

SAFETY DATA SHEET

Revision: 2.0 Date: 18 August 2016


ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),
1272/2008 (CLP) & 2015/830

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

1.1 Product identifier	
Product Name	M-Bond GA-2 Resin
Chemical Name	Mixture
CAS No.	Mixture
EINECS No.	Mixture
REACH Registration No.	None assigned.
1.2 Relevant identified uses of the substance or mixture and uses advised against	
Identified Use(s)	Adhesives.
Uses Advised Against	Anything other than the above.
1.3 Details of the supplier of the safety data sheet	
Company Identification	VISHAY MEASUREMENTS GROUP UK LTD Stroudley Road Basingstoke Hampshire RG24 8FW United Kingdom
Telephone	+44 (0) 1256 462131
Fax	+44 (0) 1256 471441
E-Mail (competent person)	mm.uk@vishaypg.com
1.4 Emergency telephone number	
Emergency Phone No.	(00-1) 703-527-3887
Languages spoken	CHEMTREC (24 hours) All official European languages.

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture	
2.1.1 Regulation (EC) No. 1272/2008 (CLP)	Skin Corr. 1C; H314 Eye Dam. 1; H318 Skin Sens. 1; H317 Repr. 1B; H360 Aquatic Chronic 2; H411
2.2 Label elements	
Product Name	According to Regulation (EC) No. 1272/2008 (CLP) M-Bond GA-2 Resin
Contains:	2-Ethyl-2-(hydroxymethyl)-1,3- Propanediol polymer with (chloromethyl)oxirane and bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)
Hazard Pictogram(s)	
Signal Word(s)	Danger
Hazard Statement(s)	H314: Causes severe skin burns and eye damage. H317: May cause an allergic skin reaction. H360: May damage fertility or the unborn child. 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. P301+P330+P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

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

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310: Immediately call a POISON CENTER/doctor.

2.3 Other hazards

None.

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.	REACH Registration No.	Hazard Statement(s)
Limestone	30 – 35	1317-65-3	215-279-6	Not yet assigned in the supply chain	Not classified
2-Ethyl-2-(hydroxymethyl)-1,3-Propanediol polymer with (chloromethyl)oxirane	27 - 32	30499-70-8	-	Not yet assigned in the supply chain	Skin Corr. 1C; H314 Eye Dam. 1; H318 Skin Sens. 1B; H317 Repr. 1B; H360 Aquatic Chronic 2; H411
reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)	15 – 20	25068-38-6	500-033-5	Not yet assigned in the supply chain	Skin Irrit. 2; H315 (SCL ≥ 5%) Skin Sens. 1; H317 Eye Irrit. 2; H319 (SCL ≥ 5%) Aquatic Chronic 2; H411

For full text of H phrases see section 16.

SECTION 4: FIRST AID MEASURES



4.1 Description of first aid measures

Self-protection of the first aider

Inhalation

Skin Contact

Eye Contact

Ingestion

Use personal protective equipment as required. Wear appropriate personal protective equipment, avoid direct contact. Ensure adequate ventilation. Avoid all contact. Do not breathe vapour. Avoid exposure during pregnancy.

IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

IF ON SKIN (or hair): Rinse skin immediately with plenty of water for 15-20 minutes. Take off contaminated clothing and wash before reuse. If irritation (redness, rash, blistering) develops, get medical attention.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Hold eye open and rinse slowly and gently with water for 15-20 minutes. Immediately call a POISON CENTER/doctor.

IF SWALLOWED: Rinse mouth. Make victim drink plenty of water. Do NOT induce vomiting. Call a POISON CENTER/doctor if you feel unwell. IF exposed or concerned: Get medical advice/attention.

4.2 Most important symptoms and effects, both acute and delayed

Causes severe skin burns and eye damage. May cause an allergic skin reaction. May damage fertility or the unborn child.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Notes to a physician:

IF IN EYES: Obtain prompt consultation, preferably from an ophthalmologist.

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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. Direct water jet may spread the fire.
- 5.2 Special hazards arising from the substance or mixture** May decompose in a fire giving off toxic fumes. Carbon monoxide, Carbon dioxide, Phenolics.
- 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. Vapour may create explosive atmosphere.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures** Ensure adequate ventilation. Stop leak if safe to do so. Use personal protective equipment as required. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe vapour. Avoid all contact. Do not ingest. If swallowed then seek immediate medical assistance. Isolate the area and allow vapours to disperse.
- 6.2 Environmental precautions** Avoid release to the environment. Do not allow to enter drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body.
- 6.3 Methods and material for containment and cleaning up** Adsorb 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

SECTION 7: HANDLING AND STORAGE

- 7.1 Precautions for safe handling** Avoid all contact. Do not breathe vapour. Ensure adequate ventilation. Wear appropriate personal protective equipment, avoid direct contact. Use personal protective equipment as required. See Section: 8. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Contaminated clothing should be laundered before reuse.
- 7.2 Conditions for safe storage, including any incompatibilities**
Storage temperature Ideal storage temperature is (°C): <30°C
Storage life Stable under normal conditions.
Incompatible materials Reacts violently with - Strong oxidising agents, Alkalis, Acids and Amines
- 7.3 Specific end use(s)** Adhesives.

