EPOCAST® 1610-A2 US

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	06/01/2016	400001018109	Date of first issue: 06/01/2016

SECTION 1. IDENTIFICATION

Product name : EPOCAST® 1610-A2 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 : Epoxy constituents

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Skin irritation : Category 2

Serious eye damage : Category 1

Skin sensitisation : Category 1

Carcinogenicity : Category 2

Reproductive toxicity : Category 2

Specific target organ toxicity - repeated exposure : Category 2 (Liver, Thyroid, Adrenal gland, Gastrointestinal tract)

Acute aquatic toxicity : Category 1

Chronic aquatic toxicity : Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H315 Causes skin irritation.

H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H351 Suspected of causing cancer.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs (Liver, Thyroid, Adrenal gland, Gastrointestinal tract) through prolonged or repeated exposure.
H410 Very toxic 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.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
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:
P302 + P352 IF ON SKIN: Wash with plenty of 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/doctor.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.
Storage:
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)
Bisphenol A epoxy resin	25068-38-6	30 - 60
Butanedioldiglycidyl ether	2425-79-8	3 - 7
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]	25036-25-3	1 - 3
Phenol, 4-nonyl-, branched	84852-15-3	1 - 3

trimethoxy(methyl)silane	1185-55-3	1 - 3
hexaboron dizinc undecaoxide	12767-90-7	0.1 - 1
diuron	330-54-1	0.1 - 1

SECTION 4. FIRST AID MEASURES

General advice	:	Get medical attention if symptoms occur. Show this safety data sheet to the doctor in attendance.
If inhaled	:	Move to fresh air.
In case of skin contact	:	Wash off with soap and plenty of water.
In case of eye contact	:	In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting.
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.
Unsuitable extinguishing media	:	High volume water jet
Specific extinguishing methods	:	No data is available on the product itself.
Further information	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Avoid dust formation. Avoid breathing dust. Use personal protective equipment.
Environmental precautions	:	Do not contaminate surface water.

Methods and materials for containment and cleaning up	:	Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13). Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Technical measures	:	Ensure that eyewash stations and safety showers are close to the workstation location.
Local/Total ventilation	:	Ensure adequate ventilation.
Advice on safe handling	:	Avoid inhalation, ingestion and contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Avoid creating dust.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place.
Materials to avoid	:	No special restrictions on storage with other products. Strong bases Keep away from oxidizing agents. Keep away from strong acids.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
diuron	330-54-1	TWA	10 mg/m3	CA AB OEL
		TWA	10 mg/m3	CA BC OEL
		TWAEV	10 mg/m3	CA QC OEL
		TWA	10 mg/m3	ACGIH

Engineering measures	:	Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Respiratory protection	:	Recommended Filter type: Combined particulates and organic vapour type
Filter type	:	Filter type A-P
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 Neoprene 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).
Eye protection	:	Safety glasses with side-shields
Skin and body protection	:	Impervious clothing
Hygiene measures	:	When using do not eat or drink. Wash hands before breaks and at the end of workday. Provide adequate ventilation. Do not breathe dust. Do not breathe vapours, mist or gas.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	solid, paste
Colour	:	off-white
Odour	:	slight
Odour Threshold	:	No data is available on the product itself.
pH	:	No data is available on the product itself.
Boiling point	:	> 200 °C
Flash point	:	> 94 °CMethod: 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	:	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	:	0.46 - 0.5
Density	:	0.48 g/cm3 (25 °C)
Solubility(ies)		
Water solubility	:	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.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	The product is chemically stable. polymerisation
Possibility of hazardous reactions	:	None known.
Conditions to avoid	:	None known.
Incompatible materials	:	Strong acids and strong bases Oxidizing agents
Hazardous decomposition products	:	No decomposition if stored normally. Carbon oxides Oxides of phosphorus Burning produces noxious and toxic fumes. Aldehydes Hydrocarbons

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 -	:	Acute toxicity estimate: > 10 mg/l

Product		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

Components:

Bisphenol A epoxy resin**:**
Species: Rabbit
Assessment: Mild skin irritant
Method: OECD Test Guideline 404
Result: Irritating to skin.

