SAFETY DATA SHEET
Thermal Bonding System, Part A

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Product name Thermal Bonding System, Part A
Product number TBS-A, ETBS20S, ETBS01K, ZE

1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified uses Resin.
Uses advised against No specific uses advised against are identified.

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
Emergency telephone +44 1865 407333

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification (EC 1272/2008)
Physical hazards Not Classified
Health hazards Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1 - H317
Environmental hazards Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

2.2. Label elements
Pictogram

Signal word Warning
Hazard statements H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H410 Very toxic to aquatic life with long lasting effects.
Thermal Bonding System, Part A

Precautionary statements
P261 Avoid breathing vapour/spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501 Dispose of contents/container in accordance with national regulations.

Contains
Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700), Oxirane, (chloromethyl)-, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy(methyl-1,2-ethanediyl))

Supplementary precautionary statements
P264 Wash contaminated skin thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

2.3. Other hazards
This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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<tr>
<th>Ingredient</th>
<th>Percentage</th>
<th>CAS number</th>
<th>EC number</th>
<th>REACH registration number</th>
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<td>zinc oxide</td>
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<td>1314-13-2</td>
<td>215-222-5</td>
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<td>M factor (Acute) = 1</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td>M factor (Chronic) = 1</td>
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<tr>
<td>Aquatic Acute 1 - H400</td>
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<td>Aquatic Chronic 1 - H410</td>
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<th>30-60%</th>
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<table>
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<td>Skin Irrit. 2 - H315</td>
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<tr>
<td>Eye Irrit. 2 - H319</td>
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<tr>
<td>Skin Sens. 1 - H317</td>
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<tr>
<td>Aquatic Chronic 2 - H411</td>
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</table>
Thermal Bonding System, Part A

<table>
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<tr>
<th>Oxirane, (chloromethyl)-, polymer with (\alpha)-hydro-(\omega)-hydroxyopoly(oxy(methyl-1,2-ethanediyl))</th>
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<tr>
<td>CAS number: 9072-62-2</td>
<td>EC number: 618-635-2</td>
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**Classification**
- Skin Irrit. 2 - H315
- Eye Irrit. 2 - H319
- Skin Sens. 1 - H317
- Aquatic Chronic 3 - H412

The full text for all hazard statements is displayed in Section 16.

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

**General information**
Get medical attention immediately. Show this Safety Data Sheet to the medical personnel.

**Inhalation**
Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administrating oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.

**Ingestion**
Rinse mouth thoroughly with water. Remove any dentures. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.

**Skin contact**
It is important to remove the substance from the skin immediately. In the event of any sensitisation symptoms developing, ensure further exposure is avoided. Remove contamination with soap and water or recognised skin cleansing agent. Get medical attention if symptoms are severe or persist after washing.

**Eye contact**
Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.

**Protection of first aiders**
First aid personnel should wear appropriate protective equipment during any rescue. If it is suspected that volatile contaminants are still present around the affected person, first aid personnel should wear an appropriate respirator or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

**4.2. Most important symptoms and effects, both acute and delayed**

**General information**
See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

**Inhalation**
Prolonged inhalation of high concentrations may damage respiratory system.

**Ingestion**
May cause sensitisation or allergic reactions in sensitive individuals. May cause irritation.

**Skin contact**
May cause skin sensitisation or allergic reactions in sensitive individuals. Redness. Irritating to skin.
Thermal Bonding System, Part A

Eye contact

Irritating to eyes.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor

Treat symptomatically. May cause sensitisation or allergic reactions in sensitive individuals.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards

Containers can burst violently or explode when heated, due to excessive pressure build-up.

Hazardous combustion products

Thermal decomposition or combustion products may include the following substances:

Harmful gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting

Avoid breathing fire gases or vapours. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighters

Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material. Avoid contact with skin and eyes.

