

# Material Safety Data Sheet

## 1. Chemical Product and Company Identification

ㄱ. Trade Name	JA-153(Hardner)
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 Statement	Acute. Tox. : Category 4 Skin Irrit. : Category 2 Eye Irrit. : Category 2 Skin Sens. : Category 1 Carcinogenicity : Category1A STOT Rep. : Category 1 Aquatic Chronic : Category 2 Carcinogenicity : Category1B
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### b. Hazards Description:

Pictogram



Signal word

DANGER

Hazards Classification and Statements

H226 Flammable liquid and vapour  
H302 Harmful if swallowed  
H305 May be harmful if swallowed and enters airways  
H311 Toxic in contact with skin  
H314 Causes severe skin burns and eye damage  
H318 Causes serious eye damage  
H330 Fatal if inhaled  
H335 May cause respiratory irritation  
H360 May damage fertility or the unborn child  
H370 Causes damage to organs  
H372 Causes damage to organs through prolonged or repeated exposure  
H412 Harmful 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
	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+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
	P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
	P301+P330+P331 IF SWALLOWED: Rinse mouth Do NOT induce vomiting
	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 B36 Rinse skin with water/shower
	P304+P340 IF INHALED: 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.
	P310 Immediately call a POISON CENTER or doctor/physician
	P312 Call a POISON CENTER or doctor/physician if you feel unwell
	P314 Get Medical advice/attention if you feel unwell
	P320 Specific treatment is urgent (see ... on this label)
	P321 Specific treatment (see ... on this label)
	P322 Specific measures (see ... on this label)
	P330 Rinse mouth
	P331 Do NOT induce vomiting
	P361 Remove/Take off immediately all contaminated clothing
	P363 Wash contaminated clothing before reuse
	P370+P378 In case of fire: Use ... for extinction
Storage precautionary statements	P403+P233 Store in a well ventilated place Keep container tightly closed
	P403+P235 Store in a well ventilated place Keep cool
	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		2
Fire		3
Reactivity Hazard		0
POLY(OXYPROPYLENE)DIAMINE		
Health hazard		3
Fire		1
Reactivity Hazard		0
2,4,6-tris (dimethylaminomethyl) phenol		
Health hazard		3
Fire		1

Reactivity Hazard	0
POLYAMIDE RESIN	
Health hazard	No Data
Fire	No Data
Reactivity Hazard	No Data

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

	Component	CAS NO.	Amount(%)
Benzyl Alcohol	BENZENEMETHANOL	100-51-6	5~10
Xylene	Dimethyl Benzene	1330-20-7	5~10
(POLY(OXYPROPYLENE)DIAMINE)		9046-10-0	20~30
2,4,6-tris (dimethylaminomethyl) phenol	TRIS((DIMETHYLAMINO)METHYL)PHENOL	90-72-2	10~20
POLYAMIDE RESIN		63428-84-2	30~40

### 4. First aid measures

- a. Eye contact Flush eyes with plenty of water for at least 15 minutes while holding eyelids open.
- b. Skin contact Consult a physician if signs of irritation appear.
- c. Inhalation 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.
- d. Ingestion Move person to fresh air area and provide oxygen if breathing is difficult. Consult a physician if effects occur.
- 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>
(POLY(OXYPROPYLENE)DIAMINE)	No Data
2,4,6-tris (dimethylaminomethyl) phenol	No Data
POLYAMIDE RESIN	No Data

#### ACGIH regulations

Benzyl Alcohol	No Data
Xylene	TWA 100 ppm
(POLY(OXYPROPYLENE)DIAMINE)	STEL 150 ppm
2,4,6-tris (dimethylaminomethyl) phenol	No Data
POLYAMIDE RESIN	No Data
(POLYAMIDE RESIN)	No Data