Butanedioldiglycidyl ether**:**
Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]**:**
Result: Skin irritation

Phenol, 4-nonyl-, branched**:**
Species: Rabbit
Assessment: Causes burns.
Result: Causes burns.

trimethoxy(methyl)silane**:**
Species: Rabbit
Assessment: No skin irritation
Method: OECD Test Guideline 404
Result: No skin irritation

diuron**:**
Species: Rabbit
Assessment: No skin irritation
Method: OECD Test Guideline 404
Result: No skin irritation

Species: Rabbit
Assessment: Mild skin irritant
Method: OPPTS 870.2500
Result: Mild skin irritation

Serious eye damage/eye irritation

Components:

Bisphenol A epoxy resin**:**

Species: Rabbit
Result: Irritating to eyes.
Assessment: Mild eye irritant
Method: OECD Test Guideline 405

Butanedioldiglycidyl ether**:**
Species: Rabbit
Result: Risk of serious damage to eyes.
Method: OECD Test Guideline 405

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]**:**
Result: Eye irritation

Phenol, 4-nonyl-, branched**:**
Result: Risk of serious damage to eyes.

trimethoxy(methyl)silane**:**
Species: Rabbit
Result: No eye irritation
Assessment: No eye irritation
Method: OECD Test Guideline 405

diuron**:**
Species: Rabbit
Result: Irritation to eyes, reversing within 7 days
Assessment: No eye irritation
Method: OECD Test Guideline 405

Species: Rabbit
Result: Irritation to eyes, reversing within 7 days
Assessment: Mild eye irritant
Method: OPPTS 870.2400

Respiratory or skin sensitisation

Components:

Bisphenol A epoxy resin**:**
Exposure routes: Skin
Species: Mouse
Assessment: May cause sensitisation by skin contact.
Method: OECD Test Guideline 429
Result: Causes sensitisation.

Butanedioldiglycidyl ether**:**
Exposure routes: Skin
Species: Guinea pig
Method: OECD Test Guideline 406
Result: May cause sensitisation by skin contact.

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]**:**
Result: May cause sensitisation by skin contact.

Phenol, 4-nonyl-, branched**:**
Exposure routes: Skin

Species: Guinea pig
Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.

trimethoxy(methyl)silane**:**
Exposure routes: Skin
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Causes sensitisation.

diuron**:**
Exposure routes: Skin
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.

Exposure routes: Skin
Species: Guinea pig
Method: OPPTS 870.2600
Result: Does not cause skin sensitisation.

Assessment: No data available

Germ cell mutagenicity

Components:

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

diuron**:**
Genotoxicity in vitro : Concentration: 360 µg/L
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative

Concentration: 2000 ug/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471

Result: negative

Method: OECD Test Guideline 473
Result: negative

Components:

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

trimethoxy(methyl)silane:
Genotoxicity in vivo : Application Route: Oral
Dose: 2000 mg/kg
Method: OECD Test Guideline 474
Result: negative

diuron:
Genotoxicity in vivo : Application Route: Intraperitoneal injection
Dose: 700 mg/kg
Method: OECD Test Guideline 474
Result: negative

Components:

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- : Weight of evidence does not support classification as a germ

Assessment cell mutagen.

Germ cell mutagenicity-Assessment : No data available

Carcinogenicity

Components:

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

diuron**:**
Species: Rat, (male and female)
Application Route: Oral
Exposure time: 24 month(s)
Dose: 1 - 17 mg/kg
Frequency of Treatment: 7 daily
Method: OECD Test Guideline 453
Result: positive
Target Organs: Bladder

Species: Rat, (male and female)
Application Route: Oral
Dose: < 600 mg/kg
Result: positive

Carcinogenicity - Assessment : No data available

ACGIH Suspected human carcinogen

quartz (SiO2)

Reproductive toxicity

Components:

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.

trimethoxy(methyl)silane:

Species: Rat, male and female
Application Route: Oral
Method: OECD Test Guideline 422

diuron:

Species: Rat, male and female
Application Route: Oral
Method: OECD Test Guideline 416

Species: Rat, male and female
Application Route: Oral

Components:

Bisphenol A epoxy resin:

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

Phenol, 4-nonyl-, branched:

Species: Rat, female
Application Route: Oral

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

trimethoxy(methyl)silane**:**

Species: Rat, male and female
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level: 1,000 mg/kg body weight
Method: OECD Test Guideline 422
Result: No teratogenic effects

diuron**:**

Species: Rat, female
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level: 16 mg/kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects

Species: Rabbit, female
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level: 10 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: > 125 mg/kg body weight
Result: Teratogenic effects

Components:

Phenol, 4-nonyl-, branched**:**
Reproductive toxicity - Assessment : Suspected human reproductive toxicant

STOT - single exposure

No data available

STOT - repeated exposure

Components:

trimethoxy(methyl)silane**:**
Target Organs: Liver, Thyroid, Adrenal gland, Gastrointestinal tract
Assessment: May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

Bisphenol A epoxy resin**:**
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

Butanedioldiglycidyl ether**:**
Species: Rat, male and female
NOAEL: 200 mg/kg
Application Route: Ingestion
Exposure time: 28 d
Number of exposures: 7 d
Method: Subacute toxicity

Phenol, 4-nonyl-, branched**:**
Species: Rat, male and female
NOAEL: 100 mg/kg
Application Route: Ingestion
Exposure time: 672 h
Number of exposures: 7 d
Method: Subacute toxicity

