

SAFETY DATA SHEET

Version: 2.0
Date of Issue: 04 May 2017
Date of First Issue: 20 March 2012

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ACCORDING TO OSHA HCS (29 CFR 1910.1200)

SECTION 1: IDENTIFICATION

| | | |
|--|--|---------------------|
| Product identifier used on the label | M-Bond GA-61 (Part A) | |
| Other means of identification | Not applicable | |
| Recommended use of the chemical and restrictions on use | | |
| Recommended use | Adhesives. | |
| Restrictions on use | None known. | |
| Details of the supplier of the safety data sheet | | |
| Supplier | VISHAY MEASUREMENTS GROUP, INC. | |
| Address of Supplier | Post Office Box 27777 Raleigh, NC 27611 USA | |
| Telephone | +1 919-365-3800 | |
| Fax | +1 919-365-3945 | |
| E-Mail (competent person) | mm.us@vishaypg.com | |
| Emergency telephone number | 1-800-424-9300 | CHEMTREC (24 hours) |

SECTION 2: HAZARD(S) IDENTIFICATION

Classification of the substance or mixture in accordance with paragraph (d) of 29 CFR 1910.1200

| | |
|-----------------------|---|
| Physical hazards | Not classified. |
| Health hazards | Skin Irritation, Category 2 Skin Sensitisation, Category 1 Eye Irritation, Category 2 |
| Environmental hazards | Hazardous to the aquatic environment, Chronic, Category 2 |

Hazard Symbol



Signal Word(s)

Warning

Hazard Statement(s)

Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Toxic to aquatic life with long lasting effects.

Precautionary Statement(s)

Avoid breathing vapours.
Wear protective gloves/protective clothing/eye protection/face protection.
Wash hands and exposed skin thoroughly after handling.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
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.
Avoid release to the environment.

Other hazards

Contains epoxy constituents. May produce an allergic reaction.

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Percent of the mixture consists of ingredient(s) of unknown acute toxicity: 0%

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances Not applicable

Mixtures Substances in preparations / mixtures

| Chemical identity of the substance | %W/W | CAS No. | EC No. | Hazard classification |
|--|--------|------------|-----------|--|
| Polyglycidyl Ether of Phenol-Formaldehyde | <96 | 28064-14-4 | 608-164-0 | Skin Irritation, Category 2 Skin Sensitisation, Category 1 Eye Irritation, Category 2 Hazardous to the aquatic environment, Chronic, Category 2 |
| Talc | 5 - 10 | 14807-96-6 | 238-877-9 | Not classified |
| Bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700) | 10 | 25068-38-6 | 500-033-5 | Skin Irritation, Category 2 Skin Sensitisation, Category 1 Eye Irritation, Category 2 Hazardous to the aquatic environment, Chronic, Category 2 |

SECTION 4: FIRST AID MEASURES



Description of first aid measures

Self-protection of the first aider

Use personal protective equipment as required. Avoid direct contact. Wash contaminated clothing before reuse.

Inhalation

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

Skin Contact

IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation or rash 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.

Most important symptoms and effects, both acute and delayed

Contains epoxy constituents. May produce an allergic reaction. Causes irritation to eyes and skin.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Notes to a physician:

Not applicable.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

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

Unsuitable extinguishing Media

Do not use water jet.

Special hazards arising from the substance or mixture

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

Special protective equipment and precautions 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.

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SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Methods and material for containment and cleaning up

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

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.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Ensure adequate ventilation. 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.

Conditions for safe storage, including any incompatibilities

Storage temperature
Incompatible materials

Keep away from heat and direct sunlight.

Ambient. 2 - 43 °C

Keep away from: Oxidizing agents, Strong Acids and Alkalis.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

| SUBSTANCE | CAS No. | LTEL (8 hr TWA ppm) | LTEL (8 hr TWA mg/m³) | STEL (ppm) | STEL (mg/m³) | Note |
|-----------|------------|---------------------|-----------------------|------------|--------------|-----------|
| Talc | 14807-96-6 | - | - | - | - | NIOSH |
| | | 20* | - | - | - | OSHA |
| | | - | 2 [^] (E)(R) | - | - | ACGIH, A4 |

Note: OSHA PELs 1910.1000 TABLE Z-1 / NIOSH RELs / ACGIH TLVs

[^]Containing no asbestos fibres

*mmpcf – Millions of particles per cubic foot

E – The value is for particulate matter containing no asbestos and < 1% crystalline silica.

