

# SAFETY DATA SHEET

Revision: 1.1 Date: 16.09.2013

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),  
1272/2008 (CLP) & 453/2010



www.vishaypg.com

## M-Bond AE Resin

### 1. SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1 Product identifier**  
Product Name M-Bond AE Resin  
Chemical Name Mixture  
CAS No. Mixture  
EINECS No. Mixture  
REACH Registration No. None assigned.
- 1.2 Recommended use of the chemical and restrictions on use**  
Identified use(s) Adhesives.  
Uses advised against None.
- 1.3 Supplier's details**  
Company Identification Vishay Measurements Group, Inc.  
Post Office Box 27777  
Raleigh, NC 27611  
USA  
  
Telephone 919-365-3800  
Fax 919-365-3945  
E-Mail (competent person) mm.us@vishaypg.com
- 1.4 Emergency Phone No.** CHEMTREC 1-800-424-9300 (U.S.)

### 2. SECTION 2: HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture**
- 2.1 GHS Classification** Skin Irrit. 2; Causes skin irritation.  
Skin Sens. 1; Skin Sensitisation  
Eye Irrit. 2; Causes serious eye irritation.  
Muta. 2; Suspected of causing genetic defects.  
Aquatic Chronic 2; Toxic to aquatic life with long lasting effects.
- 2.2 Label elements**  
Product Name According to Regulation (EC) No. 1272/2008 (CLP).  
M-Bond AE Resin
- Hazard pictogram(s)
- Signal word(s) Warning
- Hazard statement(s) H315: Causes skin irritation.  
H317: May cause an allergic skin reaction.  
H319: Causes serious eye irritation.  
H341: Suspected of causing genetic defects.  
H411: Toxic to aquatic life with long lasting effects.
- Precautionary statement(s) P201: Obtain special instructions before use.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P302+P352: IF ON SKIN: Wash with plenty of soap and water.  
P333+P313: If skin irritation or rash occurs: Get medical advice/attention.

# SAFETY DATA SHEET

Revision: 1.1 Date: 16.09.2013



ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),  
1272/2008 (CLP) & 453/2010

www.vishaypg.com

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
P308+P313: IF exposed or concerned: Get medical advice/attention.

## 2.3 Other hazards

EUH205: Contains epoxy constituents. May produce an allergic reaction.

## 3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances Substances in preparations / mixtures

### 3.2 Mixtures

EC Classification Regulation (EC) No. 1272/2008 (CLP).

Chemical identity of the substance	%W/W	CAS No.	EC No.	Hazard statement(s)
bis-[4-(2,3-epoxypropoxy)phenyl] propane	>70%	1675-54-3	216-823-5	Skin Irrit. 2; H315 Skin Sens. 1; H317 Eye Irrit. 2; H319
Bisphenol A Diglycidyl Ether	15 – 25%	25085-99-8	-	Skin Irrit. 2; H315 Skin Sens. 1; H317 Eye Irrit. 2; H319 Aquatic Chronic 2; H411
2,3-epoxypropyl o-tolyl ether	<5%	2210-79-9	218-645-3	Skin Irrit. 2; H315 Skin Sens. 1; H317 Muta. 2; H341 Aquatic Chronic 2; H411
1,3-benzenediol resorcinol	<5%	108-46-3	203-585-2	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Aquatic Acute 1; H400

Directive 67/548/EEC & Directive 1999/45/EC

Chemical identity of the substance	%W/W	CAS No.	EC No.	EC Classification and Risk Phrases
bis-[4-(2,3-epoxypropoxy)phenyl] propane	>70%	1675-54-3	216-823-5	Xi; R36/38: Irritating to eyes and skin. R43: May cause sensitization by skin contact.
Bisphenol A Diglycidyl Ether	15 – 25%	25085-99-8	-	Xi; R36/38: Irritating to eyes and skin. R43: May cause sensitization by skin contact. N; R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
2,3-epoxypropyl o-tolyl ether	<5%	2210-79-9	218-645-3	Xi; R38: Irritating to skin. Muta. Cat. 3; R68: Possible risk of irreversible effects. N; R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
1,3-benzenediol resorcinol	<5%	108-46-3	203-585-2	Xn; R22: Harmful if swallowed. Xi; R36/38: Irritating to eyes and skin. N; R50: Very toxic to aquatic organisms.

