

# Material Safety Data Sheet

## 1. Chemical Product and Company Identification

가. Trade Name	JP-100(33%)(Resin)
General Use	Epoxy Primer
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 : Category1A STOT Rep. : Category 1 Aquatic Chronic : Category 2 Carcinogenicity : Category1B
--	--

### b. Hazards Description:

Pictogram



Signal word

DANGER

Hazards Classification and Statements

H225 Highly flammable liquid and vapour  
H305 May be harmful if swallowed and enters airways  
H315 Causes skin irritation  
H317 May cause an allergic skin reaction  
H319 Causes serious eye irritation  
H336 May cause drowsiness or dizziness  
H360 May damage fertility or the unborn child  
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  
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  
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

Response precautionary statements P301+P310 IF SWALLOWED:Immediately call a POISON CENTER or doctor/physician  
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  
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.  
P312 Call a POISON CENTER or doctor/physician if you feel unwell  
P314 Get Medical advice/attention if you feel unwell  
P321 Specific treatment (see ... on this label)  
P331 Do NOT induce vomiting  
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 P403+P233 Store in a well ventilated place Keep container tightly closed  
P403+P235 Store in a well ventilated place Keep cool  
P405Store 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)

Xylene

Health hazard	No Data
Fire	No Data
Reactivity Hazard	No Data

METHYL ETHYL KETONE

Health hazard	1
Fire	3
Reactivity Hazard	0

Methyl Acetate

Health hazard	2
Fire	3
Reactivity Hazard	0

Methyl Alcohol

Health hazard	1
Fire	3
Reactivity Hazard	0

BISPHENOL A-BISPHENOL A Diglycidyl ether

Health hazard	2
Fire	1
Reactivity Hazard	0

BISPHENOL A-EPICHLOROHYDRIN RESIN

Health hazard	2
Fire	1
Reactivity Hazard	0

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

	Component	CAS NO.	Amount(%)
Xylene	Dimethyl benze	1330-20-7	40~45
METHYL ETHYL KETONE	2-Butanone	78-93-3	0~10
Methyl Acetate	METHYL ETHANOATE	79-20-9	10~15
Methyl Alcohol	METHANOL	67-56-1	0~5
BISPHENOL A-BISPHENOL A Diglycidyl ether	Phenol, 4,4-(1-methylethylidene)bis-, polymer with 2,2-((1-methylethylidene)bis(4,1-phenyleneoxymethylene))bis(oxirane))	25036-25-3	20~30
BISPHENOL A-EPICHLOROHYDRIN RESIN	BISPHENOL A-EPICHLOROHYDRIN RESIN	25068-38-6	0~10

### 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 JP-100(33%).

## 8. Exposure controls/personal protection

### a. Exposure Limits

#### National regulations

Xylene	TWA – 100ppm 435mg/m3 STEL – 150ppm 655mg/m3
METHYL ETHYL KETONE	TWA – 200ppm 590mg/m3 STEL – 300ppm 885mg/m3
Methyl Acetate	TWA – 200ppm 610mg/m3 STEL – 250ppm 760mg/m3
Methyl Alcohol	TWA – 200ppm 260mg/m3 STEL – 250ppm 310mg/m3
BISPHENOL A-BISPHENOL A Diglycidyl ether	No Data

BISPHENOL A-EPICHLOROHYDRIN RESIN No Data

#### ACGIH regulations

Xylene	TWA 100 ppm
Xylene	STEL 150 ppm
METHYL ETHYL KETONE	TWA 200 ppm
METHYL ETHYL KETONE	STEL 300 ppm
Methyl Acetate	TWA 200 ppm
Methyl Acetate	STEL 250 ppm
Methyl Alcohol	TWA 200 ppm
Methyl Alcohol	STEL 250 ppm
BISPHENOL A-BISPHENOL A Diglycidyl ether	No Data

BISPHENOL A-EPICHLOROHYDRIN RESIN No Data

#### Biological exposure limits

2 mg/L

### 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

transparent

### 2. Odor

No Data

### 3. Odour threshold

No Data

### 4. pH

No Data

### 5. Melting Point/Freezing Point

-98 °C

### 6. Boiling Point

57 °C

### 7. Flash Point

-13 °C

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	0.90~1.00
15. n-Octanol/Water Partition coefficient	No Data
16. Autoignition Temperature	No Data
17. Decomposition Temperature	No Data
18. Viscosity(at 25°C)	5~10 cps(at 25°C)
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

Xylene	LD50 3500 mg/kg Rat
METHYL ETHYL KETONE	LD50 2737 mg/kg Rat
Methyl Acetate	LD50 > 5000 mg/kg Rat
Methyl Alcohol	LD50 6200 mg/kg Rat
BISPHENOL A-BISPHENOL A Diglycidyl ether	LD50 > 2000 mg/kg Rat (Dow Chemical)
BISPHENOL A-EPICHLOROHYDRIN RESIN	LD50 > 1000 mg/kg Rat

###### Dermal

Xylene	LD50 ≥4350 mg/kg Rabbit
METHYL ETHYL KETONE	LD50 6480 mg/kg Rabbit
Methyl Acetate	LD50 > 5000 mg/kg Rat
Methyl Alcohol	LD50 15800 mg/kg Rabbit
BISPHENOL A-BISPHENOL A Diglycidyl ether	LD50 > 2000 mg/kg Rabbit (Dow Chemical)
BISPHENOL A-EPICHLOROHYDRIN RESIN	LD50 > 20000 mg/kg Rabbit

