SAFETY DATA SHEET
THERMAL BONDING SYSTEM

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

1.1. Product identifier
Product name: THERMAL BONDING SYSTEM
Product No.: TBS-B, ETBS20S, ETBS01K, ZE

1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Adhesive.
Uses advised against: At this moment in time we do not have information on use restrictions. They will be included in this safety data sheet when available.

1.3. Details of the supplier of the safety data sheet
Supplier: ELECTROLUBE. A division of HK WENTWORTH LTD
ASHBY PARK, COALFIELD WAY,
ASHBY DE LA ZOUCH, LEICESTERSHIRE
LE65 1JR
UNITED KINGDOM
+44 (0)1530 419600
+44 (0)1530 416640
info@hkw.co.uk

1.4. Emergency telephone number
+44 (0)1530 419600 between 8.30am - 5.00pm GMT Mon – Fri

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture
Classification (EC 1272/2008)
Physical and Chemical: Not classified.
Environment: Aquatic Acute 1 - H400; Aquatic Chronic 1 - H410

Classification (1999/45/EEC)
C; R35. R43. N; R50/53.
The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Environment
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point. Use appropriate containment to avoid environmental contamination. Avoid release to the environment. Refer to special instructions/safety data sheets. Dispose of waste and residues in accordance with local authority requirements.

2.2. Label elements
Contains: Methylene Di(cyclohexylamine)
TRIETHYLENETETRAMINE

Label In Accordance With (EC) No. 1272/2008
THERMAL BONDING SYSTEM

Signal Word

Danger

Hazard Statements

H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements

P280 Wear protective gloves, eye and face protection.
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplementary Precautionary Statements

P260 Do not breathe vapour/spray.
P302+352 IF ON SKIN: Wash with plenty of soap and water.
P333+313 If skin irritation or rash occurs: Get medical advice/attention.

2.3. Other hazards

Not Classified as PBT/vPvB by current EU criteria.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
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</thead>
<tbody>
<tr>
<td>Zinc Oxide</td>
<td>30-60%</td>
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<tr>
<td>CAS-No.: 1314-13-2</td>
<td>EC No.: 215-222-5</td>
</tr>
<tr>
<td>Classification (EC 1272/2008)</td>
<td></td>
</tr>
<tr>
<td>Aquatic Acute 1 - H400</td>
<td></td>
</tr>
<tr>
<td>Aquatic Chronic 1 - H410</td>
<td></td>
</tr>
<tr>
<td>Classification (67/548/EEC)</td>
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<tr>
<td>N;R50/53</td>
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<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methylene Di(cyclohexylamine)</td>
<td>10-30%</td>
</tr>
<tr>
<td>CAS-No.: 1761-71-3</td>
<td>EC No.: 217-168-8</td>
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<td>Classification (EC 1272/2008)</td>
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</tr>
<tr>
<td>Not classified</td>
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</tr>
<tr>
<td>Classification (67/548/EEC)</td>
<td></td>
</tr>
<tr>
<td>Xn;R22.</td>
<td></td>
</tr>
<tr>
<td>C;R35.</td>
<td></td>
</tr>
<tr>
<td>Xi;R37.</td>
<td></td>
</tr>
<tr>
<td>R43.</td>
<td></td>
</tr>
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<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
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<tr>
<td>Triethylenetetramine</td>
<td>5-10%</td>
</tr>
<tr>
<td>CAS-No.: 112-24-3</td>
<td>EC No.: 203-950-6</td>
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<td>Classification (EC 1272/2008)</td>
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<tr>
<td>Acute Tox. 4 - H312</td>
<td></td>
</tr>
<tr>
<td>Skin Corr. 1B - H314</td>
<td></td>
</tr>
<tr>
<td>Skin Sens. 1 - H317</td>
<td></td>
</tr>
<tr>
<td>Aquatic Chronic 3 - H412</td>
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<tr>
<td>Classification (67/548/EEC)</td>
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</tr>
<tr>
<td>C;R34</td>
<td></td>
</tr>
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<td>Xn;R21</td>
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<tr>
<td>R43</td>
<td></td>
</tr>
<tr>
<td>R52/53</td>
<td></td>
</tr>
</tbody>
</table>

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition Comments

Ingredients not listed are classified as non-hazardous or at a concentration below reportable levels.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation

Move the exposed person to fresh air at once. Get medical attention. Provide rest, warmth and fresh air. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen.
**Ingestion**

DO NOT INDUCE VOMITING! NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Rinse mouth thoroughly. Drink plenty of water. Get medical attention immediately! Provide rest, warmth and fresh air.

**Skin contact**

Remove affected person from source of contamination. Remove contaminated clothing. Wash the skin immediately with soap and water. Get medical attention promptly if symptoms occur after washing.

**Eye contact**

Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Get medical attention immediately. Continue to rinse.

**SECTION 5: FIREFIGHTING MEASURES**

**5.1. Extinguishing media**

Extinguishing media

Use fire-extinguishing media appropriate for surrounding materials.

**5.2. Special hazards arising from the substance or mixture**

Hazardous combustion products

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

Specific hazards


**5.3. Advice for firefighters**

Special Fire Fighting Procedures

Avoid breathing fire vapours. If possible, fight fire from protected position.

Protective equipment for fire-fighters

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**6.1. Personal precautions, protective equipment and emergency procedures**

Wear protective clothing as described in Section 8 of this safety data sheet.