## 4. SECTION 4: FIRST AID MEASURES



# SAFETY DATA SHEET

Revision: 1.1 Date: 16.09.2013



ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),  
1272/2008 (CLP) & 453/2010

www.vishaypg.com

## 4.1 Description of first aid measures

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF exposed or concerned: Get medical advice/attention.

Skin Contact

IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.

Eye Contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion

If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting. Get medical advice/attention if you feel unwell.

## 4.2 Most important symptoms and effects, both acute and delayed

May cause drowsiness or dizziness. Contains epoxy constituents. May produce an allergic reaction. Causes irritation to eyes and skin. Suspected of causing genetic defects.

## 4.3 Indication of any immediate medical attention and special treatment needed

Unlikely to be required but if necessary treat symptomatically.

## 5. SECTION 5: FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

Suitable Extinguishing Media

Extinguish with carbon dioxide, dry chemical, foam or waterspray.

Unsuitable Extinguishing Media

Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

May decompose in a fire giving off toxic fumes. Carbon monoxide, Carbon dioxide.

### 5.3 Advice for fire-fighters

Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Avoid run off to waterways and sewers.

## 6. SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Shut off leaks if without risk. Avoid breathing vapours. Wear protective gloves/protective clothing/eye protection/face protection.

### 6.2 Environmental precautions

Do not allow to enter drains, sewers or watercourses. Classified as a Marine Pollutant.

### 6.3 Methods and material for containment and cleaning up

Absorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal. Dispose of this material and its container as hazardous waste.

### 6.4 Reference to other sections

See Section: 8, 13

## 7. SECTION 7: HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Ensure adequate ventilation. Do not breathe vapour. In case of inadequate ventilation wear respiratory protection. Wear protective gloves/protective clothing/eye protection/face protection. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product.

### 7.2 Conditions for safe storage, including any incompatibilities

Storage Temperature

Store in a well-ventilated place. Keep container tightly closed. Keep away from heat, sources of ignition and direct sunlight.

Storage Life

Ambient.

Incompatible materials

Stable under normal conditions.

### 7.3 Specific end use(s)

Keep away from: Flammable liquid, Oxidizing agents, Corrosive Substances, Alcohols.

Adhesives.

# SAFETY DATA SHEET

Revision: 1.1 Date: 16.09.2013

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),  
1272/2008 (CLP) & 453/2010



www.vishaypg.com

## 8. SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### 8.1.1 Occupational exposure limits

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m <sup>3</sup> )	STEL (ppm)	STEL (mg/m <sup>3</sup> )	Note:
Resorcinol	108-46-3	10	45	20	90	NIOSH / OSHA

#### 8.1.2 Biological limit value

Not established.

#### 8.1.3 PNECs and DNELs

Not established.

### 8.2 Exposure controls

#### 8.2.1 Appropriate engineering controls

Ensure adequate ventilation. Atmospheric levels should be controlled in compliance with the occupational exposure limit.

#### 8.2.2 Individual protection measures, such as personal protective equipment (PPE)

Use personal protective equipment as required. Wash contaminated clothing before reuse. Avoid contact with skin and eyes.

Eye/face protection



Wear protective eye glasses for protection against liquid splashes. Wear eye protection with side protection (EN166).

Skin protection



Wear impervious gloves (EN374). Breakthrough time of the glove material: refer to the information provided by the gloves' producer.

Respiratory protection



Normally no personal respiratory protection is necessary. In case of inadequate ventilation wear respiratory protection.

Thermal hazards

Not applicable.

#### 8.2.3 Environmental Exposure Controls

Avoid release to the environment.

## 9. SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance	Clear - Amber Coloured liquid.
Odour	Faint Epoxy Odour
Odour Threshold	Not available.
pH	Not established.
Melting Point/Freezing Point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	2.7 (BuAc = 1)
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	1 @ 118°C (mmHg)
Vapour density	>3.8 (Air = 1)
Relative density	1.15 (H <sub>2</sub> O = 1)
Solubility(ies)	Negligible (Water)
Partition coefficient: n-octanol/water	Not available.

# SAFETY DATA SHEET

Revision: 1.1 Date: 16.09.2013



ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),  
1272/2008 (CLP) & 453/2010

www.vishaypg.com

Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Not oxidising.

9.2 Other information None

## 10. SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity	Stable under normal conditions.
10.2 Chemical stability	Stable under normal conditions. May decompose if heated.
10.3 Possibility of hazardous reactions	Stable under normal conditions.
10.4 Conditions to avoid	Keep away from heat, sources of ignition and direct sunlight.
10.5 Incompatible materials	Flammable liquid, Strong Oxidizing agents, Corrosive Substances, Alcohols, Strong Acids and Alkalis.
10.6 Hazardous Decomposition Product(s)	May decompose in a fire giving off toxic fumes. Carbon monoxide, Carbon dioxide.

