ARALDITE® 252-1 RESIN BLUE

Version	Revision Date:	SDS Number:	Date of last issue: 12/27/2018
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SECTION 1. IDENTIFICATION

Product name : ARALDITE® 252-1 RESIN BLUE

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 : Epoxy constituents

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin irritation : Category 2

Eye irritation : Category 2A

Skin sensitisation : Category 1

Short-term (acute) aquatic hazard : Category 2

Chronic aquatic toxicity : Category 2

GHS label elements

Hazard pictograms :

Signal word : Warning

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

Precautionary statements : **Prevention:**

P261 Avoid breathing mist or vapours.
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/ eye protection/ face protection.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P391 Collect spillage.
Storage:
Not available
Disposal:
P501 Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
Phenol, polymer with formaldehyde, glycidyl ether	28064-14-4	50 - 70
Glass, oxide, chemicals	65997-17-3	20 - 30
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	2530-83-8	1 - 5
melamine	108-78-1	0.1 - 1

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

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.

Show this safety data sheet to the doctor in attendance.
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	:	Immediately flush eye(s) with plenty of water. Remove contact lenses. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	None known.
Protection of first-aiders	:	First Aid responders should pay attention to self-protection and use the recommended protective clothing If potential for exposure exists refer to Section 8 for specific personal protective equipment. Avoid inhalation, ingestion and contact with skin and eyes. 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	:	Water spray Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	Exercise caution when using a high volume water jet as it may scatter and spread fire
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Carbon oxides
Specific extinguishing	:	Use extinguishing measures that are appropriate to local

methods		circumstances and the surrounding environment.
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.
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	:	Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitisation of susceptible persons. Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product. Do not breathe vapours/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.
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. Keep in properly labelled containers.
Materials to avoid	:	For incompatible materials please refer to Section 10 of this SDS.

Recommended storage temperature	:	36 - 104 °F / 2 - 40 °C
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	:	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines Recommended Filter type: Combined particulates and organic vapour type
Filter type	:	Filter type A-P
Eye protection	:	Eye wash bottle with pure water Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	paste
Colour	:	blue
Odour	:	none
Odour Threshold	:	No data is available on the product itself.
pH	:	substance/mixture is non-soluble (in water)
Melting point/freezing point	:	No data is available on the product itself.
Boiling point	:	> 392 °F / > 200 °C
Flash point	:	> 212 °F / > 100 °C Method: Pensky-Martens closed cup, closed cup
Evaporation rate	:	No data is available on the product itself.

Flammability (solid, gas)	:	No data is available on the product itself.
Flammability (liquids)	:	No data is available on the product itself.
Upper explosion limit / Upper flammability limit	:	No data is available on the product itself.
Lower explosion limit / Lower flammability limit	:	No data is available on the product itself.
Vapour pressure	:	> 0.0001 hPa (68 °F / 20 °C)
Relative vapour density	:	No data is available on the product itself.
Relative density	:	No data is available on the product itself.
Density	:	0.76 g/cm3 (77 °F / 25 °C)
Solubility(ies)		
Water solubility	:	insoluble (68 °F / 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	:	> 392 °F / > 200 °C
Decomposition temperature	:	> 392 °F / > 200 °C
Self-Accelerating decomposition temperature (SADT)	:	No data is available on the product itself.
Viscosity	:	No data is available on the product itself.
Explosive properties	:	No data is available on the product itself.
Oxidizing properties	:	No data is available on the product itself.
Particle size	:	No data is available on the product itself.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	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	:	Strong acids and strong bases

Strong oxidizing agents

Hazardous decomposition products : carbon dioxide
carbon monoxide

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute dermal toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

Components:

Phenol, polymer with formaldehyde, glycidyl ether:

Acute oral toxicity : LD50 (Rat, female): > 2,000 mg/kg
Method: OECD Test Guideline 420
Assessment: The substance or mixture has no acute oral toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Acute oral toxicity : LD50 (Rat, male and female): 8,025 mg/kg
Method: OECD Test Guideline 401
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit, male): 4,250 mg/kg
Method: OECD Test Guideline 402

melamine:

Acute oral toxicity : LD50 (Rat, male and female): 3,161 - 3,828 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 5190 mg/m3
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Skin corrosion/irritation

Components:

Phenol, polymer with formaldehyde, glycidyl ether:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Irritating to skin.

