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.

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**


- **Xn; R21/22**
- **T+; R26**
- **C; R34**
- **Xi; R37**
- **R43**
- **N; R52**
- **Repr. Cat. 3; R62**

2.2 **Label elements**

- **Product Name**: M-Bond Curing Agent 10A

2.3 **Hazard pictogram(s)**

- **C**
- **T+**
- **Xn/Xi**
- **N**

2.4 **Risk Phrases**

- **Xn; R21/22**: Harmful in contact with skin and if swallowed.
- **T+; R26**: Very toxic by inhalation.
- **C; R34**: Causes burns.
- **Xi; R37**: Irritating to respiratory system.
- **R43**: May cause sensitization by skin contact.
- **N; R52**: Harmful to aquatic organisms.
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ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),
1272/2008 (CLP) & 453/2010

11 Safety Phrases

Repr. Cat. 3; R62: Possible risk of impaired fertility.

S23: Do not breathe vapour/spray.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28: After contact with skin, wash immediately with plenty of soap and water.
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.
S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S61: Avoid release to the environment. Refer to special instructions/Safety Data Sheets.

2.3 Other hazards

None.

3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances Substances in preparations / mixtures

3.2 Mixtures


<table>
<thead>
<tr>
<th>Chemical identity of the substance</th>
<th>%W/W</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>Hazard statement(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>diethylenetriamine</td>
<td>&gt;70</td>
<td>111-40-0</td>
<td>203-865-4</td>
<td>Acute Tox. 2;H330</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4; H302 &amp; H312</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Skin Corr. 1B; H314</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Skin Sens. 1; H317</td>
</tr>
<tr>
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<td></td>
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<td>STOT SE 3; H335</td>
</tr>
<tr>
<td>bisphenol A</td>
<td>&lt;30</td>
<td>80-05-7</td>
<td>201-245-8</td>
<td>Skin Sens. 1; H317</td>
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<td>Eye Dam. 1; H318</td>
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<td>STOT SE 3; H335</td>
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<td>Repr. 2; H361f</td>
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<td></td>
<td></td>
<td>Aquatic Chronic 2; H411</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Chemical identity of the substance</th>
<th>%W/W</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>EC Classification and Risk Phrases</th>
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</thead>
<tbody>
<tr>
<td>diethylenetriamine</td>
<td>&gt;70</td>
<td>111-40-0</td>
<td>203-865-4</td>
<td>Xi; R21/22: Harmful in contact with skin and if swallowed.</td>
</tr>
<tr>
<td></td>
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<td>C; R34: Causes burns.</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Xi; R37: Irritating to respiratory system.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>R43: May cause sensitization by skin contact.</td>
</tr>
<tr>
<td>bisphenol A</td>
<td>&lt;30</td>
<td>80-05-7</td>
<td>201-245-8</td>
<td>Xi; R37: Irritating to respiratory system.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Xi; R41: Risk of serious damage to eyes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>R43: May cause sensitization by skin contact.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>R52: Harmful to aquatic organisms.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Repr. Cat. 3; R62: Possible risk of impaired fertility.</td>
</tr>
</tbody>
</table>

4. SECTION 4: FIRST AID MEASURES

<table>
<thead>
<tr>
<th>Description of first aid measures</th>
<th>Inhalation</th>
<th>IF INHALED: Remove victim to fresh air and keep at rest in a position</th>
</tr>
</thead>
</table>
comfortable for breathing. If breathing is laboured, oxygen should
be administered by qualified personnel. Call a POISON CENTER or
doctor/physician if you feel unwell.

Skin Contact
IF ON SKIN (or hair): Rinse skin immediately with plenty of water for 15-20
minutes. Take off contaminated clothing and wash before reuse. If irritation
(redness, rash, blistering) develops, get medical attention.

Eye Contact
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact
lenses, if present and easy to do. Continue rinsing. Hold eye open and rinse
slowly and gently with water for 15-20 minutes. If eye irritation persists: Get
medical advice/attention.

Ingestion
If swallowed, rinse mouth with water (only if the person is conscious). Drink two
glasses of water. Do not induce vomiting. Call a POISON CENTER or
doctor/physician.