6.2. Environmental precautions

Environmental precautions

Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

6.3. Methods and material for containment and cleaning up
Thermal Bonding System, Part A

Methods for cleaning up

Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Approach the spillage from upwind. Small Spillages: If the product is soluble in water, dilute the spillage with water and mop it up. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. Large Spillages: If leakage cannot be stopped, evacuate area. Flush spilled material into an effluent treatment plant, or proceed as follows. Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labelled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

6.4. Reference to other sections

Reference to other sections

For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions

Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene

Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions

Store away from incompatible materials (see Section 10). Store in accordance with local regulations. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Bund storage facilities to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.

Storage class

Miscellaneous hazardous material storage.

7.3. Specific end use(s)

Specific end use(s)

The identified uses for this product are detailed in Section 1.2.
Thermal Bonding System, Part A

**Appropriate engineering controls**

Provide adequate ventilation. Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimise exposure.

**Eye/face protection**

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

**Hand protection**

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

**Other skin and body protection**

Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

**Hygiene measures**

Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.

**Respiratory protection**

Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is ‘CE’-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.

**Environmental exposure controls**

Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

---

**SECTION 9: Physical and Chemical Properties**

9.1. Information on basic physical and chemical properties

**Appearance**

Liquid.

**Colour**

Blue.

**Odour**

Not known.

**Odour threshold**

Not available.

**pH**

Not available.

**Melting point**

Not available.

**Initial boiling point and range**

Not available.
Thermal Bonding System, Part A

Flash point Not available.
Evaporation rate Not available.
Evaporation factor Not available.
Flammability (solid, gas) Not available.
Upper/lower flammability or explosive limits Not available.
Other flammability Not available.
Vapour pressure Not available.
Vapour density Not available.
Relative density Not available.
Bulk density Not available.
Solubility(ies) Not available.
Partition coefficient Not available.
Auto-ignition temperature Not available.
Decomposition Temperature Not available.
Viscosity 70-80 Pa s @ 23°C
Explosive properties Not considered to be explosive.
Oxidising properties Does not meet the criteria for classification as oxidising.

SECTION 10: Stability and reactivity

10.1. Reactivity
Reactivity See the other subsections of this section for further details.

10.2. Chemical stability
Stability Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions
Possibility of hazardous reactions No potentially hazardous reactions known.

10.4. Conditions to avoid
Conditions to avoid There are no known conditions that are likely to result in a hazardous situation.

10.5. Incompatible materials
Materials to avoid No specific material or group of materials is likely to react with the product to produce a hazardous situation.

10.6. Hazardous decomposition products
Hazardous decomposition products Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Thermal Bonding System, Part A

Acute toxicity - oral
Notes (oral LD₅₀)
Based on available data the classification criteria are not met.

Acute toxicity - dermal
Notes (dermal LD₅₀)
Based on available data the classification criteria are not met.

Acute toxicity - inhalation
Notes (inhalation LC₅₀)
Based on available data the classification criteria are not met.

Skin corrosion/irritation
Animal data
Irritating.

Serious eye damage/irritation
Serious eye damage/irritation
Causes serious eye irritation.

Respiratory sensitisation
Respiratory sensitisation
Based on available data the classification criteria are not met.

Skin sensitisation
Skin sensitisation
May cause skin sensitisation or allergic reactions in sensitive individuals.

Germ cell mutagenicity
Genotoxicity - in vitro
Based on available data the classification criteria are not met.

Carcinogenicity
Carcinogenicity
Based on available data the classification criteria are not met.

IARC carcinogenicity
Contains a substance which may be potentially carcinogenic. IARC Group 3 Not classifiable as to its carcinogenicity to humans.

Reproductive toxicity
Reproductive toxicity - fertility
Based on available data the classification criteria are not met.

Reproductive toxicity - development
Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure
STOT - single exposure Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure
STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard
Aspiration hazard Based on available data the classification criteria are not met.

General information
The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation
Prolonged inhalation of high concentrations may damage respiratory system.

Ingestion
May cause sensitisation or allergic reactions in sensitive individuals. May cause irritation.

