

RENINFUSION® 8610 US

Version	Revision Date:	SDS Number:	Date of last issue:
2.0	12/13/2019	400001012748	09/28/2016
			Date of first issue: 09/28/2016

Print Date 12/14/2019

SECTION 1. IDENTIFICATION

Product name : RENINFUSION® 8610 US

Manufacturer or supplier's details

Company name of supplier : Huntsman Advanced Materials Americas LLC
Address : P.O. Box 4980
The Woodlands,
TX 77387

United States of America (USA)

Telephone : Non-Emergency: (800) 257-5547

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

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

Recommended use of the chemical and restrictions on use

Recommended use : Adhesives and/or sealants

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

Skin irritation : Category 2

Serious eye damage : Category 1

Skin sensitisation : Category 1

Reproductive toxicity : Category 2

Short-term (acute) aquatic hazard : Category 2

Long-term (chronic) aquatic hazard : Category 2

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.
H361 Suspected of damaging fertility or the unborn child.



RENINFUSION® 8610 US

Version 2.0 Revision Date: 12/13/2019 SDS Number: 400001012748 Date of last issue: 09/28/2016
Date of first issue: 09/28/2016

Print Date 12/14/2019

H411 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.

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/doctor.

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 facility in accordance with local, regional, national and international regulations.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
Phenol, polymer with formaldehyde, glycidyl ether	28064-14-4	70 - 90
1,4-bis(2,3-epoxypropoxy)butane	2425-79-8	5 - 10
trichloro(N,N-dimethyloctylamine)boron	34762-90-8	5 - 10

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

SECTION 4. FIRST AID MEASURES

RENINFUSION® 8610 US

Version 2.0	Revision Date: 12/13/2019	SDS Number: 400001012748	Date of last issue: 09/28/2016 Date of first issue: 09/28/2016
----------------	------------------------------	-----------------------------	---

Print Date 12/14/2019

- | | |
|---|--|
| General advice | : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Treat symptomatically.
Get medical attention if symptoms occur. |
| If inhaled | : If inhaled, remove to fresh air.
Get medical attention if symptoms occur. |
| 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 | : 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.
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.
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. |
| Protection of first-aiders | : No action shall be taken involving any personal risk or without suitable training.
It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. |
| Notes to physician | : Treat symptomatically. |

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 |
| Hazardous combustion products | : Carbon dioxide (CO ₂)
Carbon monoxide
Carbon oxides |
| Specific extinguishing methods | : No data is available on the product itself. |

RENINFUSION® 8610 US

Version	Revision Date:	SDS Number:	Date of last issue:
2.0	12/13/2019	400001012748	09/28/2016
			Date of first issue: 09/28/2016

Print Date 12/14/2019

- 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.
Refer to protective measures listed in sections 7 and 8.
Only qualified personnel equipped with suitable protective equipment may intervene.
Never return spills in original containers for re-use.
Treat recovered material as described in the section "Disposal considerations".
For disposal considerations see section 13.
Make sure that there is a sufficient amount of neutralizing/absorbent material near the storage area.
The danger areas must be delimited and identified using relevant warning and safety signs.
- 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

- Technical measures : Ensure that eyewash stations and safety showers are close to the workstation location.
- Local/Total ventilation : Use only with adequate ventilation.
- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
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

RENINFUSION® 8610 US

Version	Revision Date:	SDS Number:	Date of last issue:
2.0	12/13/2019	400001012748	09/28/2016
			Date of first issue: 09/28/2016

Print Date 12/14/2019

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. Keep in properly labelled containers.

Materials to avoid : Keep away from oxidizing agents. Keep away from strong acids.

For incompatible materials please refer to Section 10 of this SDS.

Further information on storage stability : Stable under normal conditions.

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

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Remarks : For prolonged or repeated contact use protective gloves. Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. 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

RENINFUSION® 8610 US

Version	Revision Date:	SDS Number:	Date of last issue:
2.0	12/13/2019	400001012748	09/28/2016
			Date of first issue: 09/28/2016

Print Date 12/14/2019

concentration of the dangerous substance at the work place.

Protective measures : Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing
The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Ensure that eye flushing systems and safety showers are located close to the working 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	: Clear
Odour	: epoxy-like
Odour Threshold	: No data is available on the product itself.
pH	: No data is available on the product itself.
Freezing point	: No data is available on the product itself.
Melting point	: No data is available on the product itself.
Boiling point	: No data is available on the product itself.
Flash point	: 289 °F / 143 °C Method: estimated, closed cup
Evaporation rate	: No data is available on the product itself.
Flammability (solid, gas)	: No data is available on the product itself.
Flammability (liquids)	: No data is available on the product itself.
Upper explosion limit / Upper flammability limit	: No data is available on the product itself.
Lower explosion limit / Lower flammability limit	: No data is available on the product itself.
Vapour pressure	: No data is available on the product itself.
Relative vapour density	: No data is available on the product itself.
Relative density	: 1.18
Density	: No data is available on the product itself.



