

# Material Safety Data Sheet

## 1. Chemical Product and Company Identification

가. Trade Name	JA-153(Resin)
General Use	Civil Construction Epoxy flooring
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 Carcinogenicity : Category 1B
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### b. Hazards Description:

Pictogram



Signal word

DANGER

Hazards Classification and Statements

H226 Flammable liquid and vapour  
H302 Harmful if swallowed  
H315 Causes skin irritation  
H317 May cause an allergic skin reaction  
H319 Causes serious eye irritation  
H330 Fatal if inhaled  
H360 May damage fertility or the unborn child  
H371 May cause damage to organs  
H373 May cause 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  
P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking  
P233 Keep container tightly closed  
P240 Ground/bond container and receiving equipment  
P241 Use explosion-proof electrical/ventilating/light/.../equipment  
P242 Use only non-sparking tools  
P243 Take precautionary measures against static discharge  
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  
P271 Use only outdoors or in a well-ventilated area

P272 Contaminated work clothing should not be allowed out of the workplace

P273 Avoid release to the environment

P280 Wear protective gloves/protective clothing/eye protection/face protection

P281 Use personal protective equipment as required

P284 Wear respiratory protection

Response precautionary statements

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P302+P352 IF ON SKIN: Wash with soap and water

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing Rinse skin with water/shower

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing

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).

C. Other harmful or danger characteristic (NFPA)

Benzyl Alcohol

Health hazard 2

Fire 1

Reactivity Hazard 0

Xylene

Health hazard No Data

Fire No Data

Reactivity Hazard No Data

LIMESTONE

Health hazard 1

Fire 0

Reactivity Hazard 0

BISPHENOL A-EPICHLOROHYDRIN RESIN

Health hazard 2

Fire 1

Reactivity Hazard 0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS NO.	Amount(%)
Benzyl Alcohol	BENZENEMETHANOL 100-51-6	0~5
Xylene	Dimethylbenzene 1330-20-7	0~5
LIMESTONE	CALCIUM CARBONATE, NATURAL 1317-65-3	50~60
BISPHENOL A-EPICHLOROHYDRIN RESIN	BISPHENOL A-EPICHLOROHYDRIN RESIN 25068-38-6	30~40

#### 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

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  When fire fighting, wear full protective equipment including self-contained breathing apparatus

#### 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 JA-153

#### 8. Exposure controls/personal protection

a. Exposure Limits	
National regulations	
Benzyl Alcohol	No Data
Xylene	TWA – 100ppm 435mg/m <sup>3</sup> STEL – 150ppm 655mg/m <sup>3</sup>
LIMESTONE	TWA – 10mg/m <sup>3</sup>
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data
ACGIH regulations	
Benzyl Alcohol	No Data
Xylene	TWA 100 ppm

LIMESTONE	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data
Biological exposure limits	
Benzyl Alcohol	No Data
Xylene	No Data
LIMESTONE	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	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	Green
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	1.65~1.75
15. n-Octanol/Water Partition coefficient	No Data
16. Autoignition Temperature	No Data
17. Decomposition Temperature	No Data
18. Viscosity(at 25℃)	4,000 ~ 15,000Cps(at 25℃)
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

Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation.

b. Acute Toxicity Data

Acute toxic

Oral

Benzyl Alcohol	LD50 1230 mg/kg Rat
Xylene	LD50 3500 mg/kg Rat
LIMESTONE	No Data
BISPHENOL A-EPICHLOROXYDRIN RESIN	LD50 > 1000 mg/kg Rat
Dermal	
Benzyl Alcohol	LD50 2000 mg/kg Rabbit
Xylene	LD50 ≥4350 mg/kg Rabbit
LIMESTONE	No Data
BISPHENOL A-EPICHLOROXYDRIN RESIN	LD50 > 20000 mg/kg Rabbit
Inhalation	
Benzyl Alcohol	LC50 0.9 mg/l 4 hr Rat
	Vapor LC50 6700 ppm 4 hr Rat