Skin contact
May cause skin sensitisation or allergic reactions in sensitive individuals. Redness. Irritating to skin.

Eye contact
Irritating to eyes.

Route of entry
Ingestion Inhalation Skin and/or eye contact

Target organs
No specific target organs known.
Thermal Bonding System, Part A

Medical considerations

Skin disorders and allergies.

Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)

Skin corrosion/irritation

Skin corrosion/irritation Irritating to skin.

Serious eye damage/irritation

Serious eye damage/irritation Irritation of eyes is assumed.

Carcinogenicity

Carcinogenicity No evidence of carcinogenicity in animal studies.

Amphorous Silica

Acute toxicity - oral

Notes (oral LD₅₀) 3160 mg/kg, Oral, Rat

Carcinogenicity

IARC carcinogenicity IARC Group 3 Not classifiable as to its carcinogenicity to humans.

SECTION 12: Ecological Information

Amphorous Silica

Ecotoxicity

No information available.

12.1. Toxicity

Toxicity Aquatic Acute 1 - H400 Very toxic to aquatic life. Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects.

zinc oxide

Acute aquatic toxicity

LE(C)₅₀ 0.1 < L(E)C₅₀ ≤ 1

M factor (Acute) 1

Chronic aquatic toxicity

M factor (Chronic) 1

Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)

Acute toxicity - fish LC₉₀, 96 hours: 1.3 mg/l, Onchorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 2.1 mg/l, Daphnia magna

Chronic toxicity - aquatic invertebrates NOEC, 21 days: 0.3 mg/l, Daphnia magna

12.2. Persistence and degradability

Persistence and degradability The degradability of the product is not known.
Thermal Bonding System, Part A

Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)

Persistence and degradability
Not readily biodegradable.

12.3. Bioaccumulative potential
Bioaccumulative potential
No data available on bioaccumulation.
Partition coefficient
Not available.

Bioaccumulative potential
Bioaccumulation is unlikely.
Partition coefficient
log Kow: 2.64-3.78

12.4. Mobility in soil
Mobility
No data available.

12.5. Results of PBT and vPvB assessment
Results of PBT and vPvB
This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects
Other adverse effects
None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
General information
The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods
Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 14: Transport information

General
For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section.

14.1. UN number
UN No. (ADR/RID) 3082
UN No. (IMDG) 3082
UN No. (ICAO) 3082
Thermal Bonding System, Part A

UN No. (ADN) 3082

14.2. UN proper shipping name

Proper shipping name (ADR/RID) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS zinc oxide, Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700))

Proper shipping name (IMDG) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS zinc oxide, Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700))

Proper shipping name (ICAO) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS zinc oxide, Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700))

Proper shipping name (ADN) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS zinc oxide, Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700))

14.3. Transport hazard class(es)

ADR/RID class 9
ADR/RID classification code M6
ADR/RID label 9
IMDG class 9
ICAO class/division 9
ADN class 9

Transport labels

14.4. Packing group

ADR/RID packing group III
IMDG packing group III
ADN packing group III
ICAO packing group III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user

Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

EmS F-A, S-F
ADR transport category 3
Thermal Bonding System, Part A

Emergency Action Code •3Z

Hazard Identification Number (ADR/RID) 90

Tunnel restriction code (E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable.

SECTION 15: Regulatory information

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

National regulations
Health and Safety at Work etc. Act 1974 (as amended).
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].
EH40/2005 Workplace exposure limits.

EU legislation

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

Inventories
EU - EINECS/ELINCS
None of the ingredients are listed or exempt.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
CAS: Chemical Abstracts Service.
ATE: Acute Toxicity Estimate.
LC₅₀: Lethal Concentration to 50 % of a test population.
LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
EC₅₀: 50% of maximal Effective Concentration.
PBT: Persistent, Bioaccumulative and Toxic substance.
vPvB: Very Persistent and Very Bioaccumulative.
Thermal Bonding System, Part A

Classification abbreviations and acronyms
Eye Irrit. = Eye irritation
Skin Irrit. = Skin irritation
Skin Sens. = Skin sensitisation
Aquatic Acute = Hazardous to the aquatic environment (acute)
Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Classification procedures according to Regulation (EC) 1272/2008

Training advice
Read and follow manufacturer's recommendations. Only trained personnel should use this material.