Species: Rat, male and female
NOAEL: 50 mg/kg
Application Route: Ingestion
Exposure time: 2,160 h
Number of exposures: 7 d
Method: Subchronic toxicity

trimethoxy(methyl)silane**:**
Species: Rat, male and female
: 50 mg/kg, 100 ppm
Application Route: Ingestion
Test atmosphere: vapour
Exposure time: 672 h
Number of exposures: 7 d
Method: OECD Test Guideline 413

diuron**:**

Species: Rat, male and female
: 6.7 - 8.7 mg/kg, 4.1 - 37.4 mg/m3
Application Route: Ingestion
Test atmosphere: dust/mist
Exposure time: 8 Weeks
Number of exposures: 7 d
Method: OECD Test Guideline 412

Species: Dog, male and female
NOAEL: 1.8 mg/kg/d
Application Route: Ingestion
Exposure time: 8,640 h
Number of exposures: 7 d
Method: Chronic toxicity

Species: Rabbit, male and female
NOAEL: 250 mg/kg/d
Application Route: Skin contact
Exposure time: 504 h
Number of exposures: 5 d
Method: Subacute 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

Components:

trimethoxy(methyl)silane**:**

Remarks: Solvents may degrease the skin.

Other health hazards

No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

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

Phenol, 4-nonyl-, branched:
Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 0.128 mg/l
Exposure time: 96 h
Test Type: flow-through test
Test substance: Fresh water
Method: ASTM Method, other

LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.209 mg/l
Exposure time: 96 h
Test Type: flow-through test
Test substance: Fresh water
Method: ASTM Method, other

LC50 (Oncorhynchus mykiss (rainbow trout)): 0.221 mg/l
Exposure time: 96 h
Test Type: flow-through test
Test substance: Fresh water
Method: ASTM Method, other

trimethoxy(methyl)silane:
Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 110 mg/l
Exposure time: 96 h
Test Type: flow-through test
Test substance: Fresh water
Method: OECD Test Guideline 203

diuron:
Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 14.7 mg/l
Exposure time: 96 h
Test Type: static test

Test substance: Fresh water
Method: OECD Test Guideline 203

LC50 (Pimephales promelas (fathead minnow)): 14 mg/l
Exposure time: 96 h
Test substance: Fresh water

Components:

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

Phenol, 4-nonyl-, branched:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.085 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: ASTM Method, other

EC50 (Daphnia magna (Water flea)): 0.14 mg/l
Exposure time: 48 h
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.2.

trimethoxy(methyl)silane:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 122 mg/l
Exposure time: 48 h
Test Type: flow-through test
Test substance: Fresh water
Method: OECD Test Guideline 202

diuron:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1.4 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

Components:

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

Phenol, 4-nonyl-, branched:
Toxicity to algae : EbC50 (Desmodesmus subspicatus (Scenedesmus subspicatus)): 1.3 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water

ErC50 (Selenastrum capricornutum (green algae)): 0.41 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: Algal Toxicity, Tiers I and II

trimethoxy(methyl)silane:
Toxicity to algae : EgC50 (Selenastrum capricornutum (green algae)): > 120 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

diuron:
Toxicity to algae : EC50 (Other): 22 ugl
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

EC50 (Selenastrum capricornutum (green algae)): 2.4 ppb
Exposure time: 96 h
Test substance: Fresh water

Components:

Phenol, 4-nonyl-, branched:
M-Factor (Acute aquatic toxicity) : 10

hexaboron dizinc undecaoxide:
M-Factor (Acute aquatic toxicity) : 1

1

diuron:
M-Factor (Acute aquatic toxicity) : 10

10

Components:

Phenol, 4-nonyl-, branched:
Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 0.006 mg/l
Exposure time: 91 d

Test Type: flow-through test
Test substance: Fresh water

diuron:
Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 0.41 mg/l
Exposure time: 28 d
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 204

Components:

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

diuron:
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.56 mg/l
Exposure time: 21 d
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 211

NOEC (Daphnia magna (Water flea)): >= 1 mg/l
Exposure time: 21 d
Test substance: Fresh water

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

Components:

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

Phenol, 4-nonyl-, branched:
Toxicity to bacteria : EC50 (activated sludge): 950 mg/l
Exposure time: 3 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 209

diuron:
Toxicity to bacteria : EC50 (activated sludge): 3,080 mg/l

Exposure time: 0.5 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 209

Components:

Phenol, 4-nonyl-, branched**:**

Toxicity to soil dwelling organisms : EC10: 3.44 mg/kg
Exposure time: 504 h

EC50 (Other): 906.7 mg/kg
Exposure time: 4 Weeks
Test substance: Synthetic

diuron**:**

Toxicity to soil dwelling organisms : LC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg
Exposure time: 336 h

Remarks: see user defined free text

Plant toxicity : No data available

Sediment toxicity : No data available

Components:

