

Material Safety Data Sheet



EPON™ Resin 2024

Version 12.1
Revision Date 06/02/2007

Print Date 07/03/2007

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product information

Trade name : EPON™ Resin 2024

Product code : K1446

MSDS Number : 300

Product Type : Epoxy resin.

Manufacturer, importer, supplier : Hexion Specialty Chemicals, Inc.
P. O. Box 4500
Houston TX 77210

Contact person : hsebox@hexion.com

Telephone : **General Information:**
(832) 486-6700

Emergency telephone:
CHEMTREC US Domestic (800) 424-9300
CHEMTREC International (703) 527-3887

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Human health hazards : May be irritating to the eyes, respiratory system and skin.

Safety hazards : Combustible dust when finely divided or suspended in air.
Presents a fire or explosion hazard when dispersed and ignited in air. Risk of generating electrostatic charges during handling.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Product Group : Solid epoxy resin.

Chemical Name	CAS-No.	Weight %
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]	25036-25-3	99.50 %



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2-Propenoic acid, ethyl ester, polymer with 2-ethylhexyl 2-propenoate	26376-86-3	0.50 %
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SECTION 4. FIRST AID MEASURES

- Inhalation : Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. If breathing but unconscious, place in the recovery position.
- Skin contact : Remove contaminated clothing/shoes and wipe excess from skin. Flush skin with water. Follow by washing with soap and water. In case of inflammation (redness, irritation, ...) obtain medical attention. Show this sheet to the doctor. Do not reuse clothing until cleaned.
- 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 quantities of product are ingested. However, get medical advice.

Notes to physician

- Symptoms : Irritation as noted above.

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Use water fog, "alcohol foam", dry chemical or carbon dioxide.
- Specific hazards during fire fighting : Material will not burn unless preheated. Organic powders when finely divided (420 microns or smaller in diameter) and suspended in air may form explosive dust-air mixtures and result in a fire or dust explosion.

Cool fire exposed containers with water.
- 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 : Minimize airborne dust and eliminate all ignition sources.



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	Do not use air hoses for cleaning.
Clean-up methods - large spillage	: Minimize dry sweeping to avoid generation of dust clouds. Vacuum dust-accumulating surfaces and remove to a chemical disposal area. Vacuums with explosion-proof motors should be used.
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 : Combustible Dust Handling Procedures: Combustible dusts at sufficient concentrations can form explosive mixtures with air. High dust concentrations should be avoided. Minimize airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, and flame. Establish good housekeeping practices. Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds. Control sources of static electricity. This product or the package itself can accumulate static charges, and static discharge can be a source of ignition. Static discharge in or near flammable vapors or flammable dust clouds may cause flash fire. Do not empty directly into flammable solvents or in the presence of flammable vapors. The operator, the packaging container and all equipment must be grounded with electrical bonding and grounding systems. Plastic bags and plastic cannot be grounded, and antistatic bags do not completely protect against development of static charges. Follow US NFPA Standard 654, "Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing and Handling of Combustible Particulate Solids", US NFPA Standard 77, "Recommended Practice on Static Electricity", UK HSE Guidance HSG 103, or other national guidance on safe handling.

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.



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- Engineering measures : Use explosion-proof ventilation as required to control particulate concentrations.
Eye wash fountains and safety showers should be available for emergency use.
- Eye protection : Avoid contact with eyes.
Wear safety glasses or goggles as appropriate.
- 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 : Avoid prolonged or repeated breathing of dust.
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 particulates.

Exposure Guidelines

Components with workplace control parameters	Regulation	Exposure time	Value	Remarks
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]	ACGIH			None established.
2-Propenoic acid, ethyl ester, polymer with 2-ethylhexyl 2-propenoate	ACGIH			None established.
DUST, RESPIRABLE DUST	OSHA PEL		5 mg/m3	
	ACGIH TLV		5 mg/m3	
DUST, TOTAL DUST	OSHA PEL		15 mg/m3	
	ACGIH TLV		10 mg/m3	

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form : Flakes



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Colour	: Amber
Flash point	: > 200 °C (> 392 °F)
Relative density	: 1.2
Solubility in water	: Negligible.

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. Reacts with considerable heat release with some curing agents.
Hazardous decomposition products	: Carbon monoxide, aldehydes, and acids may be formed during combustion.
Hazardous reactions	: Stable. Hazardous polymerization will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	: LD50 - (Rat) Expected to be of low toxicity, LD50 > 2000 mg/kg.
Acute dermal toxicity	: Expected to be of low toxicity, LD50 > 2000 mg/kg.

Chronic Health Hazard

Components	Concentration	Regulation	Value	Remarks
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]	99.50 %	US. IARC Monographs on Occupational Exposures to Chemical Agents		This component has not been classified by the International Agency for Research on Cancer (IARC).



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2-Propenoic acid, ethyl ester, polymer with 2-ethylhexyl 2-propenoate	0.50 %	US. IARC Monographs on Occupational Exposures to Chemical Agents	This component has not been classified by the International Agency for Research on Cancer (IARC).
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Potential Health Effects

- Inhalation : Inhalation of dust may cause mechanical irritation of the respiratory tract.
- Skin : May be mildly irritating to the skin.
- Eyes : Dust can cause mechanical irritation of 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 Condition : Preexisting skin and eye disorders may be aggravated by exposure to this product.

