

Product Name: AK-450

Date: Jan, 2013

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

<b>Trade Name</b>	Akasa® AK-450 Thermal Interface Material
<b>Company</b>	Akasa (Europe) Ltd. Unit 31, Metropolitan Centre, Taunton Road, Greenford, Middlesex. United Kingdom. UB6 8UQ  Tel: +44 (0)20 8578 0055 Fax: +44 (0)20 8578 1122
<b>Service</b>	Akasa (Asia) Corp. Tel: +886 (0) 2 2999 6289  Akasa (Europe) Ltd. Tel: +44 (0)20 8578 0055
<b>Use of substance/preparation</b>	<b>Electrical &amp; Electronics Applications</b> (Silicone Compound) Thermal conductive compound material

2. COMPOSITION / INFORMATION ON INGREDIENTS

<b>Chemical Characterization</b>	Silicone Compounds 40% Carbon Compounds 10% Silver Compounds 50%
<b>Hazardous Ingredients</b>	Cat No:- 7439921 Lead content (Pb) trace only 11ppm detected see SGS safety No GZSCR050208733/LP

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### 3. HAZARDS IDENTIFICATION

The principle hazards of the product as supplied are :-  
Very toxic to aquatic organisms, may cause long-term adverse effects in aquatic environment .  
Some hydrogen gas may be released. Hydrogen is flammable and can form explosive mixtures with air.

### 4. FIRST AID MEASURES

<b>On contact with eyes</b>	No first aid should be required
<b>On skin contact</b>	No first aid should be required
<b>If inhaled</b>	No first aid should be required
<b>On ingestion</b>	No first aid should be required

### 5. FIRE FIGHTING MEASURES

<b>Suitable extinguishing media</b>	Carbon Dioxide , foam or dry powder. Water can be used to cool fire exposed containers.
<b>Unsuitable extinguishing media</b>	None Known
<b>Hazards during fire fighting</b>	None Known
<b>Special protective equipment/procedures</b>	Self-contained respirator and protective clothing should be worn. Keep containers cool with water spray until well after fire is out.
<b>Hazardous combustion products</b>	Silica , carbon oxides and traces of incomplely burned carbon compounds. Formaldehyde,Hydrogen,Metal products.

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## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Wear proper protective equipment.
<b>Precautions to protect the environment</b>	Prevent from spreading or entering into the drains , ditches or rivers by using sand , earth or other appropriate barriers.
<b>Methods for cleaning up</b>	Scrape up and place in a container fitted lid. The spilled product produces an extremely slippery surface.

## 7. HANDLING AND STORAGE

<b>Advice on safe handling</b>	General ventilation is required. Local ventilation is recommended. Avoid Eye contact.
<b>Advice on storage</b>	Do not store with oxidising agents. This product slowly evolves hydrogen on storage. Keep container closed and store away from water or moisture.
<b>Specific uses</b>	Refer to Technical data sheet
<b>Unsuitable packaging materials</b>	Do not store in or use glass containers.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

<b>Engineering Controls</b>	Ventilation : Refer section 7 (above)
Exposure controls for hazardous components	
<b><u>Personal protection equipment</u></b>	
<b>Respiratory protection</b>	Suitable respiratory protection should be worn if the product is used in large quantities, confined spaces or in other circumstances where the OEL may be approached or exceeded . A filtering half mask is recommended. BP filter. Contact your respiratory protection supplier.
<b>Hand protection</b>	Gloves are not normally required.
<b>Eye protection</b>	Safety glasses should be worn.
<b>Skin protection</b>	Protective equipment is not normally necessary
<b>Hygiene measures</b>	Exercise good industrial hygiene practise. Wash after handling ,especially before eating .
<b>Environmental exposure controls</b>	Refer to section 6 & 12
<b>Additional information</b>	These precautions are for room temperature handling. Use at Elevated temperature or aerosol / spray applications may be added precautions.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	<table> <tr> <td>Form</td> <td>Grease</td> </tr> <tr> <td>Colour</td> <td>Gray</td> </tr> <tr> <td>Odour</td> <td>Slight</td> </tr> </table>	Form	Grease	Colour	Gray	Odour	Slight
Form	Grease						
Colour	Gray						
Odour	Slight						
<b>Important health, safety &amp; environmental information</b>							
<b>Explosive properties</b>	No						
<b>Specific gravity</b>	>2.5 @25 .C						
<b>Oxidizing properties</b>	No						

The above information is not intended for use in preparing product specification.  
Contact Akasa for more details.