R – Respirable particulate matter.

A4 - Not Classifiable as a Human Carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of the lack of data. In vitro or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories.

The other components listed in Section 3 do not have occupational exposure limits.

Biological Exposure Indices

Not established

Appropriate engineering controls

Ensure adequate ventilation.

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.

Skin protection



Wear impervious gloves. Breakthrough time of the glove material: refer to the information provided by the gloves' producer. The gloves type used must be chosen based on the work activity and duration as well as concentration/quantity of material being handled.

SAFETY DATA SHEET

Version: 2.0
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Respiratory protection



Normally no personal respiratory protection is necessary.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | |
|--|---|
| Appearance | Off-white - Brown Viscous liquid. |
| Odor | Faint Epoxy Odour |
| Odor Threshold | Not available. |
| pH | Not established. |
| Melting Point/Freezing Point | -16 °C (bisphenol-A) |
| Initial boiling point and boiling range | ~320°C (bisphenol-A) |
| Flash Point | >= 264 <= 268°C (bisphenol-A) |
| Evaporation rate (Butyl acetate = 1) | Not available. |
| Flammability (solid, gas) | Non-flammable. |
| Upper/lower flammability or explosive limits | Not applicable. |
| Vapour pressure | Not available. |
| Vapour density | Not available. |
| Relative density | 1.27 (H2O = 1) (Mixture) |
| Solubility(ies) | Not available. |
| Partition coefficient: n-octanol/water | >= 2.64 <= 3.78 log Pow (25 °C) (bisphenol-A) |
| Auto-ignition temperature | Not applicable. |
| Decomposition Temperature | >350°C (bisphenol-A) |
| Viscosity | Not available. |

Other information

None.

SECTION 10: STABILITY AND REACTIVITY

| | |
|---|--|
| Reactivity | Stable under normal conditions. |
| Chemical stability | Stable under normal conditions. |
| Possibility of hazardous reactions | Combustion or thermal decomposition will evolve toxic and irritant vapours. |
| Conditions to avoid | The product may decompose if heated to temperatures above (°C): 300 |
| Incompatible materials | Oxidizing agents, Corrosive Substances, Reducing agent, Strong Acids and Alkalis. Amines. |
| Hazardous decomposition product(s) | May decompose in a fire giving off toxic fumes. Phenolic, Carbon monoxide, Carbon dioxide, |

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects (Substances in preparations / mixtures)

| | |
|--|---|
| 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. |
| Acute toxicity - Inhalation | Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 20.0 mg/l. |
| Acute toxicity - 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 Irritation, Category 2; Slight irritant to rabbit skin. (bisphenol-A) |
| Serious eye damage/irritation | Eye Irritation, Category 2; Slight irritant to rabbit eyes. |
| Respiratory or skin sensitization | Skin Sensitisation, Category 1; bisphenol-A-(epichlorhydrin) Sensitisation (mouse LLNA) |
| Germ cell mutagenicity | There is no evidence of mutagenic potential. |
| Carcinogenicity | No evidence of carcinogenicity. |

SAFETY DATA SHEET

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| | |
|---|--|
| Reproductive toxicity | No data. EU Harmonised Classification. |
| STOT - single exposure | Not classified. |
| STOT - repeated exposure | Not classified. |
| Aspiration hazard | Not classified. |
| Information on likely routes of exposure | |
| Inhalation | Possible – accidental. |
| Ingestion | Unlikely – accidental. |
| Skin Contact | Possible – accidental. |
| Eye Contact | Possible – accidental. |
| Early onset symptoms related to exposure | Causes serious eye irritation. Causes skin irritation. May cause an allergic skin reaction. |
| Delayed health effects from exposure | None known |
| Other information | |
| NTP Report on Carcinogens | Not listed. |
| IARC Monographs | Talc – Group 1: Containing asbestos or asbestiform fibers, Group 3: Not containing asbestos or asbestiform fibers. |
| OSHA Designated Carcinogen | Not listed. |