###### Inhalation

Xylene	Vapor LC50 6700 ppm 4 hr Rat
METHYL ETHYL KETONE	Vapor LC50 32 mg/l 4 hr Mouse
Methyl Acetate	Vapor LCLo 32000 ppm 4 hr Rat
Methyl Alcohol	LC50 64000 ppm 4 hr Rat
BISPHENOL A-BISPHENOL A Diglycidyl ether	No Data
BISPHENOL A-EPICHLOROHYDRIN 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
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)

Xylene	LC50 3.3 mg/l 96 hr
METHYL ETHYL KETONE	LC50 3220 mg/l 96 hr Pimephales promelas
Methyl Acetate	LC50 320 mg/l 96 hr
Methyl Alcohol	LC50 15400 mg/l 96 hr Lepomis macrochirus
BISPHENOL A-BISPHENOL A Diglycidyl ether	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	LC50 1.41 mg/l 96 hr Oryzias latipes

#### Water flea toxicity (Acute)

Xylene	LC50 190 mg/l 96 hr
METHYL ETHYL KETONE	EC50 5091 mg/l 48 hr Daphnia magna
Methyl Acetate	No Data
Methyl Alcohol	LD50 > 100 mg/l 96 hr Daphnia magna
BISPHENOL A-BISPHENOL A Diglycidyl ether	No Data

BISPHENOL A-EPICHLOROHYDRIN RESIN	EC50 1.7 mg/l 48 hr
Birds growth hinderance test (Acute)	
Xylene	No Data
METHYL ETHYL KETONE	EC50 > 500 mg/l 96 hr Skeletonema costatum
Methyl Acetate	EC50 > 120 mg/l 72 hr
Methyl Alcohol	No Data
BISPHENOL A-BISPHENOL A Diglycidyl ether	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	No Data
b. Persistence and degradability	
Persistence	
Xylene	3.2
METHYL ETHYL KETONE	log Kow 0.29
Methyl Acetate	log Kow 0.18
Methyl Alcohol	log Kow -0.77
BISPHENOL A-BISPHENOL A Diglycidyl ether	Not applicable
BISPHENOL A-EPICHLOROHYDRIN RESIN	log Kow 2.821
Degradability	
	No Data
c. Bioaccumulative potential:	
condenasability	
	BCF 0.56 ~ 0.67
biodegradability	
Xylene	39 (%)
METHYL ETHYL KETONE	89 (%) 20 day
Methyl Acetate	No Data
Methyl Alcohol	No Data
BISPHENOL A-BISPHENOL A Diglycidyl ether	No Data
BISPHENOL A-EPICHLOROHYDRIN RESIN	0 (%) 28 day
d. Mobility in soil:	
	log Kow = 3.2
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.	3082
b. Proper Shipping Name	
Xylene	XYLENES
METHYL ETHYL KETONE	ETHYL METHYL KETONE or METHYL ETHYL KETONE
Methyl Acetate	METHYL ACETATE
Methyl Alcohol	METHANOL
BISPHENOL A-BISPHENOL A Diglycidyl ether	Not applicable
BISPHENOL A-EPICHLOROHYDRIN RESIN	Not applicable
c. Transportation Class	

	9
d. Packing Group	III
e. Marine Pollutant	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)	
Xylene	45.3599 kg 100 lb
METHYL ETHYL KETONE	2267.995 kg 5000 lb
Methyl Acetate	Not applicable
Methyl Alcohol	2267.995 kg 5000 lb
BISPHENOL A-BISPHENOL A Diglycidyl ether	Not applicable
BISPHENOL A-EPICHLOROHYDRIN RESIN	Not applicable
U.S.A(EPCRA 302 )	
USA(EPCRA 304 )	Not applicable
USA(EPCRA 313 )	Not applicable
EU	Applicable
Xylene	R10Xn; R20/21Xi; R38
METHYL ETHYL KETONE	F; R11Xi; R36R66R67
Methyl Acetate	F; R11Xi; R36R66R67
Methyl Alcohol	F; R11T; R23/24/25-39/23/24/25
BISPHENOL A-BISPHENOL A Diglycidyl ether	Not applicable
BISPHENOL A-EPICHLOROHYDRIN RESIN	Xi; R36/38R43N; R51-53
EU	
Xylene	R10, R20/21, R38



METHYL ETHYL KETONE	R11, R36, R66, R67
Methyl Acetate	R11, R36, R66, R67
Methyl Alcohol	R11, R23/24/25, R39/23/24/25
BISPHENOL A-BISPHENOL A Diglycidyl ether	Not applicable
BISPHENOL A-EPICHLOROHYDRIN RESIN	R36/38, R43, R51/53
EU	
Xylene	S2, S25
METHYL ETHYL KETONE	S2, S9, S16
Methyl Acetate	S2, S16, S26, S29, S33
Methyl Alcohol	S1/2, S7, S16, S36/37, S45
BISPHENOL A-BISPHENOL A Diglycidyl ether	Not applicable
BISPHENOL A-EPICHLOROHYDRIN RESIN	S2, S28, S37/39, S61

## 16. Other requirements in domestic and other countries

### a. Information source and references

#### BISPHENOL A-EPICHLOROHYDRIN 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))  
 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](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  
 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))  
 Corporate Solution From Thomson Micromedex(<http://csi.micromedex.com>)

b. Issuing date 2014-03-04

### c. Revision number and date

Revision number -

Date -

### d. Others