RENINFUSION® 8610 US

Version	Revision Date:	SDS Number:	Date of last issue:
2.0	12/13/2019	400001012748	09/28/2016
			Date of first issue: 09/28/2016

Print Date 12/14/2019

Solubility(ies)	
Water solubility	: No data is available on the product itself.
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.
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	: 10,000 mPa.s (77 °F / 25 °C) 325 mPa.s (126 °F / 52 °C)
Explosive properties	: No data is available on the product itself.
Oxidizing properties	: No data is available on the product itself.
Particle size	: No data is available on the product itself.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No hazards to be specially mentioned.
Conditions to avoid	: None known.
Incompatible materials	: None known.
Hazardous decomposition products	: carbon dioxide carbon monoxide

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
-------------------------------	---

RENINFUSION® 8610 US

Version	Revision Date:	SDS Number:	Date of last issue: 09/28/2016
2.0	12/13/2019	400001012748	Date of first issue: 09/28/2016

Print Date 12/14/2019

Acute inhalation toxicity - Product : Acute toxicity estimate: 15.82 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**Components:**

Phenol, polymer with formaldehyde, glycidyl ether:
Species: Rabbit
Method: OECD Test Guideline 404
Result: Irritating to skin.

1,4-bis(2,3-epoxypropoxy)butane:
Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation

trichloro(N,N-dimethyloctylamine)boron:
Species: Rabbit
Assessment: No skin irritation
Method: OECD Test Guideline 404
Result: No skin irritation

Serious eye damage/eye irritation**Components:**

Phenol, polymer with formaldehyde, glycidyl ether:
Species: Rabbit
Result: Irritating to eyes.
Method: OECD Test Guideline 405

1,4-bis(2,3-epoxypropoxy)butane:
Species: Rabbit
Result: Risk of serious damage to eyes.
Method: OECD Test Guideline 405

trichloro(N,N-dimethyloctylamine)boron:
Species: Rabbit
Result: No eye irritation
Assessment: No eye irritation
Method: OECD Test Guideline 405

Respiratory or skin sensitisation**Components:**

Phenol, polymer with formaldehyde, glycidyl ether:

RENINFUSION® 8610 US

Version	Revision Date:	SDS Number:	Date of last issue: 09/28/2016
2.0	12/13/2019	400001012748	Date of first issue: 09/28/2016

Print Date 12/14/2019

Exposure routes: Skin
 Species: Mouse
 Method: OECD Test Guideline 429
 Result: May cause sensitisation by skin contact.

1,4-bis(2,3-epoxypropoxy)butane:
 Exposure routes: Skin
 Species: Guinea pig
 Method: OECD Test Guideline 406
 Result: May cause sensitisation by skin contact.

trichloro(N,N-dimethyloctylamine)boron:
 Exposure routes: Skin
 Species: Mouse
 Method: OECD Test Guideline 429
 Result: Probability or evidence of low to moderate skin sensitisation rate in humans

Assessment: No data available

Germ cell mutagenicity**Components:**

Phenol, polymer with formaldehyde, glycidyl ether:

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
 Result: positive

Concentration: 0 - 5000 ug/plate
 Metabolic activation: with and without metabolic activation
 Result: positive

1,4-bis(2,3-epoxypropoxy)butane:

Genotoxicity in vitro : Concentration: 10 - 5000 ug/plate
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 471
 Result: positive
 Remarks: Not classified due to data which are conclusive although insufficient for classification.

Concentration: 1 - 100 µg/L
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 473
 Result: positive
 Remarks: Not classified due to data which are conclusive although insufficient for classification.

trichloro(N,N-dimethyloctylamine)boron:

Genotoxicity in vitro : Test Type: reverse mutation assay
 Test system: Salmonella typhimurium
 Metabolic activation: with and without metabolic activation
 Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)
 Result: negative

Test Type: reverse mutation assay
 Test system: Escherichia coli
 Metabolic activation: with and without metabolic activation



RENINFUSION® 8610 US

Version	Revision Date:	SDS Number:	Date of last issue:
2.0	12/13/2019	400001012748	09/28/2016
			Date of first issue: 09/28/2016

Print Date 12/14/2019

Method: Mutagenicity (Escherichia coli - reverse mutation assay)

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: Chromosome aberration test in vitro

Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

Components:

Phenol, polymer with formaldehyde, glycidyl ether:

Genotoxicity in vivo

: Cell type: Germ

Application Route: Oral

Result: negative

Cell type: Somatic

Application Route: Oral

Dose: 0 - 5000 mg/kg

Result: negative

1,4-bis(2,3-epoxypropoxy)butane:

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

Components:

1,4-bis(2,3-epoxypropoxy)butane:

Germ cell mutagenicity-

Assessment

: Weight of evidence does not support classification as a germ cell mutagen.