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 ³)	STEL (ppm)	STEL (mg/m ³)	Note
Calcium carbonate	1317-65-3					WEL
- Inhalable Dust		-	10	-	-	
- Respirable Dust		-	4	-	-	

WEL: Workplace Exposure Limit (UK HSE EH40)

- 8.1.2 Biological limit value** Not established.
- 8.1.3 PNECs and DNELs** Not established.
- 8.2 Exposure controls**

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8.2.1 Appropriate engineering controls

Ensure adequate ventilation or use appropriate containment. Atmospheric levels should be controlled in compliance with the occupational exposure limit. A washing facility/water for eye and skin cleaning purposes should be present. General hygiene measures for the handling of chemicals are applicable. Avoid all contact. Do not breathe vapour. Wash hands before breaks and after work. Keep work clothes separately. Contaminated clothing should be laundered before reuse. Do not eat, drink or smoke at the work place.

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

Eye/face protection



Wear goggles giving complete protection to eyes to protect against liquid splashes (EN166).

Skin protection



Hand protection:

Wear impervious gloves (EN374). Breakthrough time of the glove material: refer to the information provided by the gloves' producer. Gloves should be changed regularly to avoid permeation problems. Protective index 6, corresponding > 480 minutes of permeation time according to EN 374

Suitable materials:

Butyl rubber
Nitrile rubber
Neoprene
Polyvinyl chloride - PVC

Skin protection:

Wear suitable coveralls to prevent exposure to the skin. In case of inadequate ventilation wear respiratory protection. A suitable dust mask or dust respirator with filter type A/P may be appropriate.

Respiratory protection



Thermal hazards

Not applicable.

8.2.3 Environmental Exposure Controls

Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Black Liquid
Odour	Ether-like Odour
Odour Threshold	Not available.
pH	Not established.
Melting Point/Freezing Point	ca. 320°C (bisphenol-A-(epichlorhydrin))
Initial boiling point and boiling range	>260°C (Mixture)
Flash point	>93°C [Closed cup]
Evaporation Rate	<1
Flammability (solid, gas)	Non-flammable
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	<0.1 mmHg @ 20°C
Vapour density	Not available.
Relative density	1.51 g/cm ³ (H ₂ O = 1) (Mixture)
Solubility(ies)	Slightly soluble in: Water (Mixture)
Partition coefficient: n-octanol/water	log Pow >= 2.918 (bisphenol-A-(epichlorhydrin))
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.

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SECTION 10: STABILITY AND REACTIVITY

10.1	Reactivity	Stable under normal conditions.
10.2	Chemical stability	Stable under normal conditions.
10.3	Possibility of hazardous reactions	Epoxy resins release phenolics, carbon monoxide, and water.
10.4	Conditions to avoid	Avoid contact with heat and ignition sources and oxidizers.
10.5	Incompatible materials	Reacts violently with - Strong oxidising agents, Alkalis, Acids and Amines
10.6	Hazardous decomposition product(s)	May decompose in a fire giving off toxic fumes. Carbon monoxide, Carbon dioxide, Phenolics.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1	Information on toxicological effects	All test data taken from existing ECHA registrations for the substances mentioned.
	Acute toxicity	
	Ingestion	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
	Inhalation	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 20.0 mg/l.
	Skin Contact	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
	Skin corrosion/irritation	Skin Corr. 1C; Causes severe skin burns and eye damage.
	2-Ethyl-2-(hydroxymethyl)-1,3- Propanediol polymer with (chloromethyl)oxirane: reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700):	Test Result: Corrosive (EPA OTS 798.4470 (Acute Dermal Irritation)
	Serious eye damage/irritation	Test Result: Irritating to skin. (OECD 404)
	2-Ethyl-2-(hydroxymethyl)-1,3- Propanediol polymer with (chloromethyl)oxirane: reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700):	Eye Dam. 1; Causes serious eye damage. Test Result: Causes serious eye damage. Source A (1965) See Section: 16
	Respiratory or skin sensitization	No data. Harmonised Classification
	2-Ethyl-2-(hydroxymethyl)-1,3- Propanediol polymer with (chloromethyl)oxirane: reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700):	Skin Sens. 1; May cause an allergic skin reaction. No data.
	Germ cell mutagenicity	Test Result: Positive (OECD 429)
	Carcinogenicity	Based upon the available data, the classification criteria are not met.
	Reproductive toxicity	Based upon the available data, the classification criteria are not met.
	2-Ethyl-2-(hydroxymethyl)-1,3- Propanediol polymer with (chloromethyl)oxirane:	Repr. 1B; May damage fertility or the unborn child. NOAEL 300 mg/kg bw/day (OECD 422)
	STOT - single exposure	Based upon the available data, the classification criteria are not met.
	STOT - repeated exposure	Based upon the available data, the classification criteria are not met.
	Aspiration hazard	Based upon the available data, the classification criteria are not met.
11.2	Other information	

