

SAFETY DATA SHEET

Revision: 2.0 Date: 23.03.2015

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

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

1.1 Product identifier

| | |
|------------------------|----------------|
| Product Name | M-Bond 43-B |
| 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 known. |

1.3 Supplier's details

| | |
|---------------------------|--|
| 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 Phone No.

(00-1) 703-527-3887
CHEMTREC

2. SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Flam. Liq. 2; H225
Skin Irrit. 2; H315
Skin Sens. 1; H317
Eye Irrit. 2; H319
STOT SE 3; H335
STOT SE 3; H336
STOT RE 2; H373 (Kidneys, Liver and Central nervous system)
Aquatic Chronic 3; H412

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

F; R11: Highly flammable.
Xi; R36/37/38: Irritating to eyes, respiratory system and skin.
R43: May cause sensitization by skin contact.
R67: Vapours may cause drowsiness and dizziness.
R48: Danger of serious damage to health by prolonged exposure.
R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2 Label elements

| | |
|--------------|---|
| Product Name | According to Regulation (EC) No. 1272/2008 (CLP) M-Bond 43-B |
|--------------|---|

Hazard Pictogram(s)



Signal Word(s)
Contains:

Danger
Methyl ethyl ketone, Xylene, Bisphenol-A-Epichlorhydrin Epoxy resin and

SAFETY DATA SHEET

Revision: 2.0 Date: 23.03.2015

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

www.vishaypg.com

| | |
|----------------------------|---|
| Hazard Statement(s) | Diacetone alcohol. H225: Highly flammable liquid and vapour. H315: Causes skin irritation. H317: May cause an allergic skin reaction. H319: Causes serious eye irritation. H335: May cause respiratory irritation. H336: May cause drowsiness or dizziness. H373: May cause damage to organs through prolonged or repeated exposure: Kidneys, Liver and Central nervous system H412: Harmful to aquatic life with long lasting effects. |
| Precautionary Statement(s) | P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P280: Wear protective gloves/protective clothing/eye protection/face protection. 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. P314: Get medical advice/attention if you feel unwell. |
| Additional Information | None |
| 2.3 Other hazards | None. |

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. | REACH Registration No. | Hazard Statement(s) |
|--|---------|------------|-----------|------------------------|---|
| Methyl ethyl ketone | 35-40 | 78-93-3 | 201-159-0 | None assigned | Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 EUH066 |
| Xylene | 20-25 | 1330-20-7 | 215-535-7 | None assigned | Flam. Liq. 3; H226 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Acute Tox. 4; H332 STOT SE 3; H335 STOT RE 2; H373 |
| Bisphenol-A-Epichlorhydrin Epoxy resin | 15-20 | 25068-38-6 | 500-033-5 | None assigned | Skin Irrit. 2; H315 Skin Sens. 1; H317 Eye Irrit. 2; H319 Aquatic Chronic 2; H411 |
| Diacetone alcohol | 10 - 15 | 123-42-2 | 204-626-7 | None assigned | Eye Irrit. 2; H319 STOT SE 3; H335 |
| 4,4'-Sulfonyldianiline | 5-10 | 80-08-0 | 201-248-4 | None assigned | Acute Tox. 4; H302 |

H226: Flammable liquid and vapour. H225: Highly flammable liquid and vapour. H302: Harmful if swallowed. H312: Harmful in contact with skin. H315: Causes skin irritation. H317: May cause an allergic skin reaction. H319: Causes serious eye irritation. H332: Harmful if inhaled. H335: May cause respiratory irritation. H336: May cause drowsiness or dizziness. H373: May cause damage to organs through prolonged or repeated exposure. H411: Toxic to aquatic life with long lasting effects. EUH066: Repeated exposure may cause skin dryness or cracking.

SAFETY DATA SHEET

Revision: 2.0 Date: 23.03.2015

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

www.vishaypg.com

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

| Chemical identity of the substance | %W/W | CAS No. | EC No. | REACH Registration No. | EC Classification and Risk Phrases |
|--|---------|------------|-----------|------------------------|---|
| Methyl ethyl ketone | 35-40 | 78-93-3 | 201-159-0 | None assigned | F; R11 Xi; R36 R67 R66 |
| Xylene | 20-25 | 1330-20-7 | 215-535-7 | None assigned | R10 Xn; R21 Xi; R38 Xi; R36 Xn; R20 Xi; R37 Xn; R48 |
| Bisphenol-A-Epichlorhydrin Epoxy resin | 15-20 | 25068-38-6 | 500-033-5 | None assigned | Xi; R38 R43 Xi; R36 N; R51/53 |
| Diacetone alcohol | 10 - 15 | 123-42-2 | 204-626-7 | None assigned | Xi; R36 Xi; R37 |
| 4,4'-Sulfonyldianiline | 5-10 | 80-08-0 | 201-248-4 | None assigned | Xn; R22 |