4.2 Most important symptoms and effects, both acute and
delayed
May cause respiratory irritation. May cause allergy or asthma symptoms or
breathing difficulties if inhaled. Aspiration of liquid may cause pulmonary
oedema. Causes burns to skin, eyes, respiratory system and gastrointestinal
tract. Suspected of damaging fertility.

4.3 Indication of any immediate medical attention and
special treatment needed
Due to possible delayed effect of poisoning and for safety reasons, they should
be kept under medical observation for at least 48 hours.

5. SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media
Suitable Extinguishing Media
Extinguish with carbon dioxide, dry chemical, foam or waterspray.

Unsuitable Extinguishing Media
Do not use water jet.

5.2 Special hazards arising from the substance or mixture
May decompose in a fire giving off toxic fumes. Carbon monoxide, Carbon
dioxide, Nitrogen oxides.

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. Shut off leaks if without risk. Avoid contact with
skin, eyes or clothing. Avoid breathing vapours. Wear protective
gloves/protective clothing/eye protection/face protection.

6.2 Environmental precautions
Do not allow to enter drains, sewers or watercourses.

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. Dispose of this material and its container as hazardous waste.

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. Ensure adequate ventilation. Do not breathe
vapour. In case of inadequate ventilation wear respiratory protection. 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. Wash hands before breaks and after work. Remove contaminated
clothing and wash clothing before reuse.

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
Ideal storage temperature is (°C): <27°C

Storage Life
Stable under normal conditions.
7.3 Specific end use(s)


Incompatible materials

Keep away from: Flammable liquid, Reducing agent, Oxidizing agents, Corrosive Substances, Alkalis or nitrosating agents. Do not allow contact with Copper, copper alloy, Aluminium, or aluminum alloy materials. Bulk storage should be under nitrogen blanket.

Adhesives.

8. SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational exposure limits

<table>
<thead>
<tr>
<th>SUBSTANCE</th>
<th>CAS No.</th>
<th>LTEL (8 hr TWA ppm)</th>
<th>LTEL (8 hr TWA mg/m³)</th>
<th>STEL (ppm)</th>
<th>STEL (mg/m³)</th>
<th>Note:</th>
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<tbody>
<tr>
<td>2,2’-Iminodi(ethylamine)</td>
<td>111-40-0</td>
<td>1</td>
<td>4.3</td>
<td>-</td>
<td>-</td>
<td>WEL, Sk</td>
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<tr>
<td>Bisphenol A (inhalable dust)</td>
<td>80-05-7</td>
<td>-</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>WEL</td>
</tr>
</tbody>
</table>

Note: WEL: Workplace Exposure Limit (UK HSE EH40). Sk - Can be absorbed through skin.

8.1.2 Biological limit value

Not established.

8.1.3 PNECs and DNELs

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Ensure adequate ventilation. Atmospheric levels should be controlled in compliance with the occupational exposure limit.

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

Eye/face protection

Use personal protective equipment as required. Wash contaminated clothing before reuse. Avoid contact with skin and eyes.

Wear goggles giving complete protection to eyes to protect against liquid splashes (EN166).
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[Image 73x618 to 109x654]
[Image 73x560 to 109x596]

Skin protection
Wear impervious gloves (EN374). Breakthrough time of the glove material: refer to the information provided by the gloves' producer.

Respiratory protection
Atmospheric levels should be controlled in compliance with the occupational exposure limit. In case of inadequate ventilation wear respiratory protection. A suitable mask with filter type A (EN141 or EN405) may be appropriate.

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
- **Melting Point/Freezing Point**: -39°C (2,2'-Iminodi(ethylamine))
- **Initial boiling point and boiling range**: 199°C (Mixture)
- **Flash point**: 97°C (2,2'-Iminodi(ethylamine))
- **Evaporation rate**: Not established.
- **Upper/lower flammability or explosive limits**: Not available.
- **Vapour pressure**: <1 @ 27°C (Mixture)
- **Vapour density**: 3.56 (Air = 1) (Mixture)
- **Relative density**: 1.02 g/cm³ (H2O = 1) (Mixture)
- **Partition coefficient: n-octanol/water**: ca. -1.3 log Pow (2,2'-Iminodi(ethylamine))
- **Vapour pressure**: Not available.
- **Auto-ignition temperature**: 358°C (2,2'-Iminodi(ethylamine))
- **Decomposition Temperature**: Not available.
- **Decomposition Temperature**: Not available.
- **Vapour density**: Not available.
- **Explosive properties**: Not available.
- **Oxidising properties**: Not available.

