



Aluminum Bonded Copper

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Aluminum Bonded Copper

OTHER/GENERIC NAMES: None

PRODUCT USE: Circuit Boards

MANUFACTURER: Oak-Mitsui Incorporated
1 Mechanic St., Bldg. #2
Hoosick Falls, NY 12090

FOR MORE INFORMATION CALL:
(Monday-Friday, 9:00am-4:30pm EST)
518-686-4961

IN CASE OF EMERGENCY CALL:
(24 Hours/Day, 7 Days/Week)
518-686-4961

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT NAME</u>	<u>CAS NUMBER</u>	<u>WEIGHT %</u>
Aluminum	7429-90-5	73
Copper	7440-50-8	20
Chromium	7440-47-3	<.3
Zinc	7440-66-6	<1.3
Magnesium	7439-95-4	<2.2
Manganese	7439-96-5	<1.6
Silicon	7440-21-3	<1.4

Trace impurities and additional material names not listed above may also appear in Section 15 towards the end of the MSDS. These materials may be listed for local "Right-To-Know" compliance and for other reasons.

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: A red/orange metal sheet encapsulating a silvery aluminum sheet. The only hazards associated with this product as shipped are the potential for cuts from sharp edges.

POTENTIAL HEALTH HAZARDS

Dusts, mists or fumes may be generated when copper foil and aluminum sheet is cut or processed. (laminated)

SKIN: As produced in sheet form, the potential for cuts exists due to sharp edges of the metal.

EYES: Dust may irritate eyes.

INHALATION: Dust may cause irritation to respiratory tract.

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INGESTION: Not applicable. Not a probable route of exposure.

DELAYED EFFECTS: No chronic effects are expected from this product.

3. HAZARD IDENTIFICATION (cont)

Ingredients found on one of the OSHA designated carcinogen lists are listed below.

<u>INGREDIENT NAME</u>	<u>NTP STATUS</u>	<u>IARC STATUS</u>	<u>OSHA LIST</u>
Aluminum	Yes	Yes	No
Copper	No	No	No
Magnesium	No	No	No
Manganese	Yes	Yes	No
Silicon	No	No	No
Zinc	No	No	No
Chromium	Known Carcinogen	3	No

4. FIRST AID MEASURES

SKIN: Seek medical attention for cuts

EYES: Flush eyes with large amounts of water. Seek medical attention if irritation persists.

INHALATION: Seek fresh air. Get medical attention if irritation persists.

INGESTION: Not applicable. Not a probable route of exposure.

ADVICE TO PHYSICIAN: No specific advice. Treat according to symptoms present.

5. FIRE FIGHTING MEASURES**FLAMMABLE PROPERTIES**

FLASH POINT: None

FLASH POINT METHOD: Not applicable.

AUTOIGNITION TEMPERATURE: Not applicable.

UPPER FLAME LIMIT (volume % in air): Not applicable.

LOWER FLAME LIMIT (volume % in air): Not applicable.

FLAME PROPAGATION RATE (solids): Not applicable

OSHA FLAMMABILITY CLASS: Not applicable

EXTINGUISHING MEDIA:

Water or carbon dioxide as appropriate for surrounding materials.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

None

SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS:

None

MATERIAL SAFETY DATA SHEET

ABC Product

6. ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILL OR OTHER RELEASE: (Always wear recommended personal protective equipment.)

As a solid, spills and releases are not a factor. Dust should be swept or vacuumed to reduce airborne dust and particulates.

Spills and releases may have to be reported to Federal and/or local authorities. See Section 15 regarding reporting requirements.

7. HANDLING AND STORAGE

NORMAL HANDLING: (Always wear recommended personal protective equipment.)

Edges of copper foil are sharp. Cut resistant gloves are recommended for hand protection.

STORAGE RECOMMENDATIONS:

No specific storage requirements.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: General exhaust.

PERSONAL PROTECTIVE EQUIPMENT

SKIN PROTECTION: Cut resistant gloves.

EYE PROTECTION: Safety glasses.

RESPIRATORY PROTECTION: If dust or fume is present, use negative pressure respirator according to NIOSH/MSHA standards.

