



MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: CAC, AC, CA

Production Description: Copper Aluminum Copper for Printed Circuit Lamination

MANUFACTURER:

CAC, Inc.
20322 Windrow Dr.
Lake Forest, CA 92630
Contact number: +1-949-587-3245

2. COMPOSITION/INFORMATION ON INGREDIENTS

	<u>wt%</u>	<u>CAS Registry #</u>
Aluminum	<86	7429-90-5
Adhesive for CAC	<0.09	7440-50-8
Copper	<46	

COMMENTS:

The adhesive in the CAC product is deminimis and although not required to be reported, the information is included for convenience.

The actual organic content of the CAC package is:

Polypropyleneglycol glycidyl ether	<0.0765%	CAS # 9072-62-2
Bisphenol A diglycidyl	<0.045%	CAS # 25068-38-6
Modified bisphenol A epoxy resin	<.0135%	mixture

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

IMMEDIATE CONCERNS:

Edges may be sharp. The use of gloves is recommended when handling this material.

POTENTIAL HEATH EFFECTS

EYES:

Vapor may irritate eyes, nose, and throat.



4. FIRST AID MEASURES

INHALATION:

No specific treatment is necessary since this material is not likely to be hazardous by inhalation. If exposed to excessive levels of dust, remove to fresh air and get medical attention if cough or other symptoms develop.

5. FIRE FIGHTING MEASURES

Material is a metal and non-combustible.

6. ACCIDENTAL RELEASE MEASURES

COMMENTS:

N/A

7. HANDLING AND STORAGE

GENERAL PROCEDURES:

The use of gloves is recommended.

STORAGE:

Store in a cool dry place.

8. EXPOSURE CONDITIONS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

If user operations generate dust, use ventilation to keep exposure to airborne contaminants below the exposure limit.

PERSONAL PROTECTION:

RESPIRATORY:

Breathing of copper dust should be avoided. Use a NIOSH approved dust mask.

COMMENTS: No special ventilation required. If odor is bothersome, the use of fans is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES



Physical State: Solid
Odor: If stored in a closed in area, this product may emit an odor.
Appearance: Copper clad aluminum.
Melting Point: 660°C Al; 1084°C Cu
Boiling point: 2467°C Al; 2567°C Cu

COMMENTS:
Specific Gravity: Copper density = 8.96 g/cc
Aluminum density = 2.70 g/cc

10. STABILITY AND REACTIVITY

STABLE:
Yes
Note: Copper reacts with nitric acid to form noxious NOx gas. Please note that aluminum chips, fines, and dust are reactive.

HAZARDOUS POLYMERIZATION:
No

11. TOXICOLOGICAL INFORMATION

GENERAL COMMENTS:
Not applicable.

12. ECOLOGICAL INFORMATION

GENERAL COMMENTS:
No information available.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD:
Scrap metal can be reclaimed.

14. TRANSPORT INFORMATION

SPECIAL SHIPPING NOTES:
Unrestricted.

15. REGULATORY INFORMATION

UNITED STATES



CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA Regulatory: Copper* is a CERCLA listed material with an RQ value of 5000 lbs.

Aluminum is not listed.

*No reporting of releases of this substance is required if the diameter of the pieces of the solid metal is equal to or exceeds 100 micrometers (0.004 inches).

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA Regulatory: All metals in this MSDS are listed on the TSCA list.

16. OTHER INFORMATION

MANUFACTURE DISCLAIMER:

CAC, Inc. provides this information in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product.

CAC, Inc. will not be responsible for damages resulting from the use of or reliance upon this information.