SECTION 12: ECOLOGICAL INFORMATION

12.1	Toxicity	Aquatic Chronic 2: Harmful to aquatic life with long lasting effects. Estimated Mixture LC50 > 1 to ≤ 10 mg/l (Fish)
	2-Ethyl-2-(hydroxymethyl)-1,3- Propanediol polymer with (chloromethyl)oxirane: reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700):	No data.
	Persistence and degradability	No data. Harmonised Classification
12.2	Bioaccumulative potential	Part of the components are biodegradable.
12.3	Mobility in soil	The product has low potential for bioaccumulation.
12.4	Mobility in soil	The product is predicted to have low mobility in soil.

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12.5	Results of PBT and VPVB assessment	Not classified as PBT or vPvB.
12.6	Other adverse effects	None known.

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.

SECTION 14: TRANSPORT INFORMATION

	ADR/RID	IMDG	IATA	
14.1	UN number	1760	1760	
14.2	UN proper shipping name	CORROSIVE LIQUID N.O.S (2-Ethyl-2-(hydroxymethyl)-1,3-Propanediol polymer with (chloromethyl)oxirane)	CORROSIVE LIQUID N.O.S (2-Ethyl-2-(hydroxymethyl)-1,3-Propanediol polymer with (chloromethyl)oxirane)	CORROSIVE LIQUID N.O.S (2-Ethyl-2-(hydroxymethyl)-1,3-Propanediol polymer with (chloromethyl)oxirane)
14.3	Transport hazard class(es)	8	8	8
14.4	Packing group	III	III	III
14.5	Environmental hazards	Environmentally hazardous substance	Marine Pollutant	Environmentally hazardous substance
14.6	Special precautions for user	See Section: 2		
14.7	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable		
14.8	Additional Information	None		

SECTION 15: REGULATORY INFORMATION

15.1	Safety, health and environmental regulations/legislation specific for the substance or mixture	
15.1.1	EU regulations	Not restricted
	Authorisations and/or Restrictions On Use	bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700): Substance evaluated in 2015; evaluating Member State has proposed to ask the registrants to provide further information
	CoRAP Substance Evaluation	
15.1.2	National regulations	None known.
15.2	Chemical Safety Assessment	A REACH chemical safety assessment has not been carried out.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: 1-16. Updated substance / mixture classification. New SDS Regulation 2015/830 format, all sections have been updated to include new information. Please review SDS with care.

References: Existing Safety Data Sheet (SDS), Existing ECHA registration(s) for bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700) (CAS No. 25068-38-6) and 2-Ethyl-2-(hydroxymethyl)-1,3-Propanediol polymer with (chloromethyl)oxirane (CAS No. 30499-70-8). Harmonised Classification for reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700) (CAS No. 25068-38-6), the Classification and Labelling Inventory for Limestone (CAS No. 1317-65-3) and 2-Ethyl-2-(hydroxymethyl)-1,3-Propanediol polymer with (chloromethyl)oxirane (CAS No. 30499-70-8).

1. Source A (1965) - "Hazardous Substances Regulations" under the U.S.A. rederel Hazardous Substances Labelling Act Sect. 191.12

EU Classification: This Safety Data Sheet was prepared in accordance with EC Regulation (EC) 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830.

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Classification of the substance or mixture According to Regulation (EC) No. 1272/2008 (CLP)	Classification Procedure
Skin Corr. 1C; H314	Threshold Calculation
Eye Dam. 1; H318	Threshold Calculation
Skin Sens. 1; H317	Threshold Calculation
Repr. 1B; H360	Threshold Calculation
Aquatic Chronic 2; H411	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
SCL	Specific Concentration Limit

Hazard classification / Classification code:

Skin Corr. 1C; Skin Corrosive Category 1C
Skin Irrit. 2; Skin Irritation Category 2
Skin Sens. 1; Skin sensitisation, category 1
Eye Dam. 1; Eye damage, category 1
Eye Irrit. 2; Eye Irritation Category 2
Repr. 1B; Reproductive toxicity Category 1B
Aquatic Chronic 2; Aquatic and Terrestrial Ecotoxicity Long Term Exposure Category 2

Hazard Statement(s)

H314: Causes severe skin burns and eye damage.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H318: Causes serious eye damage.
H319: Causes serious eye irritation.
H360: May damage fertility or the unborn child.
H411: Toxic to aquatic life with long lasting effects.

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.

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Annex to the extended Safety Data Sheet (eSDS)

No information available.



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