Glass, oxide, chemicals:

Species	:	Rabbit
Assessment	:	No skin irritation
Method	:	OECD Test Guideline 404
Result	:	Normally reversible injuries

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

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

melamine:

Species	:	Rabbit
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

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Species	:	Rabbit
Result	:	Risk of serious damage to eyes.
Assessment	:	Severe eye irritation
Method	:	OECD Test Guideline 405

melamine:

Species	:	Rabbit
Remarks	:	slight irritation

Respiratory or skin sensitisation

Components:

Phenol, polymer with formaldehyde, glycidyl ether:

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

Glass, oxide, chemicals:

Exposure routes	:	Skin
Species	:	Other
Result	:	Does not cause skin sensitisation.

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

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

melamine:

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

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
Genotoxicity in vivo	:	Cell type: Germ Application Route: Oral Result: negative Cell type: Somatic Application Route: Oral Dose: 0 - 5000 mg/kg Result: negative

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Genotoxicity in vitro	:	Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: positive Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: positive
Genotoxicity in vivo	:	Application Route: Intraperitoneal injection Method: OECD Test Guideline 474 Result: positive Application Route: Intraperitoneal injection

Dose: 1600 mg/kg
Result: negative

Application Route: Oral
Result: negative

melamine:

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Method: Chromosome aberration test in vitro
Result: negative

Metabolic activation: with and without metabolic activation
Method: In vitro mammalian cell gene mutation test
Result: negative

Genotoxicity in vivo : Application Route: Intraperitoneal injection
Method: Skin Sensitization
Result: negative

Carcinogenicity

Components:

Phenol, polymer with formaldehyde, glycidyl ether:

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

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Species	:	Mouse, male
Application Route	:	Dermal
Exposure time	:	482 days
Dose	:	5 mg/kg
Frequency of Treatment	:	3 daily
Result	:	negative

IARC	Group 2A: Probably carcinogenic to humans Glass, oxide, chemicals (glass)	65997-17-3
	Group 2B: Possibly carcinogenic to humans Glass, oxide, chemicals (special-purpose fibres)	65997-17-3
	Group 2B: Possibly carcinogenic to humans melamine	108-78-1

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.

Effects on foetal development : Species: Rabbit, female
Application Route: Dermal
General Toxicity Maternal: NOAEL: 30 mg/kg body weight
Result: No teratogenic effects

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

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

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Effects on fertility : Species: Rat, male and female
Application Route: Oral
Method: OECD Test Guideline 415
Result: No effects on fertility and early embryonic development were detected.

Effects on foetal development : Species: Rabbit, female
Application Route: Oral
General Toxicity Maternal: NOAEL: 200 mg/kg body weight
Method: OECD Test Guideline 414

Result: No teratogenic effects

melamine:

Effects on foetal development	:	Species: Rat, female Application Route: Oral General Toxicity Maternal: NOAEL: 600 mg/kg body weight Method: OECD Test Guideline 414 Result: No teratogenic effects

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

Glass, oxide, chemicals:

Species	:	Rat, male
LOEC	:	2.4 mg/m3
Test atmosphere	:	dust/mist
Exposure time	:	2,160 h
Number of exposures	:	6 h
Method	:	Directive 67/548/EEC, Annex, B.29

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Species	:	Rat, male and female
NOEC	:	> 1000 mg/m3
Application Route	:	Inhalation
Test atmosphere	:	dust/mist
Exposure time	:	672 h

Number of exposures	:	5 d
Method	:	OECD Test Guideline 412

Species	:	Rat, male and female
NOAEL	:	1000 mg/kg/d
Application Route	:	Ingestion
Exposure time	:	2,160 h
Number of exposures	:	7 d
Method	:	Subchronic toxicity

melamine:

Species	:	Rat, male and female
LOAEL	:	72 mg/kg
Application Route	:	Ingestion
Exposure time	:	13 Weeks
Method	:	Subchronic toxicity

Aspiration toxicity

No data available

Experience with human exposure

No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

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
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

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

Glass, oxide, chemicals:

Toxicity to fish	:	LC50 (Brachydanio rerio (zebrafish)): > 1,000 mg/l Exposure time: 96 h Test Type: Other guidelines Test substance: Fresh water Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 72 h Test Type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EgC50 (Selenastrum capricornutum (green algae)): > 1,000 mg/l Exposure time: 72 h Test Type: semi-static test Method: OECD Test Guideline 201

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Toxicity to fish	:	LC50 (Cyprinus carpio (Carp)): 55 mg/l Exposure time: 96 h Test Type: semi-static test Test substance: Fresh water Method: Directive 67/548/EEC, Annex V, C.1.
Toxicity to daphnia and other aquatic invertebrates	:	LC50: 324 mg/l Exposure time: 48 h Test Type: static test Test substance: Fresh water
Toxicity to algae/aquatic plants	:	EC50: 119 mg/l Exposure time: 168 h Test Type: static test Test substance: Fresh water