#### Biological exposure limits

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 Yellow

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	0.93~1.03
15. n-Octanol/Water Partition coefficient	No Data
16. Autoignition Temperature	No Data
17. Decomposition Temperature	No Data
18. Viscosity(at 25℃)	10~50cps(25℃)
19. Molecular Weight	No Data
<b>10. Stability and reactivity</b>	
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
<b>11. Toxicological information</b>	
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
(POLY(OXYPROPYLENE)DIAMINE)	LD50 242 mg/kg Rat
2,4,6-tris (dimethylaminomethyl) phenol	LD50 1200 mg/kg Rat
POLYAMIDE RESIN	No Data
Dermal	
Benzyl Alcohol	LD50 2000 mg/kg Rabbit
Xylene	LD50 ≥4350 mg/kg Rabbit
(POLY(OXYPROPYLENE)DIAMINE)	LD50 360 mg/kg Rabbit
2,4,6-tris (dimethylaminomethyl) phenol	LD50 1280 mg/kg Rat
POLYAMIDE RESIN	No Data
Inhalation	
Benzyl Alcohol	LC50 0.9 mg/l 4 hr Rat
Xylene	Vapor LC50 6700 ppm 4 hr Rat
(POLY(OXYPROPYLENE)DIAMINE)	No Data
2,4,6-tris (dimethylaminomethyl) phenol	No Data
POLYAMIDE 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	No Data
OSHA	Group 3
EU CLP	A4
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
Xylene	LC50 3.3 mg/ℓ 96 hr
(POLY(OXYPROPYLENE)DIAMINE)	No Data
2,4,6-tris (dimethylaminomethyl) phenol	LC50 447.821 mg/ℓ 96 hr
POLYAMIDE RESIN	No Data
Water flea toxicity (Acute)	
Benzyl Alcohol	No Data
Xylene	LC50 190 mg/ℓ 96 hr
(POLY(OXYPROPYLENE)DIAMINE)	No Data
2,4,6-tris (dimethylaminomethyl) phenol	LC50 28.198 mg/ℓ 48 hr
POLYAMIDE RESIN	No Data
Birds growth hinderance test (Acute)	
Benzyl Alcohol	No Data
Xylene	No Data
(POLY(OXYPROPYLENE)DIAMINE)	No Data
2,4,6-tris (dimethylaminomethyl) phenol	EC50 34.812 mg/ℓ 96 hr
POLYAMIDE RESIN	No Data
b. Persistence and degradability	
Persistence	
Benzyl Alcohol	log Kow 1.1
Xylene	3.2
(POLY(OXYPROPYLENE)DIAMINE)	No Data
2,4,6-tris (dimethylaminomethyl) phenol	log Kow 0.77
POLYAMIDE RESIN	No Data

Degradability	No Data
c. Bioaccumulative potential:	
condensability	
Benzyl Alcohol	No Data
Xylene	No Data
(POLY(OXYPROPYLENE)DIAMINE)	No Data
2,4,6-tris (dimethylaminomethyl) phenol	BCF 3.162
POLYAMIDE RESIN	No Data
biodegradability	
Benzyl Alcohol	94 (%) 28 day
Xylene	39 (%)
(POLY(OXYPROPYLENE)DIAMINE)	No Data
2,4,6-tris (dimethylaminomethyl) phenol	No Data
POLYAMIDE RESIN	No Data
d. Mobility in soil:	
Benzyl Alcohol	No Data
Xylene	log Kow = 3.2
(POLY(OXYPROPYLENE)DIAMINE)	No Data
2,4,6-tris (dimethylaminomethyl) phenol	No Data
POLYAMIDE RESIN	No Data
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	8
d. Packing Group	I
e. Marine Pollutant	No Data
f. Special precautions for user	
fire emergency	F-A
spill Emergency	S-B

### 15. Regulation information

a. Industrial Safety and Health Act	No Data
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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
(POLY(OXYPROPYLENE)DIAMINE)	Not applicable
2,4,6-tris (dimethylaminomethyl) phenol	Xn: R22Xi: R36/38
POLYAMIDE RESIN	Not applicable
EU	
Benzyl Alcohol	R20/22
Xylene	R10, R20/21, R38
(POLY(OXYPROPYLENE)DIAMINE)	Not applicable
2,4,6-tris (dimethylaminomethyl) phenol	R22, R36/38
POLYAMIDE RESIN	Not applicable
EU	
Benzyl Alcohol	S2, S26
Xylene	S2, S25
(POLY(OXYPROPYLENE)DIAMINE)	Not applicable
2,4,6-tris (dimethylaminomethyl) phenol	S2, S26, S28
POLYAMIDE RESIN	Not applicable

## 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>)



POLY(OXYPROPYLENE)DIAMINE

National Library of Medicine(NLM)(<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?CHEM>)

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Corporate Solution From Thomson Micromedex(<http://csi.micromedex.com>)

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