Phenol, 4-nonyl-, branched**:**

Toxicity to terrestrial organisms : EC10: 63.2 mg/kg
Exposure time: 672 h
Test substance: Synthetic

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:
No data available

Persistence and degradability

Components:

Bisphenol A epoxy resin**:**

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

Butanedioldiglycidyl ether:

Biodegradability	:	Inoculum: activated sludge Concentration: 20 mg/l Result: Not readily biodegradable. Biodegradation: 43 % Exposure time: 28 d Method: OECD Test Guideline 301F

Phenol, 4-nonyl-, branched:

Biodegradability	:	Inoculum: activated sludge Concentration: 13 mg/l Result: Inherently biodegradable. Biodegradation: ca. 48.2 % Exposure time: 35 d Method: OECD Test Guideline 301B Inoculum: Sediment Concentration: 2 Result: Inherently biodegradable. Biodegradation: 100 % Exposure time: 63 - 84 d Method: Anaerobic Biodegradability in the Subsurface Inoculum: Marine water Concentration: 11 Biodegradation: 50 % Exposure time: 56 - 112 d Method: OECD Test Guideline 309

trimethoxy(methyl)silane:

Biodegradability	:	Inoculum: activated sludge Concentration: 11.2 mg/l Result: Not readily biodegradable. Biodegradation: 54 % Exposure time: 28 d

diuron:

Biodegradability	:	Inoculum: Sewage (STP effluent) Concentration: 30 mg/l Result: Not readily biodegradable. Biodegradation: 0 % Exposure time: 28 d Method: OECD Test Guideline 301F Result: Inherently biodegradable. Result: Inherently 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

Components:

Bisphenol A epoxy resin:

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

Phenol, 4-nonyl-, branched:

Bioaccumulation	:	Species: Lepomis macrochirus (Bluegill sunfish) Bioconcentration factor (BCF): 231 Remarks: Does not bioaccumulate. Species: Pimephales promelas (fathead minnow) Bioconcentration factor (BCF): 740 Remarks: Bioaccumulation is unlikely.

diuron:

Bioaccumulation	:	Species: Other Bioconcentration factor (BCF): 5.2 Remarks: Bioaccumulation is unlikely.

Components:

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

Phenol, 4-nonyl-, branched:

Partition coefficient: n-octanol/water	:	log Pow: 5.4 (23 °C) pH: 5.7 Method: OECD Test Guideline 117

trimethoxy(methyl)silane**:**

Partition coefficient: n-octanol/water	:	log Pow: 0.7 (20 °C) pH: 7 Method: QSAR

diuron**:**

Partition coefficient: n-octanol/water	:	log Pow: 2.89 (20 °C) pH: 7.01 Method: OECD Test Guideline 107 log Pow: 2.82 (20 °C)

Mobility in soil

Mobility	:	No data available

Components:

Bisphenol A epoxy resin**:**

Distribution among environmental compartments	:	Koc: 445

Butanedioldiglycidyl ether**:**

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

Phenol, 4-nonyl-, branched**:**

Distribution among environmental compartments	:	Koc: 23000 - 489000

diuron**:**

Distribution among environmental compartments	:	Koc: 293 - 504Method: OECD Test Guideline 106
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	Not applicable

Components:

trimethoxy(methyl)silane**:**

Additional ecological information	:	There is no data available for this product.
Global warming potential	:	No data available

(GWP)

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

SECTION 14. TRANSPORT INFORMATION

International Regulation

TDG

UN number	:	UN 3077
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (BISPHENOL A EPOXY RESIN)
Class	:	9
Packing group	:	III
Labels	:	9

IATA

UN/ID No.	:	UN 3077
Proper shipping name	:	Environmentally hazardous substance, solid, n.o.s. (BISPHENOL A EPOXY RESIN)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	956
Packing instruction (passenger aircraft)	:	956

IMDG

UN number	:	UN 3077
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, 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.

National Regulations

TDG

UN number	:	UN 3077
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (BISPHENOL A EPOXY RESIN)
Class	:	9
Packing group	:	III
Labels	:	9
ERG Code	:	171
Marine pollutant	:	yes(BISPHENOL A EPOXY RESIN)

SECTION 15. REGULATORY INFORMATION

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	:	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	:	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	:	Not 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)

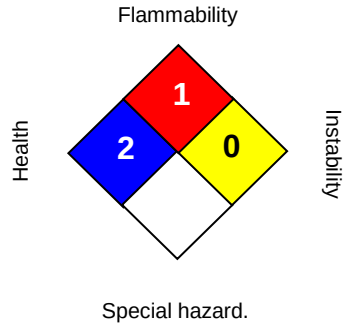
Canada. CEPA 1999 Significant New Activity (SNAc) List

No substances are subject to a Significant New Activity Notification.

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 : 06/01/2016

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.

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