

Material Safety Data Sheet

1. Chemical Product and Company Identification

Trade Name	JA-210(Resin)
General Use	Epoxy adhesive sandpaper
Manufacturer	Jeil Chemical Co., Ltd. 38-16, Hoehak 3-gil, Onsan-Eup, Ulju-Gun, Ulsan, South Korea 052-227-5003

2. Hazards Identification

a. Hazards Classification and Statements	Acute. Tox. : Category 4 Skin Irrit. : Category 2 Eye Irrit. : Category 2 Skin Sens. : Category 1 Carcinogenicity : Category 1A STOT Rep. : Category 1 Aquatic Chronic : Category 2
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b. Hazards Description:

Pictogram



Signal word	DANGER
Hazards Classification and Statements	H302 May be harmful if swallowed H315 Causes skin irritation H317 May cause an allergic skin reaction H319 Causes serious eye irritation H370 Causes damage to organs H372 Causes damage to organs through prolonged or repeated exposure H411 Toxic to aquatic life with long lasting effects
Prevention precautionary statements	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P260 Do not breathe dust/fume/gas/mist/vapours/spray. P261 Avoid breathing dust/fume/gas/mist/vapours/spray P264 Wash...thoroughly after handling P270 Do not eat, drink or smoke when using this product. P272 Contaminated work clothing should not be allowed out of the workplace. P273 Avoid release to the environment. P280 Wash...thoroughly after handling P281 Use personal protective equipment as required.
Response precautionary statements	P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P302+P352 IF ON SKIN (or hair): 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. P307+P311 IF exposed: Call a POISON CENTER or doctor/physician. P308+P313 IF exposed or concerned: Get medical advice/attention. P314 Get medical advice/attention if you feel unwell. P321 Specific treatment (see ... on this label). P330 Rinse mouth. P332+P313 If skin irritation occurs: Get medical advice/attention. 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. P363 Wash contaminated clothing before reuse. P391 Collect spillage.

Storage precautionary statements P405 Store locked up
 Disposal precautionary statements: P501 Dispose of contents/container in accordance with local/regional/national/international regulation (to be specified).

Cl. Other harmful or danger characteristic (NFPA)

QUARTZ (SiO₂)

Health hazard 1
 Fire 0
 Reactivity Hazard 0

BISPHENOL A-EPICHLOROHYDRIN RESIN

Health hazard 2
 Fire 1
 Reactivity Hazard 0

Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co₂ And Cao. Composed Primarily Of Caco₃, Ca(OH)₂, Na₂Co₃ And Other Organic And Inorganic Impurities.]

Health hazard No Data
 Fire No Data
 Reactivity Hazard No Data

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS NO.	Amount(%)
QUARTZ (SiO ₂)	14808-60-7	30~35
BISPHENOL A-EPICHLOROHYDRIN RESIN	25068-38-6	35~50
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co ₂ And Cao. Composed Primarily Of Caco ₃ , Ca(OH) ₂ , Na ₂ Co ₃ And Other Organic And Inorganic Impurities.]	90641-06-8	30~35

4. First aid measures

- a. Eye contact Flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Consult a physician if signs of irritation appear.
- b. Skin contact Immediately remove contaminated clothing or shoes, wash skin with plenty of water for at least 15 minutes. Use soap if readily available, or follow by thoroughly washing soap and water. Do not reuse clothing until thoroughly decontaminated.
- c. Inhalation Move person to fresh air area and provide oxygen if breathing is difficult. Consult a physician if effects occur.
- d. Ingestion Do not induce vomiting because of risk of aspiration. Rinse mouth with water. Consult a physician if effects occur.