F; Flammable, Xi; Irritant, Xn; Harmful. N; Dangerous for the environment. R10: Flammable. R11: Highly flammable. R20: Harmful by inhalation. R21: Harmful in contact with skin. R22: Harmful if swallowed. R36: Irritating to eyes. R37: Irritating to respiratory system. R38: Irritating to skin. R43: May cause sensitization by skin contact. R48: Danger of serious damage to health by prolonged exposure. R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R66: Repeated exposure may cause skin dryness or cracking. R67: Vapours may cause drowsiness and dizziness.

4. 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. Call a POISON CENTER/doctor if you feel unwell.

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.

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. Do not give anything by mouth to an unconscious person. Do not induce vomiting unless instructed to do so by medical personnel. If vomiting occurs spontaneously, keep head below hips to prevent aspiration into the lungs. Get medical advice/attention if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness and dizziness. May cause damage to organs through prolonged or repeated exposure: Kidneys, Liver and Central nervous system.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

SAFETY DATA SHEET

Revision: 2.0 Date: 23.03.2015

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

www.vishaypg.com

- Suitable Extinguishing media As appropriate for surrounding fire. 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** Highly flammable liquid and vapour. May decompose in a fire giving off toxic fumes. Carbon dioxide and Carbon monoxide. Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback.
- 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. Stop leak if safe to do so. Eliminate all ignition sources if safe to do so. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use personal protective equipment as required. See Section: 8. Avoid breathing vapours.
- 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** Use non-sparking equipment when picking up flammable spill. Adsorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal. Ventilate the area and wash spill site after material pick-up is complete. Dispose of this material and its container as hazardous waste (2008/98/EEC).
- 6.4 Reference to other sections** See Section: 8, 13

7. SECTION 7: HANDLING AND STORAGE

- 7.1 Precautions for safe handling** Avoid contact with skin, eyes or clothing. Do not breathe vapour. Ensure adequate ventilation. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. 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.
- 7.2 Conditions for safe storage, including any incompatibilities** Ground/bond container and receiving equipment. Keep only in original container. Store in a well-ventilated place. Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from direct sunlight.
- Storage temperature Ambient.
- Storage life Stable under normal conditions.
- Incompatible materials Keep away from: Oxidizing agents, Reducing agents, Amines, Ammonia, strong bases, Acids and Isocyanates.
- 7.3 Specific end use(s)** Adhesives. See Section: 1.2

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 ³) | STEL (ppm) | STEL (mg/m ³) | Note |
|-----------------------------------|-----------|---------------------|------------------------------------|------------|---------------------------|------|
| Methyl ethyl ketone | 78-93-3 | 200 | 600 | 300 | 899 | WEL |
| Xylene, o-,m-,p- or mixed isomers | 1330-20-7 | 50 | 220 | 100 | 441 | WEL |
| Diacetone alcohol | 123-42-2 | 50 | 241 | 75 | 362 | WEL |

Note WEL: Workplace Exposure Limit (UK HSE EH40).




- 8.1.2 Biological limit value** Not established.

SAFETY DATA SHEET

Revision: 2.0 Date: 23.03.2015

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

www.vishaypg.com

| | | |
|-------|--|--|
| 8.1.3 | PNECs and DNELs | 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) | Keep good industrial hygiene. Avoid contact with skin, eyes or clothing. Do not breathe vapour. Wash hands before breaks and after work. Keep work clothes separately. Do not eat, drink or smoke at the work place. |
| | Eye/ face protection | Wear protective eye glasses for protection against liquid splashes. Wear eye protection with side protection (EN166). |
| |  | |
| | Skin protection | Hand protection: Wear impervious gloves (EN374). Gloves should be changed regularly to avoid permeation problems. Breakthrough time of the glove material: refer to the information provided by the gloves' producer. Recommended: Neoprene. |
| |  | |
| | Respiratory protection | Body protection: Wear impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact. |
| |  | In case of inadequate ventilation wear respiratory protection. Open system(s): Wear suitable respiratory protective equipment. |
| | 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 | Amber Coloured liquid. |
| | Odour | Acetone Odour |
| | Odour threshold | Not available. |
| | pH | Not established. |
| | Melting point/freezing point | -86 °C |
| | Initial boiling point and boiling range | 80 °C |
| | Flash point | <23 °C |
| | Evaporation rate | 2.7 (BuAc = 1) |
| | Flammability (solid, gas) | Not applicable - Liquid |
| | Upper/lower flammability or explosive limits | Not available. |
| | Vapour pressure | 78 @ 20 °C (mmHg) |
| | Vapour density | 3.5 (Air = 1) |
| | Relative density | 0.92 (H2O = 1) |
| | Solubility(ies) | <20% Slightly soluble (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 | VOC 738 g/L |