Issued by
Bethan Massey

Revision date
23/06/2017

Revision
0

SDS number
1694

Hazard statements in full
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

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.
SAFETY DATA SHEET
Thermal Bonding System, Part B

SECTION 1: Identification of the substance/mixture and of the company/undertaking

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<th>1.1. Product identifier</th>
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SECTION 2: Hazards identification

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<th>2.1. Classification of the substance or mixture</th>
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<td><strong>Classification (EC 1272/2008)</strong></td>
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<tr>
<td><strong>Physical hazards</strong></td>
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<tr>
<td><strong>Health hazards</strong></td>
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<table>
<thead>
<tr>
<th>2.2. Label elements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pictogram</strong></td>
</tr>
<tr>
<td><strong>Signal word</strong></td>
</tr>
<tr>
<td><strong>Hazard statements</strong></td>
</tr>
</tbody>
</table>
Thermal Bonding System, Part B

Precautionary statements
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303+P361+P353 IF ON SKIN (or hair): 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.
P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.
P501 Dispose of contents/ container in accordance with national regulations.

Contains
4,4'-methylenebis(cyclohexylamine), Copolymer of benzenamine and formaldehyde, hydrogenated, 3,6-diazaoctanethylenediamin

Supplementary precautionary statements
P260 Do not breathe vapour/ spray.
P264 Wash contaminated skin thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310 Immediately call a POISON CENTER/ doctor.
P362+P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

2.3. Other hazards
This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
<th>CAS number</th>
<th>EC number</th>
<th>REACH registration number</th>
</tr>
</thead>
<tbody>
<tr>
<td>zinc oxide</td>
<td>30-60%</td>
<td>1314-13-2</td>
<td>215-222-5</td>
<td>01-2119463881-32-XXXX</td>
</tr>
<tr>
<td>Triethylenetetramine, propoxylated</td>
<td>10-30%</td>
<td>26950-63-0</td>
<td>500-055-5</td>
<td></td>
</tr>
</tbody>
</table>

Classification
Aquatic Acute 1 - H400
Aquatic Chronic 1 - H410
Eye Irrit. 2 - H319
Thermal Bonding System, Part B

### Copolymer of benzenamine and formaldehyde, hydrogenated

- **5-10%**
- **CAS number:** 135108-88-2
- **EC number:** 603-894-6

**Classification**
- Acute Tox. 4 - H302
- Skin Corr. 1C - H314
- Eye Dam. 1 - H318
- Skin Sens. 1 - H317
- STOT RE 2 - H373
- Aquatic Chronic 3 - H412

### 4,4'-methylenebis(cyclohexylamine)

- **5-10%**
- **CAS number:** 1761-71-3
- **EC number:** 217-168-8
- **REACH registration number:** 01-2119541673-38-XXXX

**Classification**
- Acute Tox. 4 - H302
- Skin Corr. 1B - H314
- Eye Dam. 1 - H318
- Skin Sens. 1B - H317
- STOT RE 2 - H373

### 3,6-diazaoctanethylenediamin

- **1-5%**
- **CAS number:** 112-24-3
- **EC number:** 203-950-6

**Classification**
- Acute Tox. 4 - H312
- Skin Corr. 1B - H314
- Eye Dam. 1 - H318
- Skin Sens. 1 - H317
- Aquatic Chronic 3 - H412

The full text for all hazard statements is displayed in Section 16.

#### SECTION 4: First aid measures

##### 4.1. Description of first aid measures

**General Information**
Get medical attention immediately. Show this Safety Data Sheet to the medical personnel. Chemical burns must be treated by a physician.