SECTION 12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

- Biodegradability : Expected to be not readily biodegradable.
- Bioaccumulation : Not expected to bioaccumulate significantly.

Ecotoxicity effects

- Toxicity to fish : Expected to be practically non toxic, LC/EC/IC 50 > 100 mg/l.
- Acute toxicity - invertebrates : Expected to be practically non toxic, LC/EC/IC 50 > 100 mg/l.

SECTION 13. DISPOSAL CONSIDERATIONS



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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. Under EPA-RCRA (40 CFR 261.24), a waste containing Benzene is hazardous (hazardous waste number D018) if it exhibits the characteristics of toxicity as shown by the toxicity characteristic leaching procedure (TCLP). Refer to the latest EPA or state regulations regarding proper disposal.

SECTION 14. TRANSPORT INFORMATION

CFR_ROAD NOT REGULATED FOR TRANSPORT

IMDG NOT REGULATED FOR TRANSPORT

IATA_C NOT REGULATED FOR TRANSPORT

SECTION 15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Notification status

TSCA : All components listed.

INV (CN) : All components listed.

AICS : All components listed.

DSL : All components listed.

ENCS (JP) : All components listed.

KECI (KR) : All components listed.

PICCS (PH) : All components listed.

EINECS : All components listed or polymer exempt.



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US. EPA CERCLA Hazardous Substances (40 CFR 302)

Phenol, 4,4'-(1-methylethylidene)bis-, No RQ
polymer with
2,2'-[(1-methylethylidene)bis(4,1-phe
nyleneoxymethylene)]bis[oxirane]

2-Propenoic acid, ethyl ester, polymer No RQ
with 2-ethylhexyl 2-propenoate

SARA 311/312 Hazards

No SARA Hazards

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, 4,4'-(1-methylethylidene)bis-, No De minimis Concentration
polymer with
2,2'-[(1-methylethylidene)bis(4,1-phe
nyleneoxymethylene)]bis[oxirane]

2-Propenoic acid, ethyl ester, polymer No De minimis Concentration
with 2-ethylhexyl 2-propenoate

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, 4,4'-(1-methylethylidene)bis-, Threshold Planning Quantity: No TPQ
polymer with
2,2'-[(1-methylethylidene)bis(4,1-phe
nyleneoxymethylene)]bis[oxirane]

2-Propenoic acid, ethyl ester, polymer Threshold Planning Quantity: No TPQ
with 2-ethylhexyl 2-propenoate

Phenol, 4,4'-(1-methylethylidene)bis-, Reportable quantity: No RQ
polymer with
2,2'-[(1-methylethylidene)bis(4,1-phe
nyleneoxymethylene)]bis[oxirane]

2-Propenoic acid, ethyl ester, polymer Reportable quantity: No RQ
with 2-ethylhexyl 2-propenoate

New Jersey Right-To-Know Chemical List

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Phenol, 4,4'-(1-methylethylidene)bis-, Not Listed
polymer with
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]

2-Propenoic acid, ethyl ester, polymer Not Listed
with 2-ethylhexyl 2-propenoate

Additional Components Not Found In Section 2:

Components	CAS-No.	Concentration	Remarks
Benzene	71-43-2	< 80 PPM	Listed.

Pennsylvania Right-To-Know Chemical List

Phenol, 4,4'-(1-methylethylidene)bis-, Not Listed
polymer with
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]

2-Propenoic acid, ethyl ester, polymer Not Listed
with 2-ethylhexyl 2-propenoate

Additional Components Not Found In Section 2:

Components	CAS-No.	Concentration	Remarks
Benzene	71-43-2	< 80 PPM	Special hazard.

Massachusetts Right-To-Know Chemical List

Phenol, 4,4'-(1-methylethylidene)bis-, Not Listed
polymer with
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane]

2-Propenoic acid, ethyl ester, polymer Not Listed
with 2-ethylhexyl 2-propenoate

Additional Components Not Found In Section 2:

Components	CAS-No.	Concentration	Remarks
Benzene	71-43-2	< 80 PPM	Carcinogenic.

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

Additional Components Not Found In Section 2:

Components	Concentration	Regulation	Value	Remarks
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Benzene	< 80 PPM	US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)	Listed: February 27, 1987	Carcinogenic.
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HMIS Rating : Health: 1
 Fire: 1
 Reactivity: 0

SECTION 16. OTHER INFORMATION

Reference : Prepared in accordance with 29 CFR 1910.1200.

The information provided herein was believed by Hexion Specialty Chemicals ("Hexion") to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information, to comply with all laws and procedures applicable to the safe handling and use of the product and to determine the suitability of the product for its intended use. All products supplied by Hexion are subject to Hexion's terms and conditions of sale. HEXION MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY HEXION, except that the product shall conform to Hexion's specifications. Nothing contained herein constitutes an offer for the sale of any product.

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