5. Fire fighting measures

Flash point 254.4
 Hazardous products of Combustion In case of fire, toxic fumes might be formed
 Extinguishing media Water spray, foam, dry chemical, or carbon dioxide
 Unusual fire or explosion Hazards May produce hazardous fumes of hazardous decomposition products
 Special fire fighting Procedures When fire fighting, wear full protective equipment including self-contained breathing

6. Accidental release measures

Personal precautions Put on adequate protective equipment. See section 8, Exposure control/ Personal Protection
 Environmental precautions Keep away from drains, surface-water, ground water and soil.
 Clean-up Method Sweep spilled material into non-leaking containers. All disposal methods must be in compliance with applicable local regulations.

7. Handling and storage

- a. Storage Keep away from: acids, alkalis, oxidizers. Keep in cool, dry, ventilate storage and in closed containers. Store in steel containers preferably located outdoors, above ground, and surrounded by dikes to contain spills or leaks. Avoid freezing temperatures during storage. Do not store in reactive metal containers. Product

may partially freeze with extended exposure to cold temperatures.

b. Handling

When handling, do not eat, drink, or smoke. Avoid contact with eyes. Avoid contact with skin. Spraying increases the risk of hazardous exposure. In atmospheres where the material is sprayed, workers should avoid contact with aerosols containing S through proper engineering controls, such as exhaust ventilation. Wear goggles and face shield. Do not get into the eyes. Other individuals working in the vicinity of the product where exposure can occur should also be fitted with chemical splash goggles. Contaminated clothing should be properly disposed of in a manner that will not cause additional exposure. Workers should be strongly encouraged to follow good personal hygiene practices, such as thorough washing of hands, arms, neck and face following working with HOC-701.

8. Exposure controls/personal protection

a. Exposure Limits

National regulations

QUARTZ (SiO ₂)	TWA - 0.05mg/m ³
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co ₂ And Cao. Composed Primarily Of Caco ₃ , Ca(OH) ₂ , Na ₂ Co ₃ And Other Organic And Inorganic Impurities.]	No Data

ACGIH regulations

QUARTZ (SiO ₂)	TWA 0.025 mg/m ³
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co ₂ And Cao. Composed Primarily Of Caco ₃ , Ca(OH) ₂ , Na ₂ Co ₃ And Other Organic And Inorganic Impurities.]	No Data

Biological exposure limits

QUARTZ (SiO ₂)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co ₂ And Cao. Composed Primarily Of Caco ₃ , Ca(OH) ₂ , Na ₂ Co ₃ And Other Organic And Inorganic Impurities.]	No Data

b. Suitable Engineering Management

Use process isolation, local ventilation or other engineering management to maintain air quality under exposure limits.
Set wash up facilities and safe shower system, where storage or use of this material.

c. Personal protector

Eye protection	Safety glasses with side shields.
Hands protection	Chemical resistant gloves.
Skin and body protection	Chemical resistant protective suit. Chemicals resistant boots.
Respiratory protection	Never exceed the national Occupational Exposure Limit. Use local. Exhaust ventilation or handle in a ventilated enclosure. For greater protection a face piece chemical cartridge respirator is recommended.

9. Physical and chemical properties

1. Appearance

Type	Liquid
Color	Natural
2. Odor	No Data
3. Odour threshold	No Data
4. pH	No Data
5. Melting Point/Freezing Point	No Data
6. Boiling Point	No Data
7. Flash Point	No Data
8. Evaporation Rate	No Data
9. Flammability	No Data
10. Flammable Limits	No Data
11. Vapor Pressure	No Data

12. Solubility in WATER	No Data
13. Vapor density(water=1)	No Data
14. Density	1.68~1.78
15. n-Octanol/Water Partition coefficient	No Data
16. Autoignition Temperature	No Data
17. Decomposition Temperature	No Data
18. Viscosity(at 25℃)	30,000~50,000cps(at 40℃)
19. Molecular Weight	No Data

10. Stability and reactivity

Conditions to avoid	Can react strongly with epoxy resins at elevated temperature
Materials to avoid	Acids, amines, bases, oxidizing agents
Hazardous reaction	Hazardous polymerization does not occur by itself
Decomposition temperature	Not available
Hazardous decomposition component	Hazardous decomposition products are not expected to form during normal storage

11. Toxicological information

a. Information on the likely routes of exposure

QUARTZ (SiO2)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation.

Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(OH)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data
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b. Acute Toxicity Data

Acute toxic

Oral

QUARTZ (SiO2)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	LD50 > 1000 mg/kg Rat

Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(OH)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data
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Dermal

QUARTZ (SiO2)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	LD50 > 20000 mg/kg Rabbit

Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(OH)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data
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Inhalation

QUARTZ (SiO2)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data

Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(OH)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data
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Skin Corrosion/Irritation

QUARTZ (SiO2)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data

Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(OH)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data
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Serious Eye Damage/Irritation

QUARTZ (SiO2)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(OH)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data
Respiratory sensitization	
QUARTZ (SiO2)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(OH)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data
Skin sensitization	
QUARTZ (SiO2)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	R43
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(OH)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data
Carcinogenicity	
QUARTZ (SiO2)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(OH)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data
IARC	
QUARTZ (SiO2)	Group 1 (Silica, crystalline (inhaled in the form of quartz or cristobalite from occupational sources)
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(OH)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data
OSHA	
QUARTZ (SiO2)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(OH)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data
ACGIH	
QUARTZ (SiO2)	A2
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(OH)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data
NTP	
QUARTZ (SiO2)	K (Silica, Crystalline (Respirable Size))
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(OH)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data
EU CLP	

QUARTZ (SiO₂) No Data
 BISPHENOL A-EPICHLOROHYDRIN RESIN No Data
 Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co₂ And Cao. Composed Primarily Of Caco₃, Ca(OH)₂, Na₂Co₃ And Other Organic And Inorganic Impurities.]
 Germ Cell Mutagenicity

QUARTZ (SiO₂) No Data
 BISPHENOL A-EPICHLOROHYDRIN RESIN No Data

Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co₂ And Cao. Composed Primarily Of Caco₃, Ca(OH)₂, Na₂Co₃ And Other Organic And Inorganic Impurities.]
 Reproductive toxicity

QUARTZ (SiO₂) No Data
 BISPHENOL A-EPICHLOROHYDRIN RESIN No Data
 Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co₂ And Cao. Composed Primarily Of Caco₃, Ca(OH)₂, Na₂Co₃ And Other Organic And Inorganic Impurities.]

Specific target organ toxicity (single exposure):

QUARTZ (SiO₂) No Data
 BISPHENOL A-EPICHLOROHYDRIN RESIN No Data
 Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co₂ And Cao. Composed Primarily Of Caco₃, Ca(OH)₂, Na₂Co₃ And Other Organic And Inorganic Impurities.]

Specific target organ toxicity (repeated exposure):

QUARTZ (SiO₂) No Data
 BISPHENOL A-EPICHLOROHYDRIN RESIN No Data
 Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co₂ And Cao. Composed Primarily Of Caco₃, Ca(OH)₂, Na₂Co₃ And Other Organic And Inorganic Impurities.]

Aspiration hazard

QUARTZ (SiO₂) No Data
 BISPHENOL A-EPICHLOROHYDRIN RESIN No Data
 Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co₂ And Cao. Composed Primarily Of Caco₃, Ca(OH)₂, Na₂Co₃ And Other Organic And Inorganic Impurities.]

12. Environmental information

a. Aquatic and terrestrial ecotoxicity:

Fish toxicity (Acute):

QUARTZ (SiO₂) No Data
 BISPHENOL A-EPICHLOROHYDRIN RESIN LC50 1.41 mg/l 96 hr *Oryzias latipes*
 Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co₂ And Cao. Composed Primarily Of Caco₃, Ca(OH)₂, Na₂Co₃ And Other Organic And Inorganic Impurities.]

