

SAFETY DATA SHEET

Revision: 1.0 Date: 21.10.2015



ACCORDING TO OSHA HCS (29 CFR 1910.1200)

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

| | | |
|------------|--|--|
| 1.1 | Product identifier | |
| | Product Name | QA-500 Part A |
| | Chemical Name | Mixture |
| | CAS No. | Mixture |
| | EINECS No. | Mixture |
| 1.2 | Relevant identified uses of the substance or mixture and uses advised against | |
| | Identified Use(s) | Adhesives |
| | Uses Advised Against | None known. |
| 1.3 | Details of the supplier of the safety data sheet | |
| | 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 telephone number | 1-800-424-9300 CHEMTREC |

SECTION 2: HAZARDS IDENTIFICATION

| | | |
|--------------|---|---|
| 2.1 | Classification of the substance or mixture | |
| 2.1.1 | GHS Classification | Skin Irrit. 2; H315 Skin Sens. 1; H317 Eye Irrit. 2; H319 Aquatic Chronic 2; H411 |
| 2.2 | Label elements | |
| | Product Name | GHS Classification QA-500 Part A |
| | Hazard Pictogram(s) |   |
| | Signal Word(s) | Warning |
| | Contains: | Reaction product: Bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700) |
| | Hazard Statement(s) | H315: Causes skin irritation. H317: May cause an allergic skin reaction. H319: Causes serious eye irritation. H411: Toxic to aquatic life with long lasting effects. |
| | Precautionary Statement(s) | P280: Wear protective gloves/protective clothing/eye protection/face protection. P302+P352: IF ON SKIN: Wash with plenty of water. P333+P313: If skin irritation or rash occurs: Get medical advice/attention. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313: If eye irritation persists: Get medical advice/attention. P273: Avoid release to the environment. |
| | OSHA Defined Hazards | None. |

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2.3 Other hazards None.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances Not applicable

3.2 Mixtures Substances in preparations / mixtures

GHS Classification

| Chemical identity of the substance | %W/W | CAS No. | EC No. | Hazard classification |
|---|----------|------------|-----------|--|
| Reaction product: Bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight \leq 700) | 70 - 100 | 25068-38-6 | 500-033-5 | Skin Irrit. 2; H315 (SCL: \geq 5%) Skin Sens. 1; H317 Eye Irrit. 2; H319 (SCL: \geq 5%) Aquatic Chronic 2; H411 |

Note: Contains: < 6ppm Phenyl glycidyl ether (CAS# 122-60-1)

For full text of H/P Statements see section 16.

SECTION 4: FIRST AID MEASURES



4.1 Description of first aid measures

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin Contact

IF ON SKIN: Remove contaminated clothing and wash all affected areas with plenty of water. Contaminated clothing should be thoroughly cleaned. If skin irritation or rash occurs: Get medical advice/attention.

Hot/molten product: In case of burns immediately cool affected skin as long as possible with cold water. In the event of burns from the molten liquid, do not attempt to remove adhering material. Do not apply greases or ointments. Cover the affected area with a sterile dressing or clean sheeting and transport for medical care.

Eye Contact

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

If hot product is splashed into the eye, it should be cooled immediately to dissipate heat, under cold running water. Obtain medical attention.

Ingestion

IF SWALLOWED: Rinse mouth. Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration into the lungs. Do not give anything by mouth to an unconscious person. If symptoms develop, obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Hot/molten product: May cause burns to skin and eyes.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing media

As appropriate for surrounding fire. Extinguish with carbon dioxide, dry chemical, foam or waterspray. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

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| | |
|--|---|
| Unsuitable extinguishing media | Do not use water jet. Direct water jet may spread the fire. Do not direct jets of foam or water on the spilled molten product, as this may cause splattering |
| 5.2 Special hazards arising from the substance or mixture | May decompose in a fire giving off toxic fumes. Carbon monoxide, carbon dioxide and halogenated compounds. |
| 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. |