9.2 Other information
None.

10. 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
Hazardous polymerization will not occure.

10.4 Conditions to avoid
Keep away from heat, sources of ignition and direct sunlight.

10.5 Incompatible materials
Flammable liquid, Reducing agent, Oxidizing agents, Corrosive Substances, Alkalis or nitrosating agents. Do not allow contact with Copper, copper alloy, Aluminium, or aluminum alloy materials.

10.6 Hazardous Decomposition Product(s)
May decompose in a fire giving off toxic fumes. Carbon monoxide, Carbon dioxide, Nitrogen oxides.

11. SECTION 11: TOXICOLOGICAL INFORMATION

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

**Acute toxicity**
- **Ingestion**: Acute Tox. 4; ATEmix (Oral) = 714 mg/kg
Inhalation Acute Tox. 2; ATEmix (Inhalation) = 0.7 mg/l
Skin Contact Acute Tox. 4; ATEmix (Dermal) = 1571 mg/kg
Eye Contact Causes serious eye damage. (Bisphenol A)
Irritation Not classified.
Corrosivity Skin Corr. 1B; Causes severe burns to skin, eyes, respiratory system and gastrointestinal tract. (2,2'-iminodi(ethylamine))
Sensitisation Skin Sens. 1; Skin sensitisation has been reported in humans.
Repeated dose toxicity Not classified.
Carcinogenicity No evidence of carcinogenicity.
Mutagenicity There is no evidence of mutagenic potential.
Toxicity for reproduction Repr. 2; Suspected of damaging fertility. (Bisphenol A)
11.2 Other information None.

12. SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity Classified as a Marine Pollutant. Harmful to aquatic organisms.
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. (2001/118EC). 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

14.1 UN number UN 3082
14.2 Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol A)
14.3 Transport hazard class(es) 9
14.4 Packing Group III
14.5 Environmental hazards Environmentally hazardous substance/Marine Pollutant
14.6 Special precautions for user Causes burns to skin, eyes, respiratory system and gastrointestinal tract. Not applicable.
14.7 Transport in bulk according to Annex II of MARPOL73/78 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 Authorisations and/or restrictions on use None known.
15.1.2 National regulations None known.
15.2 Chemical Safety Assessment Not available.
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**Revision:** 1.0  **Date:** 30.11.2012

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

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**16. SECTION 16: OTHER INFORMATION**

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

**References:** Existing Safety Data Sheet (SDS) and Existing ECHA registration(s) for 2,2’-iminodi(ethylamine) (CAS# 111-40-0) and Bisphenol A (CAS# 80-05-7).

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>T+; R26</td>
<td>ATEmix Calculation(s)</td>
</tr>
<tr>
<td>Xn; R21/22</td>
<td>ATEmix Calculation(s)</td>
</tr>
<tr>
<td>C; R34</td>
<td>Threshold Calculation</td>
</tr>
<tr>
<td>Xi; R37</td>
<td>Threshold Calculation</td>
</tr>
<tr>
<td>Repr. Cat. 3; R62</td>
<td>Threshold Calculation</td>
</tr>
<tr>
<td>N; R52</td>
<td>Harmonised Classification</td>
</tr>
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**LEGEND**

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<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>LTEL</td>
<td>Long Term Exposure Limit</td>
</tr>
<tr>
<td>STEL</td>
<td>Short Term Exposure Limit</td>
</tr>
<tr>
<td>DNEL</td>
<td>Derived No Effect Level</td>
</tr>
<tr>
<td>PNEC</td>
<td>Predicted No Effect Concentration</td>
</tr>
<tr>
<td>PBT</td>
<td>PBT: Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>vPvB</td>
<td>vPvB: very Persistent and very Toxic</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Cooperation and Development</td>
</tr>
<tr>
<td>ATEmix</td>
<td>Acute Toxicity Estimate Mixture Calculation</td>
</tr>
</tbody>
</table>

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.