Carcinogenicity**Components:**

Phenol, polymer with formaldehyde, glycidyl ether:

RENINFUSION® 8610 US

Version	Revision Date:	SDS Number:	Date of last issue: 09/28/2016
2.0	12/13/2019	400001012748	Date of first issue: 09/28/2016

Print Date 12/14/2019

Species: Rat, male and female
Application Route: Oral
Exposure time: 24 month(s)
Dose: 15 mg/kg
Frequency of Treatment: 7 daily
Method: OECD Test Guideline 453
Result: negative

Species: Mouse, male
Application Route: Dermal
Exposure time: 24 month(s)
Dose: .1 mg/kg
Frequency of Treatment: 3 daily
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 daily
Method: OECD Test Guideline 453
Result: negative

Carcinogenicity - Assessment : No data available

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

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

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

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity**Components:**

Phenol, polymer with formaldehyde, glycidyl ether:

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

trichloro(N,N-dimethyloctylamine)boron:

Species: Rat, male and female
Strain: wistar
Application Route: Oral

RENINFUSION® 8610 US

Version	Revision Date:	SDS Number:	Date of last issue:
2.0	12/13/2019	400001012748	09/28/2016
			Date of first issue: 09/28/2016

Print Date 12/14/2019

Dose: 0/100/300/1000 milligram per kilogram
 Duration of Single Treatment: 49 d
 Frequency of Treatment: 7 days/week
 General Toxicity - Parent: No observed adverse effect level:
 1,000 mg/kg body weight
 General Toxicity F1: No-observed-effect level: 300 mg/kg
 body weight
 Fertility: No observed adverse effect level: 300 mg/kg body
 weight
 Method: OECD Test Guideline 422
 Result: Embryotoxic effects and adverse effects on the
 offspring were detected.

Components:

Phenol, polymer with formaldehyde, glycidyl ether:

Effects on foetal
development

: Species: Rabbit, female
 Application Route: Dermal
 General Toxicity Maternal: No observed adverse effect level:
 30 mg/kg body weight
 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

trichloro(N,N-dimethyloctylamine)boron:

Species: Rat, male and female
 Strain: wistar
 Application Route: Oral
 Dose: 0/100/300/1000 milligram per kilogram
 Duration of Single Treatment: 49 d
 Frequency of Treatment: 7 days/week
 General Toxicity Maternal: No observed adverse effect level:
 1,000 mg/kg body weight
 Developmental Toxicity: No observed adverse effect level:
 300 mg/kg body weight
 Method: OECD Test Guideline 422
 Result: Embryotoxic effects and adverse effects on the
 offspring were detected.

Components:

trichloro(N,N-dimethyloctylamine)boron:

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



RENINFUSION® 8610 US

Version	Revision Date:	SDS Number:	Date of last issue: 09/28/2016
2.0	12/13/2019	400001012748	Date of first issue: 09/28/2016

Print Date 12/14/2019

STOT - single exposure

No data available

STOT - repeated exposure

No data available

Repeated dose toxicity**Components:**

Phenol, polymer with formaldehyde, glycidyl ether:

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

1,4-bis(2,3-epoxypropoxy)butane:

Species: Rat, male and female

NOAEL: 200 mg/kg

Application Route: Ingestion

Exposure time: 28 d

Number of exposures: 7 d

Method: Subacute toxicity

trichloro(N,N-dimethyloctylamine)boron:

Species: Rat, male and female

NOAEL: 1000 mg/kg

Application Route: Oral

Exposure time: 49 d

Number of exposures: 7 d/week

Dose: 0/100/300/1000 mg/kg

Method: OECD Test Guideline 422

Repeated dose toxicity - : No data available
Assessment

RENINFUSION® 8610 US

Version	Revision Date:	SDS Number:	Date of last issue:
2.0	12/13/2019	400001012748	09/28/2016
			Date of first issue: 09/28/2016

Print Date 12/14/2019

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

Ingestion: No data available

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

Phenol, polymer with formaldehyde, glycidyl ether:

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

1,4-bis(2,3-epoxypropoxy)butane:

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

trichloro(N,N-dimethyloctylamine)boron:

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): > 100 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203

RENINFUSION® 8610 US

Version	Revision Date:	SDS Number:	Date of last issue:
2.0	12/13/2019	400001012748	09/28/2016
			Date of first issue: 09/28/2016

Print Date 12/14/2019

Components:

Phenol, polymer with formaldehyde, glycidyl ether:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1.7 mg/l
 Exposure time: 48 h
 Test Type: static test
 Test substance: Fresh water
 Method: OECD Test Guideline 202

EC50 (Daphnia magna (Water flea)): 2.7 mg/l
 Exposure time: 48 h
 Test Type: static test
 Test substance: Fresh water

1,4-bis(2,3-epoxypropoxy)butane:

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

trichloro(N,N-dimethyloctylamine)boron:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 0.75 mg/l
 Exposure time: 48 h
 Test Type: static test
 Method: OECD Test Guideline 202

Components:

Phenol, polymer with formaldehyde, glycidyl ether:

Toxicity to algae/aquatic plants : EC50 (Selenastrum capricornutum (green algae)): 9.4 mg/l
 Exposure time: 72 h
 Test Type: static test
 Test substance: Fresh water

1,4-bis(2,3-epoxypropoxy)butane:

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

trichloro(N,N-dimethyloctylamine)boron:

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 0.13 mg/l
 Exposure time: 72 h
 Test Type: static test
 Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.022 mg/l
 Exposure time: 72 h
 Test Type: static test
 Method: OECD Test Guideline 201



RENINFUSION® 8610 US

Version	Revision Date:	SDS Number:	Date of last issue: 09/28/2016
2.0	12/13/2019	400001012748	Date of first issue: 09/28/2016

Print Date 12/14/2019

Components:

trichloro(N,N-dimethyloctylamine)boron:

M-Factor (Acute aquatic toxicity) : 1

Components:

Phenol, polymer with formaldehyde, glycidyl ether:

Toxicity to fish (Chronic toxicity) : GLP: yes

Components:

Phenol, polymer with formaldehyde, glycidyl ether:

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

Components:

trichloro(N,N-dimethyloctylamine)boron:

M-Factor (Chronic aquatic toxicity) : 1

Components:

Phenol, polymer with formaldehyde, glycidyl ether:

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

1,4-bis(2,3-epoxypropoxy)butane:

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

trichloro(N,N-dimethyloctylamine)boron:

Toxicity to microorganisms : EC10 (Pseudomonas putida): > 10,000 mg/l
 Exposure time: 16 h
 Test Type: Fresh water
 Method: DIN 38412

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



RENINFUSION® 8610 US

Version	Revision Date:	SDS Number:	Date of last issue: 09/28/2016
2.0	12/13/2019	400001012748	Date of first issue: 09/28/2016

Print Date 12/14/2019

Chronic aquatic toxicity : No data available

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

Persistence and degradability**Components:**

Phenol, polymer with formaldehyde, glycidyl ether:

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

1,4-bis(2,3-epoxypropoxy)butane:

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

trichloro(N,N-dimethyloctylamine)boron:

Biodegradability : Test Type: aerobic
 Inoculum: activated sludge
 Result: Not readily biodegradable.
 Biodegradation: 10 - 25 %
 Exposure time: 28 d
 Method: OECD Test Guideline 301B

Inoculum: Mixture
 Result: Inherently biodegradable.
 Biodegradation: 42 %
 Exposure time: 28 d
 Method: Inherent Biodegradability: Modified MITI Test (II)

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



RENINFUSION® 8610 US

Version	Revision Date:	SDS Number:	Date of last issue:
2.0	12/13/2019	400001012748	09/28/2016
			Date of first issue: 09/28/2016

Print Date 12/14/2019

Physico-chemical
removability : No data available**Components:**

Phenol, polymer with formaldehyde, glycidyl ether:

Stability in water : Degradation half life(DT50): 4.83 d (77 °F / 25 °C) pH: 4
Method: OECD Test Guideline 111
Remarks: Fresh waterDegradation half life(DT50): 7.1 d (77 °F / 25 °C) pH: 9
Method: OECD Test Guideline 111
Remarks: Fresh waterDegradation half life(DT50): 3.58 d (77 °F / 25 °C) pH: 7
Method: OECD Test Guideline 111
Remarks: Fresh water

trichloro(N,N-dimethyloctylamine)boron:

Stability in water : Degradation half life(DT50): 10.4 h (77 °F / 25 °C) pH: 4
Method: OECD Test Guideline 111Degradation half life(DT50): 10.3 h (77 °F / 25 °C) pH: 7
Method: OECD Test Guideline 111Degradation half life(DT50): 10.4 h (77 °F / 25 °C) pH: 9
Method: OECD Test Guideline 111

Photodegradation : No data available

Impact on Sewage
Treatment : No data available**Bioaccumulative potential****Components:**

Phenol, polymer with formaldehyde, glycidyl ether:

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

Phenol, polymer with formaldehyde, glycidyl ether:

Partition coefficient: n- : log Pow: 3.242 (77 °F / 25 °C)
octanol/water pH: 7.1
Method: OECD Test Guideline 117

1,4-bis(2,3-epoxypropoxy)butane:

Partition coefficient: n- : log Pow: -0.269 (77 °F / 25 °C)
octanol/water pH: 6.7
Method: OECD Test Guideline 117

trichloro(N,N-dimethyloctylamine)boron:

Partition coefficient: n- : log Pow: 5.77 (77 °F / 25 °C)
octanol/water Method: OECD Test Guideline 107

RENINFUSION® 8610 US

Version	Revision Date:	SDS Number:	Date of last issue: 09/28/2016
2.0	12/13/2019	400001012748	Date of first issue: 09/28/2016

Print Date 12/14/2019

Mobility in soil

Mobility : No data available

Components:

Phenol, polymer with formaldehyde, glycidyl ether:

Distribution among : Koc: 445

environmental compartments

1,4-bis(2,3-epoxypropoxy)butane:

Distribution among : Koc: 12.59

environmental compartments 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.
Dispose of as hazardous waste in compliance with local and
national regulations.

RENINFUSION® 8610 US

Version	Revision Date:	SDS Number:	Date of last issue:
2.0	12/13/2019	400001012748	09/28/2016
			Date of first issue: 09/28/2016

Print Date 12/14/2019

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

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

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

UN/ID No. : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
(EPOXY PHENOL NOVOLAC RESIN)
Class : 9
Packing group : III
Labels : Class 9 - Miscellaneous dangerous substances and articles
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.
(EPOXY PHENOL NOVOLAC 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**DOT Classification**

UN/ID/NA number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(EPOXY PHENOL NOVOLAC RESIN)
Class : 9
Packing group : III
Labels : Class 9 - Miscellaneous dangerous substances and articles
ERG Code : 171
Marine pollutant : yes(EPOXY PHENOL NOVOLAC RESIN)



RENINFUSION® 8610 US

Version	Revision Date:	SDS Number:	Date of last issue:
2.0	12/13/2019	400001012748	09/28/2016
			Date of first issue: 09/28/2016

Print Date 12/14/2019

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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

SARA 311/312 Hazards : Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitisation
Reproductive toxicity

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

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

California Prop. 65

This product contains a chemical that is at or below California Propositions 65's "safe harbor level" as determined via a risk assessment. Therefore, the chemical is not required to be listed as a Prop 65 chemical on the SDS or label.

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

CH INV	: The formulation contains substances listed on the Swiss Inventory
DSL	: All components of this product are on the Canadian DSL
AICS	: On the inventory, or in compliance with the inventory
NZIoC	: On the inventory, or in compliance with the inventory
ENCS	: Not 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
TSCA	: On the inventory, or in compliance with the inventory

Inventories

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

RENINFUSION® 8610 US

Version 2.0	Revision Date: 12/13/2019	SDS Number: 400001012748	Date of last issue: 09/28/2016 Date of first issue: 09/28/2016
----------------	------------------------------	-----------------------------	---

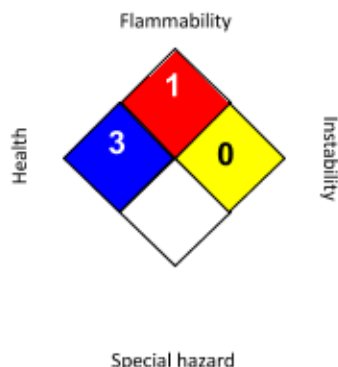
Print Date 12/14/2019

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 704:****HMIS® IV:**

HEALTH	*	3
FLAMMABILITY		1
PHYSICAL HAZARD		0

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

Revision Date : 12/13/2019

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.

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

SAFETY DATA SHEET

HUNTSMAN

Enriching lives through innovation

RENINFUSION® 8610 US

Version	Revision Date:	SDS Number:	Date of last issue: 09/28/2016
2.0	12/13/2019	400001012748	Date of first issue: 09/28/2016

Print Date 12/14/2019

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.