**Inhalation**
Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.
Thermal Bonding System, Part B

Ingestion
Rinse mouth thoroughly with water. Remove any dentures. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.

Skin contact
It is important to remove the substance from the skin immediately. Take off immediately all contaminated clothing. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention. Chemical burns must be treated by a physician.

Eye contact
Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.

Protection of first aiders
First aid personnel should wear appropriate protective equipment during any rescue. If it is suspected that volatile contaminants are still present around the affected person, first aid personnel should wear an appropriate respirator or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

4.2. Most important symptoms and effects, both acute and delayed

General information
See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation
A single exposure may cause the following adverse effects: Severe irritation of nose and throat. Symptoms following overexposure may include the following: Corrosive to the respiratory tract.

Ingestion
May cause sensitisation or allergic reactions in sensitive individuals. May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting.

Skin contact
May cause skin sensitisation or allergic reactions in sensitive individuals. Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur.

Eye contact
Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor
Treat symptomatically. May cause sensitisation or allergic reactions in sensitive individuals.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media
The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture
Specific hazards
Containers can burst violently or explode when heated, due to excessive pressure build-up. Severe corrosive hazard. Water used for fire extinguishing, which has been in contact with the product, may be corrosive.
Thermal Bonding System, Part B

Hazardous combustion products

Thermal decomposition or combustion products may include the following substances: Very toxic or corrosive gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting

Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighters

Regular protection may not be safe. Wear chemical protective suit. Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter’s clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material. Avoid inhalation of vapours and spray/mists. Use suitable respiratory protection if ventilation is inadequate. Avoid contact with skin and eyes. Avoid contact with contaminated tools and objects.

Environmental precautions

Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

6.3. Methods and material for containment and cleaning up

Methods for cleaning up

Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. This product is corrosive. Approach the spillage from upwind. Small Spillages: If the product is soluble in water, dilute the spillage with water and mop it up. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. Large Spillages: If leakage cannot be stopped, evacuate area. Flush spilled material into an effluent treatment plant, or proceed as follows. Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labelled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

6.4. Reference to other sections

Reference to other sections

For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage
Thermal Bonding System, Part B

7.1. Precautions for safe handling

Usage precautions
Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists. This product is corrosive. Immediate first aid is imperative. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene
Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions
Store away from incompatible materials (see Section 10). Store in accordance with local regulations. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Bund storage facilities to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.

Storage class
Corrosive storage.

7.3. Specific end use(s)
Specific end use(s)
The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

8.2. Exposure controls

Protective equipment

Appropriate engineering controls
Provide adequate ventilation. Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimise exposure.

Eye/face protection
Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Hand protection
Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.
Thermal Bonding System, Part B

Other skin and body protection
Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

Hygiene measures
Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.

Respiratory protection
Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is ‘CE’-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.

Environmental exposure controls
Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

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>Cream</td>
</tr>
<tr>
<td>Odour</td>
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<td>pH</td>
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<tr>
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</tr>
<tr>
<td>Initial boiling point and range</td>
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</tr>
<tr>
<td>Flash point</td>
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</tr>
<tr>
<td>Evaporation rate</td>
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</tr>
<tr>
<td>Evaporation factor</td>
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</tr>
<tr>
<td>Flammability (solid, gas)</td>
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</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
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</tr>
<tr>
<td>Other flammability</td>
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</tr>
<tr>
<td>Vapour pressure</td>
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</tr>
<tr>
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</tr>
<tr>
<td>Relative density</td>
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</tr>
<tr>
<td>Bulk density</td>
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</tr>
<tr>
<td>Solubility(ies)</td>
<td>Not available</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>Not available</td>
</tr>
</tbody>
</table>
Thermal Bonding System, Part B

Auto-ignition temperature Not available.
Decomposition Temperature Not available.
Viscosity 70-80 Pa s @ 23°C
Explosive properties Not considered to be explosive.
Oxidising properties Does not meet the criteria for classification as oxidising.

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity
Reactivity See the other subsections of this section for further details.

