

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)
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M-Bond 43-B

Hazard Pictogram(s)



Signal Word(s)

Danger

Contains:

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

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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.

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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

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- 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.

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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.

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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.

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- 14.6 Special precautions for user See Section: 2
14.7 Transport in bulk according to Annex II of MARPOL Not applicable.
73/78 and the IBC Code
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.