EPON(TM) Resin 863

Version *2*
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SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Trade name	:	EPON(TM) Resin 863
Product code	:	RA146
MSDS Number	:	2045
Product Type	:	Epoxy resin.
Company	:	Resolution Performance Products LLC P. O. Box 4500 Houston, TX 77210 USA
Telephone	:	(832) 486-6700
Emergency telephone number	:	CHEMTREC US Domestic (800) 424-9300 CHEMTREC International (703) 527-3887

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Weight %
Phenol, polymer with formaldehyde, glycidyl ether	28064-14-4	> 95 %

SECTION 3. HAZARDS IDENTIFICATION

Emergency Overview

Human health hazards	:	May be irritating to the eyes and skin. May cause skin sensitization.
Safety hazards	:	Not classified as flammable but will burn.

SECTION 4. FIRST AID MEASURES

Inhalation	:	Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention.
Skin contact	:	Remove contaminated clothing/shoes and wipe excess from

		skin. Flush skin with water. Follow by washing with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned. Contaminated leather articles, including shoes, cannot be decontaminated and should be destroyed to prevent reuse.
Eye contact	:	Flush eyes with plenty of water for 15 minutes while holding eyelids open. Get medical attention.
Ingestion	:	Do not induce vomiting. In general, no treatment is necessary unless large quantites of product are ingested. However, get medical advice.

Notes to physician

Symptoms	:	Irritation as noted above. Skin sensitization (allergy) may be evidenced by rashes, especially hives.
Treatment	:	In general, emesis induction is unnecessary in high viscosity, low volatility products.

SECTION 5. FIRE-FIGHTING MEASURES

Unsuitable extinguishing agents	:	Water in a jet.
Suitable extinguishing media	:	Use water fog, "alcohol foam", dry chemical or carbon dioxide.
Specific hazards during fire fighting	:	Keep adjacent containers cool by spraying with water. Not classified as flammable but will burn. Carbon monoxide may be evolved if incomplete combustion occurs. Clear fire area of all non-emergency personnel. Cool fire exposed containers with water. Container areas exposed to direct flame contact should be cooled with large quantities of water as needed to prevent weakening of container structure.
Special protective equipment for fire-fighters	:	Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves and rubber boots). including a positive pressure NIOSH approved self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Avoid contact with skin, eyes, clothing
Environmental precautions	:	Prevent contamination of soil and water. Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers. If material enters drains, it should be pumped out into an open vessel. Emergency services may need to be called to assist in this operation.
Clean-up methods - small spillage	:	Take up with an absorbent material and dispose of properly.
Clean-up methods - large spillage	:	Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material; place in non-leaking containers for proper disposal. Flush area with water to remove trace residue.
Additional advice	:	Notify authorities if any exposures to the general public or environment occurs or is likely to occur. See Section 13 for information on disposal.

SECTION 7. HANDLING AND STORAGE

Handling

Advice on safe handling	:	Containers, even those that have been emptied, can contain hazardous product residues. Handle in accordance with the potential hazard of the curing agent used. Avoid contact with eyes Avoid prolonged or repeated contact with skin Wash thoroughly after handling. Launder contaminated clothing before reuse. Contaminated leather articles, including shoes, cannot be decontaminated and should be destroyed to prevent reuse. WARNING. May cause skin and eye irritation. May cause skin sensitization. Minimize skin contact. Wash with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Heating this resin above 300 deg. F in the presence of air may cause slow oxidative decomposition, above 500 deg. F, polymerization may occur. Some curing agents, e.g., aliphatic polyamines, can produce exothermic reactions which in large masses can cause runaway polymerization and charring of the reactants. Fumes and vapors from the thermal and chemical decompositions

vary widely in composition and toxicity. Do not breathe fumes. Use a NIOSH-approved respirator as required to prevent overexposure. In accord with 29 CFR.1910.134, use either an atmosphere-supplying respirator or an air-purifying respirator for organic vapors.

Storage

Requirements for storage areas and containers : Store in a cool, dry place with adequate ventilation. Keep away from open flames and high temperatures.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Protective measures : Wear appropriate respirator and protective clothing.

Eye protection : Avoid contact with eyes.
Wear safety glasses or goggles as appropriate.

Hand protection : Butyl rubber gloves

Skin and body protection : Avoid prolonged or repeated contact with skin.
Wear chemical-resistant gloves and other clothing as required to minimize contact.

Respiratory protection : Not normally required.

Exposure Guidelines

Components with workplace control parameters	Regulation	Exposure time	Value	Remarks
Phenol, polymer with formaldehyde, glycidyl ether	ACGIH			None established.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form : Liquid

Colour : Light yellow

Odour : Slight

pH : ca. 7

Boiling point : > 200 °C (> 392 °F)

Flash point	:	> 150 °C (> 302 °F)
Autoignition temperature	:	> 300 °C (> 572 °F)
Vapour pressure	:	82 Pa at 20 °C (68 °F)
Density	:	Typical 1,170 kg/m3 at 25 °C (77 °F) (SMS 1347)
Partition coefficient (n-octanol/water)	:	log Pow: > 3
Solubility in water	:	Negligible.
Other physico-chemical properties	:	The above properties are typical values only and do not constitute a specification (refer to supplier for supply specification).

