

KOKI COMPANY LIMITED

MATERIAL SAFETY DATA SHEET

1. Chemical Product and Company Identification

Product Name: JU-100-5
General Use: Adhesive for chip-component mounting
Product Description: Mixture of epoxy resin, hardener and filler.
Manufacturer: KOKI COMPANY LIMITED.
32-1, Senju Asahi-cho, Adachi-ku Tokyo 120-0026 Japan
Telephone No.+81-3-5244-1521
Emergency contact: KOKI COMPANY LIMITED. - Soldering Materials Technology Div.
Telephone No.+81-493-56-3495 (9:00am~5:30pm)

2. Composition/Information on ingredients

<u>Chemical name</u>	<u>Wt%</u>	<u>CAS Registry No.</u>	<u>EINECS No.</u>	<u>EU No.</u>
Bisphenol A type epoxy resin	20-23	25068-38-6		
Bisphenol F type epoxy resin	20-23	9003-36-5		
Sec-butylphenylglycidylether	10-13	67557-76-0		
Denatured aliphatic polyamine	18-20	Registered to TSCA (be not opened)		
Amine adduct with epoxy resin	1-3	134091-76-2		
Silica, highly dispersive, amorphous, hydrophobic, surface treated.	5-8	67762-90-7		
Silica	20-23	7631-86-9		
Pigment red	<1	7023-61-2		

3. Hazards identification

Hazard description: Designated combustible materials
Specific hazard: Toxicity SPI:Class2
Product may be irritating to the skin and is to be mutagenic.

4. First aid measures

After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Consult a physician after significant exposure.

After skin contact:

Wash immediately with a neutral soap and plenty of water. Consult a physician after significant exposure.

After eye contact:

Flush eye with copious flow of water at least 15 minutes and call a physician immediately.

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5. Fire fighting measures

Suitable extinguishing agents:

Carbon dioxide, extinguishing powder or water spray. Fight larger fires with spray or Alcohol resistant foam.

Special hazards caused by the materials, its products of combustion or resulting gases:

In case of fire, the following may be released: Carbon monoxide, phenol

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

6. Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation. Keep away from ignition sources.

Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting:

Absorb with paste-binding material (sand, sawdust, universal binders).

Ensure adequate ventilation. Keep away from ignition sources.

Additional information:

See section 7 for information on safe handling.

See section 8 for information on personal protection equipment.

See section 13 for disposal information.

7. Handling and storage

Handling

Information for safe handling:

Do not drink, do not get in eyes, on skin or on clothing.

Set ventilation facilities at the work-place.

Information about protection against explosions and fires:

Keep ignition sources away. See section 5 for protective equipment.

Storage

Requirements to be met by storerooms and receptacles:

Store in a refrigerator ((0-10°C).

Information about storage in one common storage facility:

Do not store together with oxidizing agents, acids, bases and amines.

Further information about storage conditions:

Keep container tightly closed.

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8. Exposure controls and personal protection

Components with limit values that require monitoring at the workplace:

Bisphenol A type epoxy resin:	Not established.
Bisphenol F type epoxy resin:	Not established.
Sec-butyl phenylglycidylether:	Not established.
Denatured aliphatic polyamine:	Not established.
Amine adduct with epoxy resin:	Not established.
Silica:	ACGIH: TLV: 10mg/m ³
Pigment red :	Not established.

Engineering measures: Ensure adequate ventilation, especially in confined area.

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work.

Breathing equipment: Use suitable respirator.

Protection of hands: Impervious gloves.

Eye protection: Safety glasses.

Body protection: Protective work clothing.

9. Physical and chemical properties

Form: paste

Color: white

Odor: Slightly ammoniac.

	<u>Value/Range</u>	<u>Unit</u>	<u>Method</u>	<u>Melting</u>
point/melting range:	Not applicable			
Boiling point/Boiling range:	Not applicable			
Sublimating temperature:	Not applicable			
Flash point:	Not applicable			
Ignition temperature:	Not applicable			
Decomposition temperature:	Not determined			
Danger of explosion:	Not applicable			
Vapor pressure: at 20°C	< 1	h Pa		
Specific gravity: at 20°C	1.21+/- 0.5	kg/ L		
Solubility in / Miscibility with water:	Insoluble			

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10. Stability and reactivity Physical and chemical properties

Stability: Nearly stable.

Conditions to be avoided: Stable under recommended storage conditions. Temperature above 60°C.

Materials to be avoided: Oxidizing agents, acids, bases and amines.

Dangerous reactions: Reaction with materials to be avoided will occur exothermic change and polymerization.

Dangerous products of decomposition: Carbon monoxide and phenol.

11. Toxicological information

Acute toxicity:

Bisphenol A type epoxy resin:	Oral LD50: 10000~11400mg/kg (rat)
Bisphenol F type epoxy resin:	Oral LD50: > 2000mg/ kg (rat)
Sec-Butyl phenylglycizylether:	none known
Denatured aliphatic polyamine:	none known
Amine adduct with epoxy resin:	Oral LD50: > 2000mg/ kg (rat, male)
Silica, highly dispersive, amorphous, hydrophobic, surface treated:	Oral LD50: >1000mg/kg(rat)
Silica:	Oral LD50: 4500mg/kg (rat)
Pigment red:	none known

Primary irritant effect:

To the skin: Irritant to the skin and mucous membranes.

To the eye: Irritating effect.

Sensibility: May be sensible to the human.

Additional toxicological information:

Product is presumed to be mutagenic based on similar product testing by the Ministry of labor in Japan.

12. Ecological information

In case of leakage and abolition, take care of handling because it is in dander of influence to environment. Especially do not flow out to river and soil directly.

13. Disposal considerations

Waste from residues/product:

Consult state, local or national regulations for proper disposal.

Unclean packaging:

Disposal must be made according to official regulations.

Recommended cleansing agent:

Organic solvent(alcohol, acetone, ethyl acetate), if necessary if cleansing agents.

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14. Transport information

Caution for container damage:

Check the condition of the container such as leakage, damages before its loading.
Load it so that it does not fall and to keep the right shape of baggage .

Miscellaneous:

No fire, this side up.

15. Other information

Keep container tightly closed.

For use only by technically qualified individuals.

Employers should use this information only as a supplement to other information gathered by them, and should make independent of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing MSDS: Soldering Materials Technology Div.

Contact: Koichi Sekiguchi