanedioldiglycidyl ether:
Toxicity to algae : EL50: > 160 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

diantimony trioxide:
Toxicity to algae : EC50 (Other): > 36.6 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

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

o-cresyl glycidyl ether:
Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): 5.1 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

Ingredients:
diantimony trioxide:
Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 1.13 mg/l
Exposure time: 28 d
Test Type: flow-through test
Test substance: Fresh water

Ingredients:
BISPHENOL A EPOXY RESIN:
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

diantimony trioxide:
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 1.74 mg/l
Exposure time: 21 d
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 211

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

Ingredients:
BISPHENOL A EPOXY RESIN:
Toxicity to bacteria : IC50 (activated sludge): > 100 mg/l
Exposure time: 3 h
Test Type: static test
Test substance: Fresh water

butanedioldiglycidyl ether:
Toxicity to bacteria : IC50 (activated sludge): > 100 mg/l
Exposure time: 3 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 209

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:
Toxicity to bacteria : EC50: > 1,000 mg/l

Exposure time: 3 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 209

o-cresyl glycidyl ether:
Toxicity to bacteria : IC50: > 100 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

Further information
The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 9.7091 %

Persistence and degradability

Biodegradability - Product : Result: Not readily biodegradable.

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

Ingredients:

BISPHENOL A EPOXY RESIN:

Bioaccumulation	:	Bioconcentration factor (BCF): 31 Remarks: Does not bioaccumulate.

Ingredients:

BISPHENOL A EPOXY RESIN:

Partition coefficient: n-octanol/water	:	log Pow: 3.242 (25 °C) pH: 7.1 Method: OECD Test Guideline 117

butanedioldiglycidyl ether:

Partition coefficient: n-octanol/water	:	log Pow: -0.269 (25 °C) pH: 6.7 Method: OECD Test Guideline 117

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

o-cresyl glycidyl ether:

Partition coefficient: n-octanol/water	:	log Pow: 2.5 (21 °C) Method: OECD Test Guideline 107

Mobility in soil

Mobility	:	No data available

Ingredients:

BISPHENOL A EPOXY RESIN:

Distribution among environmental compartments	:	Koc: 445.

butanedioldiglycidyl ether:

Distribution among environmental compartments	:	Koc: 12.59. Method: OECD Test Guideline 121

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

Distribution among environmental compartments	:	Koc: ca. 755. Method: OECD Test Guideline 121

o-cresyl glycidyl ether:

Distribution among environmental compartments	:	Koc: ca. 210. 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 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 Regulation

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
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.

Domestic regulation

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

TSCA - 5(a) Significant New Use Rule List of Chemicals : Not relevant

EPCRA - Emergency Planning and Community Right-to-Know

SARA 311/312 Hazards : Chronic Health Hazard

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

diantimony trioxide	1309-64-4	2.0735 %

Clean Air Act

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).
The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

diantimony trioxide 1309-64-4 2.0735 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

California Prop 65

WARNING! This product contains a chemical known in the State of California to cause cancer.

lead	7439-92-1
arsenic	7440-38-2
diantimony trioxide	1309-64-4

WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

lead	7439-92-1

The ingredients of this product are reported in the following inventories:

TSCA	:	On TSCA Inventory
DSL	:	All components of this product are on the Canadian DSL.
AICS	:	On the inventory, or in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
ENCS	:	On the inventory, or in compliance with the inventory
ISHL	:	On the inventory, or 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

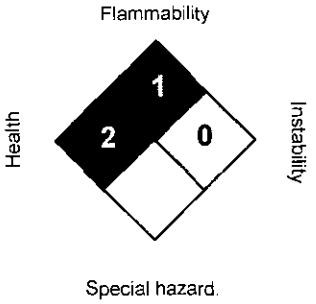
Inventories

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

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	2
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,

2 = Moderate, 3 = High

4 = Extreme, * = Chronic

Revision Date : 09/11/2015

While 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.

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.

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. NO PART OF THIS DATA SHEET MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM, OR BY ANY MEANS, WITHOUT PERMISSION IN WRITING FROM HUNTSMAN. ALL REQUESTS FOR PERMISSION TO REPRODUCE MATERIAL FROM THIS DATA SHEET SHOULD BE DIRECTED TO HUNTSMAN, MANAGER, PRODUCT SAFETY AT THE ABOVE ADDRESS.