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

1.1 Product identifier

Product Name	M-Bond Curing Agent 10A
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)

Acute Tox. 4; H302
Acute Tox. 4; H312
Skin Corr. 1B; H314
Skin Sens. 1; H317
Acute Tox. 2; H330
STOT SE 3; H335
Repr. 2; H361f

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

Xn; R21/22: Harmful in contact with skin and if swallowed.
C; R34: Causes burns.
R43: May cause sensitization by skin contact.
T; R23: Toxic by inhalation.
Xi; R37: Irritating to respiratory system.
Repr. Cat. 3; R62: Possible risk of impaired fertility.

2.2 Label elements

According to Regulation (EC) No. 1272/2008 (CLP)

Product Name: M-Bond Curing Agent 10A

Hazard Pictogram(s)



Signal Word(s): Danger

Contains: 2,2'-Iminodi(ethylamine) and Bisphenol A

Hazard Statement(s)	H302: Harmful if swallowed. H312: Harmful in contact with skin. H314: Causes severe skin burns and eye damage. H317: May cause an allergic skin reaction. H330: Fatal if inhaled. H335: May cause respiratory irritation. H361f: Suspected of damaging fertility.
Precautionary Statement(s)	P201: Obtain special instructions before use. P280: Wear protective gloves/protective clothing/eye protection/face protection. P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P303+P361+P353: IF ON SKIN (or hair): Remove/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 or doctor/physician.
Additional Information	None

2.3 Other hazards None

3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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)
2,2'-Iminodi(ethylamine)	65-75	111-40-0	203-865-4	None assigned	Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Corr. 1B; H314 Skin Sens. 1; H317 Acute Tox. 2; H330 STOT SE 3; H335
Bisphenol A	25-35	80-05-7	201-245-8	None assigned	Skin Sens. 1; H317 Eye Dam. 1; H318 STOT SE 3; H335 Repr. 2; H361f

H302: Harmful if swallowed. H312: Harmful in contact with skin. H314: Causes severe skin burns and eye damage. H317: May cause an allergic skin reaction. H318: Causes serious eye damage. H330: Fatal if inhaled. H335: May cause respiratory irritation. H361f: Suspected of damaging fertility.

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
2,2'-Iminodi(ethylamine)	65-75	111-40-0	203-865-4	None assigned	Xn; R22 Xn; R21 C; R34 R43 T; R23 Xi; R37
Bisphenol A	25-35	80-05-7	201-245-8	None assigned	R43 Xi; R41 Xi; R37 Repr. 3; R62

T; Toxic, Xi; Irritant, Xn; Harmful. C; Corrosive. R21: Harmful in contact with skin. R22: Harmful if swallowed. R23: Toxic by inhalation. R34: Causes burns. R37: Irritating to respiratory system. R41: Risk of serious damage to eyes. R43: May cause sensitization by skin contact. R62: Possible risk of

impaired fertility.

4. SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER/doctor.
Skin Contact	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Contaminated clothing should be thoroughly cleaned. Immediately call a POISON CENTER/doctor.
Eye Contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. Treatment by an ophthalmologist due to possible caustic burn of the eyes may be required.
Ingestion	IF SWALLOWED: Rinse mouth. Make victim drink plenty of water. Do not induce vomiting unless instructed to do so by medical personnel. Immediately call a POISON CENTER/doctor.

4.2 Most important symptoms and effects, both acute and delayed

Harmful if swallowed. Harmful in contact with skin. Fatal if inhaled. Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause respiratory irritation. Suspected of damaging fertility.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. IF IN EYES: Obtain prompt consultation, preferably from an ophthalmologist. Chemical eye burns may require extended irrigation.

5. 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. Unsuitable extinguishing media: Halons.
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. Decomposes in a fire giving off toxic fumes: Nitrogen oxides, Aldehydes, Carbon monoxide and Carbon dioxide.

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. 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

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

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid all contact. Do not breathe vapour. Ensure adequate ventilation. 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

Store under inert gas (e.g nitrogen) to prevent ingress of moisture or air into the container. If a container is part emptied flush thoroughly with inert gas prior to resealing. Store in a well-ventilated place. Keep container tightly closed. Keep away from heat, sources of ignition and direct sunlight.

Storage temperature: Ambient. Keep at temperature not exceeding (°C): 27

Storage life: Protect from moisture. Bulk storage should be under nitrogen blanket.