10.2. Chemical stability
Stability Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions
Possibility of hazardous reactions No potentially hazardous reactions known.

10.4. Conditions to avoid
Conditions to avoid There are no known conditions that are likely to result in a hazardous situation.

10.5. Incompatible materials
Materials to avoid No specific material or group of materials is likely to react with the product to produce a hazardous situation.

10.6. Hazardous decomposition products
Hazardous decomposition products Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Corrosive gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral
Notes (oral LD₅₀) Based on available data the classification criteria are not met.
ATE oral (mg/kg) 2,193.86

Acute toxicity - dermal
Notes (dermal LD₅₀) Based on available data the classification criteria are not met.
ATE dermal (mg/kg) 22,833.89

Acute toxicity - inhalation
Notes (inhalation LC₅₀) Based on available data the classification criteria are not met.

Skin corrosion/irritation
Animal data Skin Corr. 1B - H314 Causes severe burns.

Serious eye damage/irritation
Serious eye damage/irritation Eye Dam. 1 - H318 Corrosive to skin. Corrosivity to eyes is assumed.

Respiratory sensitisation
Respiratory sensitisation Based on available data the classification criteria are not met.
Thermal Bonding System, Part B

Skin sensitisation
May cause skin sensitisation or allergic reactions in sensitive individuals.

Germ cell mutagenicity
Genotoxicity - in vitro
Based on available data the classification criteria are not met.

Carcinogenicity
Based on available data the classification criteria are not met.

IARC carcinogenicity
Contains a substance which may be potentially carcinogenic. IARC Group 3 Not classifiable as to its carcinogenicity to humans.

Reproductive toxicity
Reproductive toxicity - fertility
Based on available data the classification criteria are not met.

Reproductive toxicity - development
Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure
STOT - single exposure
Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure
STOT - repeated exposure
Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard
Based on available data the classification criteria are not met.

General information
The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation
Corrosive to the respiratory tract. Symptoms following overexposure may include the following: Severe irritation of nose and throat.

Ingestion
May cause sensitisation or allergic reactions in sensitive individuals. May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting.

Skin contact
May cause skin sensitisation or allergic reactions in sensitive individuals. Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur.

Eye contact
Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

Route of entry
Ingestion Inhalation Skin and/or eye contact

Target organs
No specific target organs known.

Medical considerations
Skin disorders and allergies.

Triethylenetetramine, propoxylated

<table>
<thead>
<tr>
<th>Acute toxicity - oral</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity oral (LD₅₀ mg/kg)</td>
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</tr>
<tr>
<td>Species</td>
<td>Rat</td>
</tr>
<tr>
<td>ATE oral (mg/kg)</td>
<td>4,500.0</td>
</tr>
</tbody>
</table>
Thermal Bonding System, Part B

Copolymer of benzenamine and formaldehyde, hydrogenated

<table>
<thead>
<tr>
<th>Acute toxicity - oral</th>
<th>ATE oral (mg/kg)</th>
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</thead>
<tbody>
<tr>
<td>4,4'-methylenebis(cyclohexylamine)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Acute toxicity oral (LD₅₀ mg/kg)</th>
<th>Species</th>
<th>ATE oral (mg/kg)</th>
</tr>
</thead>
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<td>Rat</td>
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</table>

<table>
<thead>
<tr>
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<th>ATE dermal (mg/kg)</th>
</tr>
</thead>
<tbody>
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<td>2,110.0</td>
<td>Rat</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acute toxicity dermal (LD₅₀ mg/kg)</th>
<th>Species</th>
<th>ATE dermal (mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,110.0</td>
<td>Rat</td>
<td>2,110.0</td>
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</table>

3,6-diazaoctanethylenediamin

<table>
<thead>
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<th>ATE dermal (mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,100.0</td>
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Amphorous Silica

<table>
<thead>
<tr>
<th>Notes (oral LD₅₀)</th>
<th>Oral, Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>3160 mg/kg</td>
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</table>

<table>
<thead>
<tr>
<th>Carcinogenicity</th>
<th>IARC carcinogenicity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IARC Group 3</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Notes (oral LD₅₀)</th>
<th>Oral, Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>3160 mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

Carcinogenicity

IARC Group 3  Not classifiable as to its carcinogenicity to humans.

