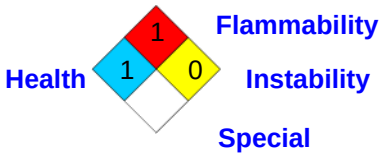
alpha

Material Safety Data Sheet

Material Safety Data Sheet

Emergency phone: US & Canada: 800 424-9300
Mexico: 01 800 022 1400, (55) 5559 1588



Health	1
Flammability	1
Physical hazards	0
Personal protection	

1 . Product and company identification

Product name : **ALPHA® OM-338 Solder Paste 96.5Sn/3.0Ag/0.5Cu 88.5-3-M11**

Product Code : 143729

Manufacturer : Cookson Electronics
109 Corporate Blvd.
South Plainfield, NJ
Phone: (201) 434-6778
Fax: (201) 434-7508
www.alphametals.com

Cookson Electronics Mexico, S.A. de C.V
Avenida Nafta No. 800,
Parque Industrial Stiva Aeropuerto
Apodaca, Nuevo León, C.P. 66600
Mexico
www.cooksonelectronics.com
Customer Service: (814) 946-1611

Validation date : **11/5/2007.** **Supersedes Date** : 8/9/2007.

Prepared by : T. Maturo
(203)-799-4917

2. Hazards identification

Physical state : Liquid. [Paste.]

Odor : Acrid.

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview : WARNING !
Harmful if swallowed. Irritating to eyes, respiratory system and skin. May cause sensitization by skin contact. Do not breathe vapor or mist. Do not ingest. Do not get on skin or clothing. Avoid contact with eyes. Contains material that can cause target organ damage. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Routes of entry : Dermal contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation : Irritating to respiratory system.

Ingestion : Harmful if swallowed. Can cause target organ damage. Ingestion may cause gastrointestinal irritation and diarrhea.

Skin : Irritating to skin. May cause sensitization by skin contact. Skin inflammation is characterized by itching, scaling, reddening or, occasionally, blistering. Prolonged or repeated contact may cause dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. In the event of any complaints or symptoms, avoid further exposure. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used.

Continued on next page

2. Hazards identification

Eyes : Irritating to eyes. Adverse symptoms may include the following: redness, itching, swelling, pain

Potential chronic health effects

Chronic effects : Adverse symptoms may include the following:
tin: Prolonged or repeated exposure may cause benign pneumoconiosis (Stannosis).
silver: Inhalation: metal fume fever, chills or shivering, muscle weakness, metallic taste. Ingestion: convulsions, shock. Contact with this product may result in a condition from silver compounds kown as Argvria (a bluishgray discoloration of the skin, eyes and mucous membranes).
rosin: Heated material can cause thermal burns. Vapors may cause irritation. May cause allergic skin reactions with repeated exposure.
proprietary rosin: May cause allergic skin reactions with repeated exposure.

Target organs : Contains material which causes damage to the following organs: mucous membranes, upper respiratory tract, skin, eye, lens or cornea, nose/sinuses.
Contains material which may cause damage to the following organs: kidneys.

Carcinogenicity : No conclusive data is available to indicate product or any component present at greater than 0.1% may cause cancer.

Mutagenicity : No conclusive data is available to indicate product or any component present at greater than 0.1% may cause heritable genetic effects.

Developmental effects : No conclusive data is available to indicate product or any component present at greater than 0.1% may cause developmental abnormalities.

Fertility effects : No conclusive data is available to indicate product or any component present at greater than 0.1% may impair fertility.

Medical conditions aggravated by over-exposure : Pre-existing skin and digestive disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used.

3. Composition/information on ingredients

Name	CAS number	% by weight
tin	7440-31-5	80-100
propanol, [2-(2-butoxymethylethoxy)methylethoxy]-	55934-93-5	1-10
silver	7440-22-4	1-10
proprietary rosin		1-10
rosin		1-10

Any ingredient not listed in Section 3 is non-regulated or present in the product in concentrations below legal disclosure limits.

4 . First aid measures

Eye contact : Check for and remove any contact lenses. Get medical attention if irritation occurs. Immediately flush eyes with running water for at least 30 minutes, keeping eyelids open.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing or wear gloves. Continue to rinse for at least 15 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse. May cause sensitization by skin contact. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Continued on next page

4 . First aid measures

Inhalation : Get medical attention immediately. Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Ingestion : Get medical attention immediately. Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wear suitable protective clothing, gloves and eye/face protection. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing or wear gloves.

5 . Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous combustion products: : carbon oxides
metal oxide/oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Continued on next page

6 . Accidental release measures

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or approved alternative container. Containers should be kept closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Keep container tightly closed. Keep container in a cool, well-ventilated area.