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): >= 100 mg/l Exposure time: 21 d Test Type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 211

Ecotoxicology Assessment

Acute aquatic toxicity	:	This product has no known ecotoxicological effects.
Chronic aquatic toxicity	:	Harmful to aquatic life with long lasting effects.

melamine:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 3,000 mg/l Exposure time: 96 h Test Type: semi-static test Test substance: Fresh water
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 48 h Test Type: static test Test substance: Fresh water Method: Aquatic Invertebrate Acute Toxicity Test, Freshwater Daphnids
Toxicity to algae/aquatic plants	:	EC50 (Selenastrum capricornutum (green algae)): 325 mg/l Exposure time: 96 h Test Type: static test Test substance: Fresh water
Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): 1,500 mg/l Exposure time: 28 d Test Type: semi-static test Test substance: Fresh water
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 18 mg/l Exposure time: 21 d Test Type: semi-static test Test substance: Fresh water

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

Degradation half life (DT50): 7.1 d (25 °C) pH: 9
Method: OECD Test Guideline 111
Remarks: Fresh water

Degradation half life (DT50): 3.58 d (25 °C) pH: 7
Method: OECD Test Guideline 111
Remarks: Fresh water

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Biodegradability : Inoculum: activated sludge
Result: Not readily biodegradable.
Biodegradation: 37 %
Exposure time: 28 d
Method: Directive 67/548/EEC Annex V, C.4.A.

Stability in water : Degradation half life (DT50): 6.5 hrs (24.5 °C) pH: 7
Method: OECD Test Guideline 111
Remarks: Fresh water

Degradation half life (DT50): 0.15 hrs (24.5 °C) pH: 5
Method: OECD Test Guideline 111
Remarks: Fresh water

Degradation half life (DT50): 0.13 hrs (24.5 °C) pH: 9
Method: OECD Test Guideline 111
Remarks: Fresh water

melamine:

Biodegradability : Inoculum: activated sludge
Concentration: 100 mg/l
Result: Not readily biodegradable.
Biodegradation: < 10 %
Exposure time: 28 d
Method: OECD Test Guideline 302B

Bioaccumulative potential

Components:

Phenol, polymer with formaldehyde, glycidyl ether:

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

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

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Partition coefficient: n-octanol/water : log Pow: -2.6 (77 °F / 25 °C)

melamine:

Bioaccumulation : Bioconcentration factor (BCF): 0.05

Partition coefficient: n-octanol/water	:	log Pow: -1.22 (68 °F / 20 °C) pH: 8 Method: Partition coefficient

Mobility in soil

Components:

Phenol, polymer with formaldehyde, glycidyl ether:

Distribution among environmental compartments	:	Koc: 445

melamine:

Distribution among environmental compartments	:	Koc: 1.7

Other adverse effects

Product:

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

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Dispose of contents and container in accordance with all local, regional, national and international regulations. Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

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	:	Miscellaneous
Packing instruction (cargo aircraft)	:	964
Packing instruction (passenger aircraft)	:	964
Environmentally hazardous	:	yes

IMDG-Code

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

49 CFR

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
ERG Code	:	171
Marine pollutant	:	yes
Remarks	:	Shipment by ground under DOT is non-regulated; however it may be shipped per the applicable hazard classification to facilitate multi-modal transport involving ICAO (IATA) or IMO.

Special precautions for user

Remarks	:	49CFR: no dangerous good in non-bulk packaging

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

CERCLA Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

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

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

WARNING: This product can expose you to chemicals including 2,3-epoxypropyl phenyl ether, which is/are known to the State of California to cause cancer, and methanol, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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

DSL	:	All components of this product are on the Canadian DSL
AIIC	:	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
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory

Inventories

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

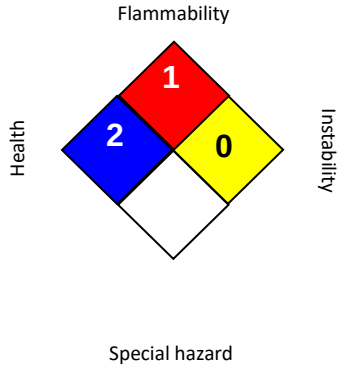
TSCA - 5(a) Significant New Use Rule List of Chemicals
No substances are subject to a Significant New Use Rule.

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.

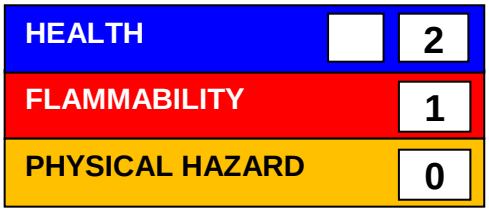
SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:



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

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