Incompatible materials: Keep away from: Nitrosating agents, Strong oxidising agents, strong bases, Acids, Aldehydes, metals (Copper, Aluminium and Zinc and their alloys) and halogenated compounds.

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/m³)	STEL (ppm)	STEL (mg/m³)	Note
2,2'-Iminodi(ethylamine)	111-40-0	1	4.3	-	-	WEL

Note: 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

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. Guarantee that the eye flushing systems and safety showers are located close to the working place.

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

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. 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: Butyl rubber or Neoprene.

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

Respiratory protection

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	Clear Liquid
Odour	Ammoniacal Odour
Odour threshold	Not available.
pH	Not established.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	199°C
Flash point	102°C [Closed cup]
Evaporation rate	Not established.
Flammability (solid, gas)	Not applicable - Liquid
Upper/lower flammability or explosive limits	Flammable Limits (Lower) (%v/v): 1.4 Flammable Limits (Upper) (%v/v): 9.2
Vapour pressure	<1 @ 27°C
Vapour density	3.56 (Air = 1)
Relative density	1.02 g/cm^3 (H2O = 1)
Solubility(ies)	The product is soluble 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

10. SECTION 10: STABILITY AND REACTIVITY

10.1	**Stability and reactivity**	Stable under normal conditions.
10.2	**Chemical stability**	Stable under normal conditions. May decompose if heated.
10.3	**Possibility of hazardous reactions**	Hazardous polymerisation will not occur.
10.4	**Conditions to avoid**	Keep away from heat and sources of ignition. Keep at temperature not exceeding (°C): 27
10.5	**Incompatible materials**	Keep away from: Nitrosating agents, Strong oxidising agents, strong bases, Acids, Aldehydes, metals (Copper, Aluminium and Zinc and their alloys) and halogenated compounds.
10.6	**Hazardous decomposition product(s)**	Decomposes in a fire giving off toxic fumes: Nitrogen oxides, Aldehydes, Carbon monoxide and Carbon dioxide.

11. SECTION 11: TOXICOLOGICAL INFORMATION

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

Acute toxicity

Ingestion	Acute Tox. 4: Harmful if swallowed. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 714 mg/kg bw/day.
Inhalation	Acute Tox. 2: Fatal if inhaled. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 0.7 mg/l.
Skin Contact	Acute Tox. 4: Harmful in contact with skin. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 1571 mg/kg bw/day.
Skin corrosion/irritation	Skin Corr. 1B: Causes severe skin burns.
Serious eye damage/irritation	Skin Corr. 1B: Causes serious eye damage.
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	Repr. 2: Suspected of damaging fertility.
STOT - single exposure	STOT SE 3: May cause respiratory irritation.

	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**	None.

12. SECTION 12: ECOLOGICAL INFORMATION

12.1	**Toxicity**	Based upon the available data, the classification criteria are not met. Estimated Mixture LC50 >100 mg/l (Fish)
12.2	**Persistence and degradability**	Readily biodegradable.
12.3	**Bioaccumulative potential**	The product has low potential for bioaccumulation.
12.4	**Mobility in soil**	The product is predicted to have high mobility in soil. (Water Soluble)
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 2927
14.2	**Proper Shipping Name**	TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. (CONTAINS 2,2'-IMINODI(ETHYLAMINE)
14.3	**Transport hazard class(es)**	6.1 + 8
14.4	**Packing group**	II
14.5	**Environmental hazards**	Not classified as a Marine Pollutant.
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: 1
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), Existing ECHA registration(s) for 2,2'-iminodi(ethylamine) (CAS# 111-40-0) and Bisphenol A (CAS# 80-05-7), and Harmonised Classification(s) for 2,2'-iminodi(ethylamine) (CAS# 111-40-0) and Bisphenol A (CAS# 80-05-7).

Classification of the substance or mixture According to Regulation (EC) No. 1272/2008 (CLP)	**Classification Procedure**
Acute Tox. 4; H302	Acute Toxicity Estimate Mixture Calculation
Acute Tox. 4; H312	Acute Toxicity Estimate Mixture Calculation

Skin Corr. 1B; H314	Threshold Calculation
Skin Sens. 1; H317	Threshold Calculation
Acute Tox. 2; H330	Acute Toxicity Estimate Mixture Calculation
STOT SE 3; H335	Threshold Calculation
Repr. 2; H361f	Threshold 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.