**6.2. Environmental precautions**

Do not allow ANY environmental contamination. Do not discharge onto the ground or into water courses.

**6.3. Methods and material for containment and cleaning up**

DO NOT touch spilled material. Absorb in vermiculite, dry sand or earth and place into containers. Flush with plenty of water to clean spillage area. Do not contaminate water sources or sewer.

**6.4. Reference to other sections**

Wear protective clothing as described in Section 8 of this safety data sheet. See section 11 for additional information on health hazards. For waste disposal, see section 13.

**SECTION 7: HANDLING AND STORAGE**

**7.1. Precautions for safe handling**

Avoid spilling, skin and eye contact.

**7.2. Conditions for safe storage, including any incompatibilities**

Store in tightly closed original container in a dry, cool and well-ventilated place. Keep in original container.

**Storage Class**

Corrosive storage.

**7.3. Specific end use(s)**

The identified uses for this product are detailed in Section 1.2.
8.1. Control parameters

<table>
<thead>
<tr>
<th>Name</th>
<th>STD</th>
<th>TWA - 8 Hrs</th>
<th>STEL - 15 Min</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZINC OXIDE</td>
<td>WEL</td>
<td>5 mg/m³</td>
<td>10 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

WEL = Workplace Exposure Limit.

8.2. Exposure controls

Protective equipment

Process conditions
Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station.

Engineering measures
Must not be handled in confined space without sufficient ventilation. Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

Respiratory equipment
In case of inadequate ventilation and work of brief duration, use suitable respiratory equipment. Chemical respirator with specific cartridge providing protection against the compound of concern. EN14387

Hand protection
Protective gloves should be used if there is a risk of direct contact or splash. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material. Nitrile gloves are recommended. Gloves should conform to EN374

Eye protection
Wear approved chemical safety goggles where eye exposure is reasonably probable. EN166

Other Protection
Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact.

Hygiene measures
DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Wash promptly with soap & water if skin becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Not known.</td>
</tr>
<tr>
<td>Odour</td>
<td>Characteristic.</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.9 @ 20 °C (68 F)</td>
</tr>
<tr>
<td>Viscosity</td>
<td>0 mPas @ 20 °C (68 F)</td>
</tr>
<tr>
<td>Flash point (°C)</td>
<td>Not noted.</td>
</tr>
</tbody>
</table>

9.2. Other information

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
There are no known reactivity hazards associated with this product.

10.2. Chemical stability
Stable under normal temperature conditions.

10.3. Possibility of hazardous reactions
10.4. Conditions to avoid
Avoid contact with strong oxidisers.

10.5. Incompatible materials
Materials To Avoid
Strong oxidising substances.

10.6. Hazardous decomposition products

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Toxicological information
No information available.

Inhalation
Harmful by inhalation. Irritating to respiratory system.

Ingestion
Harmful if swallowed.

Skin contact
Causes burns. May cause sensitisation by skin contact.

Eye contact
Spray and vapour in the eyes may cause irritation and smarting.

Health Warnings
Prolonged inhalation of high concentrations may damage respiratory system.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity
The product contains a substance which is very toxic to aquatic organisms and which may cause long term adverse effects in the aquatic environment.

12.1. Toxicity

12.2. Persistence and degradability

Degradability
There are no data on the degradability of this product.

12.3. Bioaccumulative potential

Bioaccumulative potential
No data available on bioaccumulation.

12.4. Mobility in soil

12.5. Results of PBT and vPvB assessment

This product does not contain any PBT or vPvB substances.

12.6. Other adverse effects

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods
Dispose of waste and residues in accordance with local authority requirements.
**SECTION 14: TRANSPORT INFORMATION**

14.1. UN number
UN No. (ADR/RID/ADN) 1760  
UN No. (IMDG) 1760  
UN No. (ICAO) 1760

14.2. UN proper shipping name
Proper Shipping Name  CORROSIVE LIQUID, N.O.S. (Methylene Di(cyclohexylamine), ZINC OXIDE)

14.3. Transport hazard class(es)
ADR/RID/ADN Class 8  
Class 8: Corrosive substances.  
ADR Label No. 8  
IMDG Class 8  
ICAO Class/Division 8

14.4. Packing group
ADR/RID/ADN Packing group II  
IMDG Packing group II  
ICAO Packing group II

14.5. Environmental hazards
Environmentally Hazardous Substance/Marine Pollutant

14.6. Special precautions for user
EMS F-A, S-B  
Emergency Action Code 2X  
Hazard No. (ADR) 80  
Tunnel Restriction Code (E)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
No information required.

**SECTION 15: REGULATORY INFORMATION**

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
Statutory Instruments

Guidance Notes
Workplace Exposure Limits EH40.

EU Legislation


Authorisations (Title VII Regulation 1907/2006)
No specific authorisations are noted for this product.

Restrictions (Title VIII Regulation 1907/2006)
No specific restrictions of use are noted for this product.

15.2. Chemical Safety Assessment
No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Issued By
Helen O'Reilly

Revision Date
APRIL 2013

Revision
3

SDS No.
12670

Risk Phrases In Full
R34 Causes burns.
R35 Causes severe burns.
R22 Harmful if swallowed.
R21 Harmful in contact with skin.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R37 Irritating to respiratory system.
R43 May cause sensitisation by skin contact.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Hazard Statements In Full
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

Disclaimer
This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.