SAFETY DATA SHEET
Thermal Joint Type A

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

1.1. Product identifier
Product name: Thermal Joint Type A

1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified uses: High-thermal-conductive silicone mixture to bridge the gap between the hole in the block and the inserted heat pipe

1.3. Details of the supplier of the safety data sheet
Supplier: KATAOKA SENZAI CO., LTD.
Contact Person: katakaseizai@heatpipe.co.jp
Manufacturer: 3-1, Fujisato-cho, Tushima, Aichi 486-0048, Japan
+81-567-24-5963

1.4. Emergency telephone number
+81-567-24-5963

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

2.2. Label elements
Labelling: Dangerous for the environment

Risk Phrases: R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases: S57 - Use appropriate containment to avoid environmental contamination.
S61 - Avoid release to the environment. Refer to special instructions/safety data sheets.

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

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

<table>
<thead>
<tr>
<th>ZINC OXIDE</th>
<th>50-60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS-No.: 1314-13-2</td>
<td>EC No.: 215-222-5</td>
</tr>
</tbody>
</table>

Classification (EC 1272/2008)
- Aquatic Acute 1 - H400
- Aquatic Chronic 1 - H410

Classification (67/548/EEC)
- N:R50/53

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

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation
Move the exposed person to fresh air at once. Rinse nose and mouth with water. Get medical attention if any discomfort continues.

Ingestion
DO NOT INDUCE VOMITING! Immediately rinse mouth and drink plenty of water (200-300 ml). Do not give victim anything to drink if he is unconscious. Get medical attention if any discomfort continues.

Skin contact
Remove affected person from source of contamination. Remove contaminated clothing. Wash the skin immediately with soap and water. Get medical attention if any discomfort continues.

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. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

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

General information
No information available.

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

No specific recommendations.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media
Use fire-extinguishing media appropriate for surrounding materials. Extinguish with foam, carbon dioxide or dry powder.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products
No hazardous decomposition products.

5.3. Advice for firefighters

Special Fire Fighting Procedures
Keep up-wind to avoid fumes. Water spray should be used to cool containers.
Protective equipment for fire-fighters
Use protective equipment appropriate for surrounding materials.

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 discharge onto the ground or into water courses.

6.3. Methods and material for containment and cleaning up

Stop leak if possible without risk. 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

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 and cool place. Keep in original container.

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

Engineering measures
Provide adequate ventilation. Observe Occupational Exposure Limits and minimise the risk of inhalation of vapours.
Respiratory equipment
No specific recommendation made, but respiratory protection may still be required under exceptional circumstances when excessive air contamination exists.
Hand protection
Use protective gloves made of: Rubber or plastic.
Eye protection
Use eye protection.
Other Protection
Wear appropriate clothing to prevent any possibility of skin contact. Wear rubber apron.
Hygiene measures
Wash promptly if skin becomes contaminated. Promptly remove non-impervious clothing that becomes contaminated. When using do not eat, drink or smoke.

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>Grease</td>
</tr>
<tr>
<td>Colour</td>
<td>White / off-white.</td>
</tr>
<tr>
<td>Odour</td>
<td>Odourless,</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water</td>
</tr>
<tr>
<td>Relative density</td>
<td>2.46 (25°C)</td>
</tr>
<tr>
<td>Flash point</td>
<td>330 °C</td>
</tr>
<tr>
<td>Auto Ignition Temperature (°C)</td>
<td>450 °C</td>
</tr>
</tbody>
</table>

Oxidising properties
Does not meet the criteria for oxidising.

9.2. Other information

Not available.

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

Hazardous Polymerisation
Will not polymerise.
10.4. Conditions to avoid
Avoid heat, flames and other sources of ignition.

10.5. Incompatible materials
Materials to Avoid
Avoid contact with acids and alkalis. Avoid contact with oxidising agents.

10.6. Hazardous decomposition products
Fire creates: Carbon monoxide (CO). Carbon dioxide (CO2). Formaldehyde SiO2. Toxic gases/vapours/fumes of: Metal or metallic

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects
Toxicological information
No information available.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

12.1. Toxicity
Acute Toxicity - Fish
Not available.

12.2. Persistence and degradability
Degradability
No data available.

12.3. Bioaccumulative potential
Bioaccumulative potential
No data available on bioaccumulation.

12.4. Mobility in soil
Mobility:
The product is insoluble in water. The product is non-volatile.

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

12.6. Other adverse effects
Not known.

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
Not applicable.
UN No. (ADR/RID/ADN) 3077
UN No. (IMDG) 3077
UN No. (ICAO) 3077
Thermal Joint Type A

14.2. UN proper shipping name

Not applicable.
Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ZINC OXIDE)

14.3. Transport hazard class(es)

Not applicable.
ADR/RID/ADN Class 9
ADR/RID/ADN Class Class 9: Miscellaneous dangerous substances and articles.
ADR Label No. 9
IMDG Class 9
ICAO Class/Division 9
Transport Labels

14.4. Packing group

Not applicable.
ADR/RID/ADN Packing group III
IMDG Packing group III
ICAO Packing group III

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant

14.6. Special precautions for user

Not applicable.
EMS F-A, S-F
Emergency Action Code 22
Hazard No. (ADR) 90
Tunnel Restriction Code (E)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

SECTION 15: REGULATORY INFORMATION

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

EU Legislation
Dangerous Substance Directive 67/548/EEC.
Dangerous Preparations Directive 1999/45/EC.
Thermal Joint Type A


15.2. Chemical Safety Assessment

No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

<table>
<thead>
<tr>
<th>Revision Date</th>
<th>1/3/2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revision</td>
<td>2</td>
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</table>

Risk Phrases In Full
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Hazard Statements In Full
H400 Very toxic to aquatic life. , H410 Very toxic 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.