10. SECTION 10: STABILITY AND REACTIVITY

| | | |
|------|---------------------------------|---------------------------------|
| 10.1 | Stability and reactivity | Stable under normal conditions. |
| 10.2 | Chemical stability | Stable under normal conditions. |

SAFETY DATA SHEET

Revision: 2.0 Date: 23.03.2015

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

www.vishaypg.com

| | | |
|------|------------------------------------|--|
| 10.3 | Possibility of hazardous reactions | Highly flammable liquid and vapour. Hazardous polymerisation will not occur. |
| 10.4 | Conditions to avoid | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from direct sunlight. |
| 10.5 | Incompatible materials | Keep away from: Oxidizing agents, Reducing agents, Amines, Ammonia, strong bases, Acids and Isocyanates. |
| 10.6 | Hazardous decomposition product(s) | May decompose in a fire giving off toxic fumes. Carbon dioxide and Carbon monoxide. |

11. SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects (Substances in preparations / mixtures)

| | |
|-----------------------------------|---|
| Acute toxicity | |
| Ingestion | Based on available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 >2000 mg/kg bw/day. |
| Inhalation | Based on available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 >20.0 mg/l. |
| Skin Contact | Based on 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 on available data, the classification criteria are not met. |
| Carcinogenicity | Based on available data, the classification criteria are not met. |
| Reproductive toxicity | Based on available data, the classification criteria are not met. |
| STOT - single exposure | STOT SE 3: May cause respiratory irritation. STOT SE 3: May cause drowsiness or dizziness. |
| STOT - repeated exposure | STOT RE 2: May cause damage to organs through prolonged or repeated exposure: Kidneys, Liver and Central nervous system. |
| Aspiration hazard | Based on available data, the classification criteria are not met. |
| 11.2 Other information | None. |

12. SECTION 12: ECOLOGICAL INFORMATION

| | | |
|------|------------------------------------|---|
| 12.1 | Toxicity | Aquatic Chronic 3: Harmful to aquatic life with long lasting effects. Estimated Mixture LC50 >10 ≤ 100 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. (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 (2008/98/EEC). 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. |

14. SECTION 14: TRANSPORT INFORMATION

| | | |
|------|----------------------------|---------------------------------------|
| | | ADR/RID / IMDG / IATA |
| 14.1 | UN number | UN 1133 |
| 14.2 | Proper Shipping Name | ADHESIVES containing flammable liquid |
| 14.3 | Transport hazard class(es) | 3 |
| 14.4 | Packing group | II |
| 14.5 | Environmental hazards | Not classified as a Marine Pollutant. |

SAFETY DATA SHEET

Revision: 2.0 Date: 23.03.2015

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

www.vishaypg.com

- | | | |
|------|--|-----------------|
| 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. |

15. SECTION 15: REGULATORY INFORMATION

- | | | |
|--------|--|-----------------------|
| 15.1 | Safety, health and environmental regulations/legislation specific for the substance or mixture | |
| 15.1.1 | EU regulations | |
| | SVHCs | None |
| 15.1.2 | National regulations | |
| | Germany | Water hazard class: 2 |
| 15.2 | Chemical Safety Assessment | Not available. |

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 Methyl ethyl ketone (CAS# 78-93-3), Xylene (CAS# 1330-20-7), Bisphenol-A-Epichlorhydrin Epoxy resin (CAS# 25068-38-6), Diacetone alcohol (CAS# 123-42-2) and 4,4'-Sulfonyldianiline (CAS# 80-80-0), Existing ECHA registration(s) for Methyl ethyl ketone (CAS# 78-93-3), Xylene (CAS# 1330-20-7), Diacetone alcohol (CAS# 123-42-2) and 4,4'-Sulfonyldianiline (CAS# 80-80-0).

| Classification of the substance or mixture According to Regulation (EC) No. 1272/2008 (CLP) | Classification Procedure |
|---|--|
| Flam. Liq. 2; H225 | Flash Point [Closed cup] Test Result/ Boiling Point (°C) |
| Skin Irrit. 2; H315 | Threshold Calculation |
| Skin Sens. 1; H317 | Threshold Calculation |
| Eye Irrit. 2; H319 | Threshold Calculation |
| STOT SE 3; H335 | Threshold Calculation |
| STOT SE 3; H336 | Threshold Calculation |
| STOT RE 2; H373 | Threshold Calculation |
| Aquatic Chronic 3; H412 | 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 | 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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Annex to the extended Safety Data Sheet (eSDS)

No information available.

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