SECTION 6: ACCIDENTAL RELEASE MEASURES

| | |
|--|---|
| 6.1 Personal precautions, protective equipment and emergency procedures | Ensure adequate ventilation. Stop leak if safe to do so. Eliminate all ignition sources if safe to do so. Avoid breathing vapours. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. See Section: 8. |
| 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 | Stop leak if safe to do so. Ensure suitable personal protection during removal of spillages. Adsorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a lidded container for disposal or recovery. Ventilate the area and wash spill site after material pick-up is complete. 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 | Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid breathing vapours. Avoid contact with heated or molten product. 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. Hot/molten product: Avoid contact with water or liquids. |
| 7.2 Conditions for safe storage, including any incompatibilities | Store in a well-ventilated place. Keep container tightly closed. Keep away from heat, sources of ignition and direct sunlight. Opened containers should be carefully resealed and stored in an upright position. |
| Storage temperature | Ambient. |
| Storage life | Stable under normal conditions. |
| Incompatible materials | Keep away from: Acids and strong bases. Reaction with some curing agents may produce considerable heat. |
| 7.3 Specific end use(s) | Hot/molten product: Avoid contact with water or liquids. See Section: 1.2. |

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|--|---|
| 8.1 Control parameters | |
| 8.1.1 Occupational Exposure Limits | No Occupational Exposure Limit assigned. No OSHA permissible exposure limits (PELs). No American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs). |
| 8.1.2 Biological limit value | Not established. |
| 8.2 Exposure controls | |
| 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. |
| 8.2.2 Individual protection measures, such as personal protective equipment (PPE) | General hygiene measures for the handling of chemicals are applicable. Avoid contact with skin, eyes or clothing. Avoid breathing vapours. Wash hands before breaks and after work. Keep work clothes separately. Contaminated clothing should be thoroughly cleaned. Contaminated leather articles should be discarded (e.g. shoes). Do not eat, drink or smoke at the work place. |

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Eye/ face protection



Wear protective eye glasses for protection against liquid splashes. Wear eye protection with side protection. Have available eyewash bottle with clean water.

Skin protection



Hand protection: Wear impervious gloves. Gloves should be changed regularly to avoid permeation problems. The gloves type used must be chosen based on the work activity and duration as well as concentration/quantity of material being handled.

Body protection: Wear impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection



Use only in well-ventilated areas. In case of inadequate ventilation wear respiratory protection. Open system(s): Wear suitable respiratory protective equipment. Use NIOSH approved respiratory protection. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Thermal hazards

When dealing with heated material: Wear appropriate personal protective equipment, avoid direct contact.

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 | Clear viscous liquid |
| Odour | Not available. |
| Odour threshold | Not available. |
| pH | Not established. |
| Melting point/freezing point | Not available. |
| Initial boiling point and boiling range | >260 °C (>500 °F) |
| Flash point | 251 °C (484 °F) [Closed cup] |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Not applicable - Liquid. |
| Upper/lower flammability or explosive limits | Not available. |
| Vapour pressure | 0.03 @ 77 °C (171 °F) |
| Vapour density | Not available. |
| Relative density | 1.17 (H ₂ O = 1) |
| Solubility(ies) | The product is essentially insoluble in water. |
| Partition coefficient: n-octanol/water | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition Temperature | Not available. |
| Viscosity | Not available. |
| Explosive properties | Not explosive. |
| Oxidising properties | Not oxidising. |

9.2 Other information

None.

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 | Reaction with some curing agents may produce considerable heat. Can react vigorously with strong Lewis or mineral acids and strong mineral and organic bases. Do not allow molten material to contact water or liquids as this can cause violent eruptions, splatter hot material, or ignite flammable material. |
| 10.4 | Conditions to avoid | Keep away from heat, sources of ignition and direct sunlight. |

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- | | |
|--|--|
| 10.5 Incompatible materials | Keep away from: Acids and strong bases. Hot/molten product: Avoid contact with water or liquids. |
| 10.6 Hazardous decomposition product(s) | May decompose in a fire giving off toxic fumes. Carbon monoxide, carbon dioxide and halogenated compounds. |

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 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.