ADDITIONAL RECOMMENDATIONS: None

MATERIAL SAFETY DATA SHEET

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EXPOSURE GUIDELINES

<u>INGREDIENT NAME</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER LIMIT</u>
Aluminum	10 mg/m ³ TWA total dust	15mg/m ³ TWA total dust. Respirable fraction 5 mg/m ³	None
Copper	0.2 mg/m ³ TWA-fume 1 mg/m ³ TWA-dust/mist	0.1 mg/m ³ TWA-fume 1 mg/m ³ TWA-dust/mist	None
Magnesium	10 mg/m ³ TWA	Total particulate 15 mg/m ³ TWA	None
Manganese			
Silicon	2 mg/m ³ respirable fraction	None	None
Chromium	0.5 mg/m ³ TWA	1 mg/m ³ TWA	None
Zinc	5 mg/m ³ TWA, 10 mg/m ³ STEL	5 mg/m ³ TWA	None

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Red/orange metal outside, silvery core	
PHYSICAL STATE:	Solid	
MOLECULAR WEIGHT:	Not applicable	
CHEMICAL FORMULA:	Not applicable	
ODOR:	Odorless	
SPECIFIC GRAVITY (water = 1.0):	2.5 - 2.9 @ 20 d C	
SOLUBILITY IN WATER (weight %):	Insoluble	
pH:	Not applicable	
BOILING POINT:	Not applicable	
MELTING POINT:	620 - 650 d C @ 1 atm.	
VAPOR PRESSURE:	Not applicable	
VAPOR DENSITY (air = 1.0):	Not applicable	
EVAPORATION RATE:	Not applicable	COMPARED TO:
% VOLATILES:	Not applicable	
FLASH POINT:	None	

(Flash point method and additional flammability data are found in Section 5.)

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10. STABILITY AND REACTIVITY

NORMALLY STABLE? (CONDITIONS TO AVOID):

Stable under normal conditions

INCOMPATIBILITIES:

1-bromo-2 propyne

HAZARDOUS DECOMPOSITION PRODUCTS:

None

HAZARDOUS POLYMERIZATION:

Will not occur

11. TOXICOLOGICAL INFORMATION

IMMEDIATE (ACUTE) EFFECTS:

A. No information available on this product

B. Component analysis - LD50/LC50

Manganese (7439-96-5) Oral LD50 Rat: 9gm/kg

Silicon (7440-21-3) Oral LD50 Rat: 3160 mg/kg

DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS:

Not applicable in this form

OTHER DATA:

None

12. ECOLOGICAL INFORMATION

No information available on this product. No ecotoxicity data was found for this product's components.

13. DISPOSAL CONSIDERATIONS

RCRA**Is the unused product a RCRA hazardous waste if discarded?** No**If yes, the RCRA ID number is:** Not applicable**OTHER DISPOSAL CONSIDERATIONS:** The ABC product is completely recyclable

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

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 ABC Product

14. TRANSPORT INFORMATION

US DOT HAZARD CLASS: Not applicable

US DOT ID NUMBER: Not applicable

For additional information on shipping regulations affecting this material, contact the information number found in Section 1.

15. REGULATORY INFORMATION

TOXIC SUBSTANCES CONTROL ACT (TSCA)

TSCA INVENTORY STATUS: Article - Exempt from TSCA

OTHER TSCA ISSUES: None

SARA TITLE III/CERCLA

"Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) exist for the following ingredients.

<u>INGREDIENT NAME</u>	<u>SARA/CERCLA RQ (lb)</u>	<u>SARA EHS TPO (lb)</u>
Aluminum	1	None
Copper	5000	None
Magnesium	1	None
Manganese	1	None
Silicon	1	None
Zinc	1000	None
Chromium	5000	

Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center [(800) 424-8802] and to your Local Emergency Planning Committee.

SECTION 311 HAZARD CLASS: None

15. REGULATORY INFORMATION (cont)

SARA 313 TOXIC CHEMICALS:

The following ingredients are SARA 313 "Toxic Chemicals". CAS numbers and weight percents are found in Section 2.

<u>INGREDIENT NAME</u>	<u>COMMENT</u>
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MATERIAL SAFETY DATA SHEET

ABC Product

Copper	None
Arsenic	None
Chromium	None
Nickel	None
Lead	None
Zinc	None

STATE RIGHT-TO-KNOW

In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.

<u>INGREDIENT NAME</u>	<u>WEIGHT %</u>	<u>COMMENT</u>
No ingredients listed in this section		

ADDITIONAL REGULATORY INFORMATION:

None

WHMIS CLASSIFICATION (CANADA):

Not applicable - Article

FOREIGN INVENTORY STATUS:

Not applicable - Article

16. OTHER INFORMATION

CURRENT ISSUE/REVISION DATE: February 7, 2007

PREVIOUS ISSUE/REVISION DATE: April 26, 2005

CHANGES TO MSDS FROM PREVIOUS ISSUE/REVISION DATE ARE DUE TO THE FOLLOWING:

- Section 8: Skin protection changed from "leather or cut resistant synthetic gloves" to "cut resistant gloves"

OTHER INFORMATION: None