SECTION 12: Ecological Information

Amphorous Silica

Ecotoxicity

No information available.

12.1. Toxicity

Aquatic Acute 1 - H400 Very toxic to aquatic life. Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects.

zinc oxide

Acute aquatic toxicity

LE(C)₅₀ 0.1 < L(E)C50 ≤ 1

M factor (Acute) 1

Chronic aquatic toxicity

M factor (Chronic) 1

12.2. Persistence and degradability
Thermal Bonding System, Part B

Persistence and degradability
The degradability of the product is not known.

12.3. Bioaccumulative potential
Bioaccumulative potential
No data available on bioaccumulation.
Partition coefficient
Not available.

12.4. Mobility in soil
Mobility
No data available.

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects
Other adverse effects
None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
General information
The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods
Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 14: Transport information

General
For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section.

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

14.2. UN proper shipping name
Proper shipping name (ADR/RID) CORROSIVE LIQUID, N.O.S. (CONTAINS 4,4'-methylenebis(cyclohexylamine), zinc oxide)
Proper shipping name (IMDG) CORROSIVE LIQUID, N.O.S. (CONTAINS 4,4'-methylenebis(cyclohexylamine), zinc oxide)
Proper shipping name (ICAO) CORROSIVE LIQUID, N.O.S. (CONTAINS 4,4'-methylenebis(cyclohexylamine), zinc oxide)
Proper shipping name (ADN) CORROSIVE LIQUID, N.O.S. (CONTAINS 4,4'-methylenebis(cyclohexylamine), zinc oxide)

14.3. Transport hazard class(es)
ADR/RID class 8
Thermal Bonding System, Part B

ADR/RID classification code  C9
ADR/RID label  8
IMDG class  8
ICAO class/division  8
ADN class  8

Transport labels

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

14.5. Environmental hazards
Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user
Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

EmS  F-A, S-B
ADR transport category  2
Emergency Action Code  2X
Hazard Identification Number (ADR/RID)  80
Tunnel restriction code  (E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code  Not applicable.

SECTION 15: Regulatory information

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

National regulations  Health and Safety at Work etc. Act 1974 (as amended).
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].
EH40/2005 Workplace exposure limits.
**Thermal Bonding System, Part B**

**EU legislation**


**15.2. Chemical safety assessment**

No chemical safety assessment has been carried out.

**Inventories**

**EU - EINECS/ELINCS**

None of the ingredients are listed or exempt.

### SECTION 16: Other information

**Abbreviations and acronyms used in the safety data sheet**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.

RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.

IATA: International Air Transport Association.


IMDG: International Maritime Dangerous Goods.

CAS: Chemical Abstracts Service.

ATE: Acute Toxicity Estimate.

LC₅₀: Lethal Concentration to 50% of a test population.

LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).

EC₅₀: 50% of maximal Effective Concentration.

PBT: Persistent, Bioaccumulative and Toxic substance.

vPvB: Very Persistent and Very Bioaccumulative.

**Classification abbreviations and acronyms**

Eye Dam. = Serious eye damage

Skin Corr. = Skin corrosion

Skin Sens. = Skin sensitisation

Aquatic Acute = Hazardous to the aquatic environment (acute)

Aquatic Chronic = Hazardous to the aquatic environment (chronic)

**Classification procedures according to Regulation (EC) 1272/2008**


**Training advice**

Read and follow manufacturer's recommendations. Only trained personnel should use this material.

**Issued by**

Bethan Massey

**Revision date**

23/06/2017

**Revision**

0

**SDS number**

1695
Thermal Bonding System, Part B

Hazard statements in full

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.
H319 Causes serious eye irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
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.

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.