SECTION 12: ECOLOGICAL INFORMATION

| | |
|--------------------------------------|---|
| Ecotoxicity | Bisphenol-A and Polyglycidyl Ether of Phenol-Formaldehyde Classified as a Marine Pollutant. Aquatic Chronic 2. bisphenol-A Oncorhynchus mykiss Fish: LC50 = 1.2 mg/L (96h) bisphenol-A Daphnia magna Aquatic invertebrates: LC50 = 2.7 mg/L (48h) |
| Persistence and degradability | Part of the components are poorly biodegradable. |
| Bioaccumulative potential | The product has low potential for bioaccumulation. |
| Mobility in soil | The product is predicted to have low mobility in soil. (Slightly soluble in Water) |
| Other adverse effects | None known. |

SECTION 13: DISPOSAL CONSIDERATIONS

| | |
|--------------------------------|--|
| 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. |
| Additional Information | Dispose of contents in accordance with local, state or national legislation. |

SECTION 14: TRANSPORT INFORMATION

| | ADR/RID | IMDG | IATA |
|---|---|---|---|
| UN number | UN 3082 | UN 3082 | UN 3082 |
| UN proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Polyglycidyl Ether of Phenol-Formaldehyde) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Polyglycidyl Ether of Phenol-Formaldehyde) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Polyglycidyl Ether of Phenol-Formaldehyde) |
| Transport hazard class(es) | 9 | 9 | 9 |
| Packing group | III | III | III |
| Environmental hazards | Marine Pollutant / Environmentally hazardous substance | Marine Pollutant / Environmentally hazardous substance | Marine Pollutant / Environmentally hazardous substance |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not applicable. | | |
| Special precautions for user | See Section: 2 | | |

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SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

US Federal Regulations

| | |
|---|--|
| TSCA (Toxic Substance Control Act) | Talc – Subject to 25,000 lb reporting threshold. |
| EPCRA/SARA Section 302 Extremely Hazardous Substances | Not listed. |
| EPCRA Section 313 Toxics Release Inventory (TRI) Program | Not listed. |
| NIOSH Occupational Carcinogen List | Not listed. |
| OSHA List of highly hazardous chemicals, toxics and reactives | Not listed. |
| NTP Report on Carcinogens (RoC) List | Not listed. |
| Poison Prevention Packaging Act | Not listed. |

US State Regulations

| | |
|---|----------------------------------|
| California State, Proposition 65 List | Not listed. |
| California State, Safer Consumer Products Regulations | Talc – Candidate Chemicals List. |
| Maine State, Toxic Chemicals in Children's Products Act | Not listed. |
| New Jersey State Worker and Community RTK Act | Not listed. |
| Pennsylvania State, Worker and Community RTK Act | Talc – Hazardous Substance List. |
| Rhode Island State, Hazardous Substances RTK Act | Talc – Hazardous Substance List. |

Non-Regional

| | |
|--|--|
| IARC Monographs, List of Classifications | Talc – Group 1: Containing asbestos or asbestiform fibers, Group 3: Not containing asbestos or asbestiform fibers. |
|--|--|

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: New SDS Regulation compliant with HazCom 2012 format, all sections have been updated to include new information. Please review SDS with care.

Version 2.0
Revision Date 04-May-2017
Date of First Issue 20-Mar-2017

References:

Existing Safety Data Sheet (SDS). EU Data: Existing ECHA registration(s) for bisphenol-A-(epichlorhydrin) (CAS# 25068-38-6) and the Classification and Labelling Inventory for Polyglycidyl Ether of Phenol-Formaldehyde (CAS# 28064-14-4).

| GHS Classification of the substance or mixture | Classification Procedure |
|---|--------------------------|
| Skin Irritation, Category 2 | Threshold Calculation |
| Skin Sensitisation, Category 1 | Threshold Calculation |
| Eye Irritation, Category 2 | Threshold Calculation |
| Hazardous to the aquatic environment, Chronic, Category 2 | Threshold Calculation |

LEGEND

ACGIH: American Conference of Governmental Industrial Hygienists
BEI: Biological Exposure Indices (ACGIH)
IARC: International Agency for Research on Cancer
Irr: Irritation
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OSHA: The Occupational Safety & Health Administration
PBT: Persistent, Bioaccumulative and Toxic
PEL: Permissible exposure limit

REL: Recommended exposure limit
SCL: Specific Concentration Limit
Skin^o: Risk of overexposure via dermal contact
STEL: Short Term Exposure Limit
TLV: Threshold Limit value
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average
URT: Upper respiratory tract
vPvB: very Persistent and very Bioaccumulative

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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