### 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under normal usage conditions.
<b>Conditions to avoid</b>	None established.
<b>Materials to avoid</b>	Can react with strong oxidising agents. Hydrogen is liberated on contact with water, alcohols ,acidic or basic materials , many metals or metallic compounds and can form explosive mixtures in the air.
<b>Hazardous decomposition products</b>	See section 11 If this product is heat to >150 degrees .C trace quantities of vapour may be released and may require adequate ventilation.

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### TOXICOLOGICAL INFORMATION

<b>On contact with eyes</b>	May cause temporary discomfort.
<b>On skin contact</b>	No adverse effects are normally expected.
<b>If inhaled</b>	No adverse effects are normally expected
<b>On ingestion</b>	No adverse effects are normally expected

<sup>1</sup> Based on product test data

<sup>2</sup> Based on test data from similar products

### 11. ECOLOGICAL INFORMATION

<b><u>Environmental fate and distribution</u></b>	Solid material , insoluble in water.
<b><u>Ecotoxicity effects</u></b>	Very toxic to aquatic organisms and may cause long – tern adverse effects in the aquatic environment . However due to the physical form and the water insolubility of the bioavailability is negligible.
<b><u>Fate and effects in waste water treatment plants</u></b>	No adverse effects on bacteria are predicted.

### 12. DISPOSAL CONSIDERATIONS

<b>Product disposal</b>	This material must be disposed of as hazardous waste. According to the European waste catalogue Waste codes are not specific , application specific. Waste codes should be assigned by the user preferably in discussion with the waste disposal authorities.
<b>Packaging disposal</b>	Dispose of in accordance with local regulations, Waste codes should be assigned by the user preferably in discussion with the waste disposal authorities’.

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### 13. TRANSPORT INFORMATION

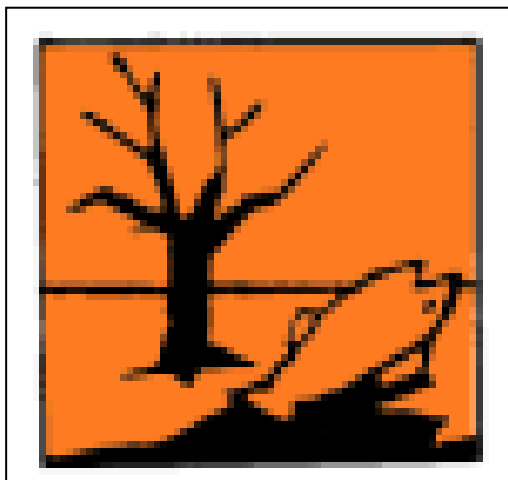
<b>Road/Rail (ADR/RID)</b>	UN 3077
<b>Proper shipping name</b>	Environmentally Hazardous substance Solid , N.O.S ,
<b>Class</b>	9
<b>Packing group</b>	III
<b>Labels</b>	9
<b>Sea treatment (IMDG)</b>	Not Subject to IMDG code <i>regulations</i>
<b>Air transport (IATA)</b>	Not Subject to IATA <i>regulations</i>

### 14. REGULATORY INFORMATION

<b><u>Labelling according to EEC Directive</u></b>  <b>Symbol</b>	N Dangerous for the environment. Substances and preparations which, were they to enter into the environment, would present or might present an immediate or delayed danger for one or more components of the environment.
<b>R-phrases</b>	R50/53 (percentage by weight of each substance) Very toxic to aquatic organisms may cause long –term adverse effects in the aquatic environment.
<b>S-phrases</b>	S9 Keep container in a well-ventilated place S51 Use only in well-ventilated areas. S57 Use appropriate container to avoid environmental contamination S60 This material and its container must be disposed of as hazardous waste
<b><u>National legislation/regulations</u></b>  <b>Ozone depleting chemicals</b>	No ozone depleting chemicals are present or used in manufacture.
<b><u>Status</u></b>  <b>EINECS</b>	All ingredients listed or exempt.
<b>TSCA</b>	All chemicals substanes in this areincluded on or exempted from listing on the TSCA Inventory of chemical substances.

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#### **15. OTHER INFORMATION**

This product safety datasheet was prepared in compliance with commission directive **91/155/EEC , 67/548/EEC and 1999/45/EC** As well as their relevant amendeents , on the approximation of the law , regulations & administrative provisions relative to the classification , packging and labelling of dangerous substances & preparations.

All information and instruction provided in this Satey DataSheet (SDS) are based on the current state of the sciencetific and technical knowledge at the date indicated on the SDS. Should the existance of such defect not be detectable considering the current state of scientific and technical knowlesdge .