SECTION 10. STABILITY AND REACTIVITY

Materials to avoid	:	Can react vigorously with strong oxidizing agents, strong lewis or mineral acid, and strong mineral and organic bases, especially primary and secondary aliphatic amines.
Hazardous decomposition products	:	Carbon monoxide, aldehydes, acids, and other organic substances may be formed during combustion or thermal or oxidative decomposition. Reaction with some curing agents may produce considerable heat. Run-a-way cure reactions may char and decompose the resin system, generating unidentified fumes and vapors which may be toxic.
Hazardous reactions	:	Stable under normal use conditions. Hazardous polymerization will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	:	Low toxicity, LD50 > 2000 mg/kg.
Acute dermal toxicity	:	Low toxicity, LD50 > 2000 mg/kg.
Acute inhalation toxicity	:	no data available

Chronic Health Hazard

Components	Concentration	Regulation	Value	Remarks
Phenol, polymer with formaldehyde, glycidyl ether	> 95 %			This component has not been classified by the International Agency for Research on Cancer (IARC).

Eye irritation : Slightly irritating to the eyes.

Skin irritation : Slightly irritating to the skin.

Sensitization : Skin sensitiser.

Carcinogenicity : This product contains trace residual quantities of epichlorohydrin (ECH), CAS no. 106-89-8. It is very unlikely that normal work practices with this product could result in measurable ECH concentrations in this workplace atmosphere. Nevertheless, you should be aware that ECH has been reported to produce cancer in laboratory animals and to produce mutagenic changes in bacteria and cultured human cells.

Mutagenicity : Not considered to be a mutagenic hazard.

Basis for assessment : Information given is based on product data.

Human effects : See Section 4 for information regarding acute effects to humans.

Potential Health Effects

Inhalation : Not expected to be a relevant route of exposure, however, under conditions where exposure to vapors or mists is possible, could cause respiratory tract irritation.

Skin : May be moderately irritating to the skin.
May cause skin sensitization.

Eyes : May be moderately irritating to the eyes.

Ingestion : Not expected to be a relevant route of exposure, however, product is expected to have a low order of acute oral toxicity.

Aggravated Medical : Preexisting eye,skin and respiratory disorders may be

Condition	aggravated by exposure to this product.

SECTION 12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

Biodegradability : This section will be updated as ecological reviews are completed.

Ecotoxicity effects

Toxicity to fish : This section will be updated as ecological reviews are completed.

SECTION 13. DISPOSAL CONSIDERATIONS

Product disposal : If this material becomes a waste, it would not be a hazardous waste by RCRA criteria (40 CFR 261). Place in an appropriate disposal facility in compliance with local and federal regulations.

SECTION 14. TRANSPORT INFORMATION

CFR_ROAD	NOT REGULATED FOR TRANSPORT
IATA_C	NOT REGULATED FOR TRANSPORT
IMDG	NOT REGULATED FOR TRANSPORT
CFR_RAIL	NOT REGULATED FOR TRANSPORT

SECTION 15. REGULATORY INFORMATION

Notification status

AICS : All components listed.

DSL : All components listed.

INV (CN) : All components listed.

ENCS (JP)	:	Not all components listed.
TSCA	:	All components listed.
EU NLP	:	All components listed or polymer exempt.
KECI (KR)	:	All components listed.
PICCS (PH)	:	All components listed.
Notification status Legend		y = Yes (Listed); AICS = Australian Inventory of Chemical Substances; DSL = Canadian Domestic Substances List; INV(CN) = Inventory of Existing Chemicals Substances in China; ENCS(JP) = Japanese Existing and New Chemical Substances; TSCA = Toxic Substance Control Act; EINECS = European Inventory of New and Existing Chemicals; KECI(KR) = Korean Existing Chemicals Inventory; PICCS(PH) = Philippine Inventory of Chemicals and Chemical Substances

US. EPA CERCLA Hazardous Substances (40 CFR 302)

Phenol, polymer with formaldehyde, glycidyl ether	No RQ

SARA 311/312 Hazards

Acute Health Hazard

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

Phenol, polymer with formaldehyde, glycidyl ether	No De minimis Concentration

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)

Phenol, polymer with formaldehyde, glycidyl ether	Threshold Planning Quantity: No TPQ
Phenol, polymer with formaldehyde, glycidyl ether	Reportable quantity: No RQ

New Jersey Right-To-Know Chemical List

Phenol, polymer with formaldehyde, glycidyl ether — Not Listed

Additional Components Not Found In Section 2:

Components	CAS-No.	Concentration	Remarks
1-chloro-2,3-epoxy propane	106-89-8	< 50 PPM	Listed.

Pennsylvania Right-To-Know Chemical List

Phenol, polymer with formaldehyde, glycidyl ether — Not Listed

Additional Components Not Found In Section 2:

Components	CAS-No.	Concentration	Remarks
1-chloro-2,3-epoxy propane	106-89-8	< 50 PPM	Special hazard.

Massachusetts Right-To-Know Chemical List

Phenol, polymer with formaldehyde, glycidyl ether — Not Listed

Additional Components Not Found In Section 2:

Components	CAS-No.	Concentration	Remarks
1-chloro-2,3-epoxy propane	106-89-8	< 50 PPM	Carcinogenic.

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)
Additional Components Not Found In Section 2:

Components	Concentration	Regulation	Value	Remarks
1-chloro-2,3-epoxy propane	< 50 PPM	US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)	Listed: October 1, 1987	Carcinogenic.

HMIS Rating :
Health: 2
Fire: 1
Reactivity: 0

SECTION 16. OTHER INFORMATION

Reference	:	Prepared in accordance with 29 CFR 1910.1200.
Other information	:	EPON is a Resolution trade mark.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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