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 Irrit. 2: Causes skin irritation.

Serious eye damage/irritation

Eye Irrit. 2: Causes serious eye irritation.

Respiratory or skin sensitization

Skin Sens. 1: May cause an allergic skin reaction.

Germ cell mutagenicity

Based upon the available data, the classification criteria are not met.

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.

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.

Likely routes of exposure

Inhalation

Yes

Ingestion

Accidental

Skin Contact

Yes

11.2 Other information

NTP Report on Carcinogens

None of the components are listed.

IARC Monographs

None of the components are listed as Group 1 or 2.

Regulated as a Carcinogen by OSHA

None of the components are listed.

SECTION 12: ECOLOGICAL INFORMATION

- | | |
|---|--|
| 12.1 Ecotoxicity | Aquatic Chronic 2: Toxic to aquatic life with long lasting effects. Estimated Mixture LC50 > 1 ≤ 10 mg/l (Fish) |
| 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 (The product is essentially insoluble in water). |
| 12.5 Other adverse effects | Not classified as PBT or vPvB. None of the substances in this product fulfil the criteria for being regarded as a PBT or vPvB substance. |

SECTION 13: DISPOSAL CONSIDERATIONS

- | | |
|-------------------------------------|---|
| 13.1 Waste treatment methods | Dispose of this material and its container as hazardous waste. Containers of this material may be hazardous when empty since they retain product residue. Dispose of wastes in an approved waste disposal facility. Dispose of contents in accordance with local, state or national legislation. |
|-------------------------------------|---|

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SECTION 14: TRANSPORT INFORMATION

| | ADR/RID / IMDG / IATA |
|---|--|
| 14.1 UN number | UN 3082 |
| 14.2 UN proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (Reaction product: Bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight \leq 700)) |
| 14.3 Transport hazard class(es) | 9 |
| 14.4 Packing group | III |
| 14.5 Environmental hazards | Classified as a 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 U.S. Federal Regulations | |
| TSCA Inventory Status | All components of this product are listed in the Toxic Substance Control Act Chemical Substance Inventory (TSCA). |
| 15.1.2 US State Regulations | None known. |
| 15.1.3 European regulations | |
| Authorisations and/or Restrictions On Use Substance(s) of Very High Concern (SVHCs) | None None |
| Community Rolling Action Plan (CoRAP) | Reaction product: Bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight \leq 700) (CAS# 25068-38-6): Substance identified for evaluation in 2015. |
| 15.1.2 National regulations | |
| Wassergefährdungsklasse (Germany) | Water hazard class: 2 |
| 15.2 Chemical Safety Assessment | Not available. |

SECTION 16: OTHER INFORMATION

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

Version 1.0
Date of preparation 21.10.15

References: Existing Safety Data Sheet (SDS), Harmonised Classification(s) for Reaction product: Bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight \leq 700) (CAS# 25068-38-6). Existing ECHA registration(s) for Reaction product: Bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight \leq 700) (CAS# 25068-38-6).

| GHS Classification of the substance or mixture | Classification Procedure |
|--|--------------------------|
| Skin Irrit. 2; H315 | Threshold Calculation |
| Skin Sens. 1; H317 | Threshold Calculation |
| Eye Irrit. 2; H19 | Threshold Calculation |
| Aquatic Chronic 2; H411 | Summation Calculation |

LEGEND

ACGIH: American Conference of Governmental Industrial Hygienists
LTEL: Long Term Exposure Limit
STEL: Short Term Exposure Limit
DNEL: Derived No Effect Level
PEL: Permissible Exposure Limit

PNEC: Predicted No Effect Concentration
PBT: Persistent, Bioaccumulative and Toxic
TLV: Threshold Limit Value
vPvB: very Persistent and very Bioaccumulative

Hazard Statement(s)

H315: Causes skin irritation.

H411: Toxic to aquatic life with long lasting effects.

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H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.

SCL: Specific Concentration Limit

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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