Water flea toxicity (Acute):

QUARTZ (SiO₂) No Data
 BISPHENOL A-EPICHLOROHYDRIN RESIN EC50 1.7 mg/l 48 hr

Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(OH)2, Na2Co3 And Other Organic And Inorganic Impurities.] Birds growth hinderance test (Acute):	No Data
QUARTZ (SiO2)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(OH)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data
b. Persistence and degradability:	
Persistence:	
QUARTZ (SiO2)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	log Kow 2.821
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(OH)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data
Degradability:	
QUARTZ (SiO2)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(OH)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data
c. Bioaccumulative potential:	
condenasability	
QUARTZ (SiO2)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	BCF 0.56 ~ 0.67
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(OH)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data
biodegradablility	
QUARTZ (SiO2)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	0 (%) 28 day
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(OH)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data
d. Mobility in soil:	
QUARTZ (SiO2)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(OH)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data
e. Other adverse effects:	
QUARTZ (SiO2)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(OH)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data

13. Disposal considerations

Incineration is the recommended disposal method for all chemical wastes. Material collected on absorbent material may be disposed in a landfill in accordance with all applicable local, state and federal regulations

14. Transport information

a. UN No.	3082
b. Proper Shipping Name	
QUARTZ (SiO ₂)	Not applicable
BISPHENOL A-EPICHLOROHYDRIN RESIN	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co ₂ And Cao. Composed Primarily Of Caco ₃ , Ca(OH) ₂ , Na ₂ Co ₃ And Other Organic And Inorganic Impurities.]	Not applicable
c. Transportation Class	
QUARTZ (SiO ₂)	Not applicable
BISPHENOL A-EPICHLOROHYDRIN RESIN	9
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co ₂ And Cao. Composed Primarily Of Caco ₃ , Ca(OH) ₂ , Na ₂ Co ₃ And Other Organic And Inorganic Impurities.]	Not applicable
d. Packing Group	
QUARTZ (SiO ₂)	Not applicable
BISPHENOL A-EPICHLOROHYDRIN RESIN	III
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co ₂ And Cao. Composed Primarily Of Caco ₃ , Ca(OH) ₂ , Na ₂ Co ₃ And Other Organic And Inorganic Impurities.]	Not applicable
e. Marine Pollutant	
QUARTZ (SiO ₂)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co ₂ And Cao. Composed Primarily Of Caco ₃ , Ca(OH) ₂ , Na ₂ Co ₃ And Other Organic And Inorganic Impurities.]	No Data
f. Special precautions for user	
fire emergency	
QUARTZ (SiO ₂)	Not applicable
BISPHENOL A-EPICHLOROHYDRIN RESIN	F-A
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co ₂ And Cao. Composed Primarily Of Caco ₃ , Ca(OH) ₂ , Na ₂ Co ₃ And Other Organic And Inorganic Impurities.]	Not applicable
spill Emergency	
QUARTZ (SiO ₂)	Not applicable
BISPHENOL A-EPICHLOROHYDRIN RESIN	S-F
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co ₂ And Cao. Composed Primarily Of Caco ₃ , Ca(OH) ₂ , Na ₂ Co ₃ And Other Organic And Inorganic Impurities.]	Not applicable

15. Regulation information

a. Industrial Safety and Health Act	
QUARTZ (SiO ₂)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co ₂ And Cao. Composed Primarily Of Caco ₃ , Ca(OH) ₂ , Na ₂ Co ₃ And Other Organic And Inorganic Impurities.]	No Data
b. Toxic Chemical Control Act	