Xylene

LIMESTONE	No Data
BISPHENOL A-EPICHLOROXYDRIN RESIN	No Data

Skin Corrosion/Irritation

No Data

Serious Eye Damage/Irritation

No Data

Respiratory sensitization

No Data

Skin sensitization

No Data

Carcinogenicity

No Data

IARC

Group 3

OSHA

No Data

ACGIH

A4

NTP

No Data

EU CLP

No Data

Germ Cell Mutagenicity

No Data

Reproductive toxicity

No Data

Specific target organ toxicity (single exposure):

No Data

Specific target organ toxicity (repeated exposure):

No Data

Aspiration hazard

No Data

12. Environmental information

a. Aquatic and terrestrial ecotoxicity

Fish toxicity (Acute)

Benzyl Alcohol	LC50 10 mg/l 96 hr
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Xylene	LC50 3.3 mg/l 96 hr
LIMESTONE	No Data
BISPHENOL A-EPICHLOROXYDRIN RESIN Water flea toxicity (Acute)	LC50 1.41 mg/l 96 hr Oryzias latipes
Benzyl Alcohol	No Data
Xylene	LC50 190 mg/l 96 hr
LIMESTONE	No Data
BISPHENOL A-EPICHLOROXYDRIN RESIN Birds growth hinderance test (Acute)	EC50 1.7 mg/l 48 hr
	No Data
b. Persistence and degradability	
Persistence	
Benzyl Alcohol	log Kow 1.1
Xylene	No Data
LIMESTONE	No Data
BISPHENOL A-EPICHLOROXYDRIN RESIN Degradability	log Kow 2.821
	No Data
c. Bioaccumulative potential: condenasability	
	No Data
biodegradability	
	0 (%) 28 day
d. Mobility in soil:	
	log Kow = 3.12
e. Other adverse effects	
	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.	1263
b. Proper Shipping Name	Paint
c. Transportation Class	9
d. Packing Group	III
e. Marine Pllutant	No Data
f. Special precautions for user fire emergency	F-A
spill Emergency	S-F

### 15. Regulation information

a. Industrial Safety and Health Act	No Data
b. Toxic Chemical Control Act	Toxic
c. Dangerous Material Safety Control Act	No Data
d. Wastes Management Act	Designated Waste

e. Other requirements in domestic and other countries

National regulation

Not applicable

other countries regulation

U.S.A(OSHA )

Not applicable

U.S.A(CERCLA)

45.3599 kg 100 lb

U.S.A(EPCRA 302 )

Not applicable

USA(EPCRA 304 )

Not applicable

USA(EPCRA 313 )

Applicable

EU

Benzyl Alcohol

Xn: R20/22

Xylene

R10Xn: R20/21Xi: R38

LIMESTONE

Not applicable

BISPHENOL A-EPICHLOROXYDRIN RESIN

Xi: R36/38R43N: R51-53

EU

Benzyl Alcohol

R20/22

Xylene

R10, R20/21, R38

LIMESTONE

Not applicable

BISPHENOL A-EPICHLOROXYDRIN RESIN

R36/38, R43, R51/53

EU

Benzyl Alcohol

S2, S26

Xylene

S2, S25

LIMESTONE

Not applicable

BISPHENOL A-EPICHLOROXYDRIN RESIN

S2, S28, S37/39, S61

16. Other requirements in domestic and other countries

a. Information source and references

Benzyl Alcohol

ICSC

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>)

BISPHENOL A-EPICHLOROXYDRIN RESIN

National Institute of Technology and Evaluation(NITE)([http://www.safe.nite.go.jp/ghs/h18\\_bunrui.html](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](http://www.safe.nite.go.jp/ghs/h18_bunrui.html))

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European chemical Substances Information System(ECB-ESIS)(<http://ecb.jrc.it/esis>)

National Library of Medicine/Chemical Carcinogenesis Research Information

National Library of Medicine/genetic toxicology(NLM/GENETOX)(<http://toxnet.nlm.nih.gov/>)

National Institute of Technology and Evaluation(NITE)([http://www.safe.nite.go.jp/ghs/h18\\_bunrui.html](http://www.safe.nite.go.jp/ghs/h18_bunrui.html))

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b. Issuing date	2014-06-28
c. Revision number and date	
Revision number	-
Date	-
d. Others	