8 . Exposure controls/personal protection

Product name	CAS number	Exposure limits
tin	7440-31-5	**OSHA PEL (United States, 9/2005).** TWA: 2 mg/m³ 8 hour(s). **ACGIH TLV (United States, 1/2006).** TWA: 2 mg/m³ 8 hour(s). **NIOSH REL (United States, 12/2001). Notes: Note: The REL and PEL also apply to other inorganic tin compounds (as Sn) except tin oxides.** TWA: 2 mg/m³ 10 hour(s).
silver	7440-22-4	**ACGIH TLV (United States, 1/2006). Notes: Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL). See CFR 58(124) :36338-33351, June 30, 1993, for revised OSHA PEL.** TWA: 0.1 mg/m³ 8 hour(s). Form: Metallic form **NIOSH REL (United States, 12/2001). Notes: as Ag** TWA: 0.01 mg/m³, (as Ag) 10 hour(s). **OSHA PEL (United States, 8/1997). Notes: as Ag** TWA: 0.01 mg/m³, (as Ag) 8 hour(s). **OSHA PEL 1989 (United States, 3/1989). Notes: as Ag** TWA: 0.01 mg/m³, (as Ag) 8 hour(s).

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Continued on next page

8 . Exposure controls/personal protection

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Remove/Take off immediately all contaminated clothing. Contaminated work clothing should not be allowed out of the workplace.

Personal protection

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

Eyes : Avoid contact with eyes. Safety eyewear should be used when there is a likelihood of exposure. Use safety eyewear designed to protect against splash of liquids.

Skin : Avoid contact with skin and clothing. Wear protective clothing. Body garments used should be based upon the task being performed (e.g., lab coat, chemical resistant protective suit, sleevelets, synthetic apron, gauntlets) to avoid exposed skin surfaces. Wash contaminated clothing thoroughly with water before removing or wear gloves.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state : Liquid. [Paste.]

Flash point : Closed cup: Not applicable.

Auto-ignition temperature : Not available.

Flammable limits : Not available.

Color : Gray.

Odor : Acrid.

pH : Not available.

Boiling/condensation point : Not available.

Melting/freezing point : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Odor threshold : Not available.

Evaporation rate : Not available.

VOC : 1.3 %

Continued on next page

10 . Stability and reactivity

Stability : The product is stable. Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid : No specific data.

Incompatibility with various substances: : Reactive with oxidizing agents, acids.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Other Hazardous decomposition products : carbon oxides (CO, CO_2), metal oxides, toxic. fumes

Hazardous polymerization : Will not occur.

11 . Toxicological information

Acute toxicity

Product/ingredient name	CAS number	Result	Species	Dose	Exposure
rosin	proprietary	LD50 Dermal	Rabbit	>2.5 g/kg	-
		LD50 Oral	Mouse	>3 g/kg	-
		LD50 Oral	Rat	>4 g/kg	-

Carcinogenicity

Classification

Product/ingredient name	CAS number	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
silver	7440-22-4	-	-	D	-	-	-

12 . Ecological information

Aquatic ecotoxicity

Product/ingredient name	CAS number	Test	Result	Species	Exposure
silver	7440-22-4	Intoxication	Acute EC50 0.0092 mg/L	Daphnia	48 hours
		Mortality	Acute LC50 0.00342 mg/L	Fish	96 hours
		Mortality	Acute LC50 0.00312 mg/L	Fish	96 hours
		Mortality	Acute LC50 0.00276 mg/L	Fish	96 hours
		Mortality	Acute LC50 0.00238 mg/L	Fish	96 hours
		Mortality	Acute LC50 0.00213 mg/L	Fish	96 hours

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Continued on next page

14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	Not regulated.	-	-	-		

PG* : Packing group

15 . Regulatory information

United States

HCS Classification : Irritating material
Sensitizing material
Target organ effects

U.S. Federal regulations : All ingredients comply with applicable rules or orders under United States TSCA.
United States inventory (TSCA 8b): All components are listed or exempted.
TSCA 5(a)2 proposed significant rules: No products were found.
TSCA 5(a)2 final significant rules: No products were found.

SARA 313

		Product name	CAS number	Concentration
Form R - Reporting requirements	:	silver	7440-22-4	1-10
Supplier notification	:	silver	7440-22-4	1-10

Canada

WHMIS (Canada) : Class D-2B: Material causing other toxic effects (Toxic).
Canada inventory : **Canada inventory:** Not determined.

16 . Other information

Definition of Terms

ACGIH	American Conference of Governmental Industrial Hygienists
Ceiling	Maximum exposure limit defined by OSHA
CAS	Chemical Abstract Service
IARC	International Agency for Research on Cancer
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
REL	Recommended Exposure Limit
RTK	Right to Know
SARA	Superfund Amendments and Reauthorization Act
STEL	Short Term Exposure Limit
TLV	ACGIH Threshold Limit Value
TLV-C	ACGIH Threshold Limit Value, Ceiling
TRADE SECRET	Claimed as allowed under 29CFR§1910.1200
TSCA	Toxic Substances Control Act
PPE	Personal Protection Equipment
CEPA	Canadian Environmental Protection Act
DSL	Domestic Substance List
NDSL	Non-Domestic Substance List
NSN	New Substance Notification Rules

Disclaimer

Continued on next page

16 . Other information

The information contained herein is based on data considered accurate. However, no warranty is expressed of implied regarding the accuracy of these data or the results to be obtained from the use thereof. Additionally, Cookson Electronics assumes no responsibility for injury to the vendee or third persons proximately caused by the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.

Cookson Electronics