QUARTZ (SiO2)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(Oh)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data
c. Dangerous Material Safety Control Act	
QUARTZ (SiO2)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(Oh)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data
d. Wastes Management Act	
QUARTZ (SiO2)	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	Designated waste
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(Oh)2, Na2Co3 And Other Organic And Inorganic Impurities.]	No Data
e. Other requirements in domestic and other countries	
National regulation	
QUARTZ (SiO2)	Not applicable
BISPHENOL A-EPICHLOROHYDRIN RESIN	Not applicable
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(Oh)2, Na2Co3 And Other Organic And Inorganic Impurities.]	Not applicable
other countries	
U.S.A(OSHA)	
QUARTZ (SiO2)	Not applicable
BISPHENOL A-EPICHLOROHYDRIN RESIN	Not applicable
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(Oh)2, Na2Co3 And Other Organic And Inorganic Impurities.]	Not applicable
U.S.A(CERCLA)	
QUARTZ (SiO2)	Not applicable
BISPHENOL A-EPICHLOROHYDRIN RESIN	Not applicable
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(Oh)2, Na2Co3 And Other Organic And Inorganic Impurities.]	Not applicable
U.S.A(EPCRA 302)	
QUARTZ (SiO2)	Not applicable
BISPHENOL A-EPICHLOROHYDRIN RESIN	Not applicable
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(Oh)2, Na2Co3 And Other Organic And Inorganic Impurities.]	Not applicable
USA(EPCRA 304)	
QUARTZ (SiO2)	Not applicable
BISPHENOL A-EPICHLOROHYDRIN RESIN	Not applicable
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co2 And Cao. Composed Primarily Of Caco3, Ca(Oh)2, Na2Co3 And Other Organic And Inorganic Impurities.]	Not applicable

EU

QUARTZ (SiO ₂)	Not applicable
BISPHENOL A-EPICHLOROHYDRIN RESIN	R36/38, R43, R51/53
Extract Residues (Coal), Tar Oil Alk., Carbonated, Limed; Crude Phenols: [The Product Obtained By Treatment Of Coal Tar Oil Alkaline Extract With Co ₂ And Cao. Composed Primarily Of Caco ₃ , Ca(OH) ₂ , Na ₂ Co ₃ And Other Organic And Inorganic Impurities.]	Not applicable

16. Other requirements in domestic and other countries

a. Information source and references

QUARTZ (SiO₂)

Corporate Solution From Thomson Micromedex(<http://csi.micromedex.com>)
ECB-ESIS(European chemical Substances Information System)(<http://ecb.jrc.it/esis>)
ECOTOX Database, EPA(<http://cfpub.epa.gov/ecotox>)
IUCLID Chemical Data Sheet, EC-ECB
International Chemical Safety Cards(ICSC)(<http://www.nihs.go.jp/ICSC>)
TOXNET, U.S. National Library of Medicine(<http://toxnet.nlm.nih.gov>)
The Chemical Database, The Department of Chemistry at the University of Akron(<http://ull.chemistry.uakron.edu/erd>)
(<http://hazmat.nema.go.kr>)
(<http://ncis.nier.go.kr>)

BISPHENOL A-EPICHLOROHYDRIN RESIN

National Institute of Technology and Evaluation(NITE)(http://www.safe.nite.go.jp/ghs/h18_bunrui.html)
Corporate Solution From Thomson Micromedex(<http://csi.micromedex.com>)
Corporate Solution From Thomson Micromedex(<http://csi.micromedex.com>)
National Library of Medicine(NLM)(<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?CHEM>)
Corporate Solution From Thomson Micromedex(<http://csi.micromedex.com>)
European chemical Substances Information System(ECB-ESIS)(<http://ecb.jrc.it/esis>)
National Institute of Technology and Evaluation(NITE)(http://www.safe.nite.go.jp/ghs/h18_bunrui.html)
Corporate Solution From Thomson Micromedex(<http://csi.micromedex.com>)
National Institute of Technology and Evaluation(NITE)(http://www.safe.nite.go.jp/ghs/h18_bunrui.html)
European chemical Substances Information System(ECB-ESIS)(<http://ecb.jrc.it/esis>)
National Library of Medicine/Chemical Carcinogenesis Research Information System(NLM/CCRIS)(<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?CCRIS>)
National Library of Medicine/genetic toxicology(NLM/GENETOX)(<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?GENETOX>)
National Institute of Technology and Evaluation(NITE)(http://www.safe.nite.go.jp/ghs/h18_bunrui.html)
Corporate Solution From Thomson Micromedex(<http://csi.micromedex.com>)

b. Issuing date 2013-06-28

c. Revision number and date

Revision number -

Date -

d. Others -