## 11. SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects (Substances in preparations / mixtures)	
Acute toxicity	
Ingestion	Not classified.
Inhalation	Not classified.
Skin Contact	Skin Irrit. 2 (Mixture)
Eye Contact	Eye Irrit. 2 (Mixture)
Irritation	Eye Irrit. 2, Skin Irrit. 2; May cause irritation to skin and eyes.
Corrosivity	Not classified.
Sensitisation	Skin Sens. 1. Contains epoxy constituents. May produce an allergic reaction.
Repeated dose toxicity	Not classified.
Carcinogenicity	No evidence of carcinogenicity.
Mutagenicity	Muta. 2; Suspected of causing genetic defects. (2,3-epoxypropyl o-tolyl ether)
Toxicity for reproduction	No data.
11.2 Other information	NTP: Not listed IARC Monographs: Not listed OSHA Regulated: Not listed

## 12. SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity	2,3-epoxypropyl o-tolyl ether Classified as a Marine Pollutant.
12.2 Persistence and degradability	Part of the components are poorly biodegradable.
12.3 Bioaccumulative potential	The product has low potential for bioaccumulation.
12.4 Mobility in soil	The product is predicted to have low mobility in soil. (Insoluble in water.)
12.5 Results of PBT and vPvB assessment	Not classified as PBT or vPvB.
12.6 Other adverse effects	None known.

## 13. SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods	This material and its container must be disposed of as hazardous waste. Send after pre-treatment to a appropriate hazardous waste incinerator facility according to legislation.
13.2 Additional Information	Dispose of contents in accordance with local, state or national legislation.

# SAFETY DATA SHEET

Revision: 1.1 Date: 16.09.2013



ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),  
1272/2008 (CLP) & 453/2010

www.vishaypg.com

## 14. SECTION 14: TRANSPORT INFORMATION

	ADR/RID / IMDG / IATA
14.1 UN number	UN 3082
14.2 Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
14.3 Transport hazard class(es)	9
14.4 Packing Group	III
14.5 Environmental hazards	Marine Pollutant / Environmentally hazardous substance
14.6 Special precautions for user	Causes irritation to eyes and skin.
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
14.8 Additional information	None.

## 15. SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	None known.
---	-------------

## 16. SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: 1-16.

**References:** Existing Safety Data Sheet (SDS), Harmonised Classification(s) for bis-[4-(2,3-epoxypropoxy)phenyl] propane (CAS# 1675-54-3), 2,3-epoxypropyl o-tolyl ether (CAS # 2210-79-9), and Existing ECHA registration(s) for Resorcinol (CAS # 108-46-3).

Classification of the substance or mixture According to Regulation (EC) No. 1272/2008 (CLP).	Classification Procedure
Skin Irrit. 2; H315	CLP Threshold Calculation
Skin Sens. 1; H317	CLP Threshold Calculation
Eye Irrit. 2; H319	CLP Threshold Calculation
Muta. 2; H341	CLP Threshold Calculation
Aquatic Chronic 2; H412	CLP Summation Calculation

### LEGEND

LTEL	Long Term Exposure Limit
STEL	Short Term Exposure Limit
DNEL	Derived No Effect Level
PNEC	Predicted No Effect Concentration
PBT	PBT: Persistent, Bioaccumulative and Toxic
vPvB	vPvT: very Persistent and very Toxic
OECD	Organisation for Economic Cooperation and Development

Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

### Disclaimers

Information contained in this publication or as otherwise supplied to Users is believed to be accurate and is given in good faith, but it is for the Users to satisfy themselves of the suitability of the product for their own particular purpose. Vishay Precision Group gives no warranty as to the fitness of the product for any particular purpose and any implied warranty or condition (statutory or otherwise) is excluded except to the extent that exclusion is prevented by law. Vishay Precision Group accepts no liability for loss or damage (other than that arising from death or personal injury caused by defective product, if proved), resulting from reliance on this information. Freedom under Patents, Copyright and Designs cannot be assumed.

### Annex to the extended Safety Data Sheet (eSDS)

No information available.

# SAFETY DATA SHEET

Revision: 1.1 Date: 16.09.2013

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),  
1272/2008 (CLP) & 453/2010



[www.vishaypg.com](http://www.vishaypg.com)