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11/25/85

Copper and Brass Sales INC

MATERIAL SAFETY DATA SHEET
ALUMINUM ALLOYS

COMPANY	ISSUE DATE	IDENTIFICATION NUMBER
Copper and Brass Sales, Inc. 17401 Ten Mile Road East Detroit, Michigan 48021	November 25, 1985	N/A

TRADE NAME (Common Name or Synonym)	EMERGENCY PHONE NUMBER
Aluminum Alloys	313-775-7710

CHEMICAL NAME	FORMULA	DOT IDENTIFICATION NUMBER
Aluminum (does not include lithium and nickel alloys)	Al	N/A

I. INGREDIENTS

MATERIAL OR COMPONENT

BASE METAL	CAS NUMBER	% COMPOSITION BY WEIGHT	1984-85 ACGIH TLV (mg/m³)*	OSHA 1910 1000 TWA (mg/m³)**
Aluminum	7429-90-5	80.0-99.7	10.0, as metal dust and oxide 5.0, as welding fume	Not established " "

MAXIMUM % COMPOSITION BY WEIGHT

ALLOYING ELEMENT	CAS NUMBER	1.0-10.0	1.0-20.0	1984-85 ACGIH TLV (mg/m³)*	OSHA 1910 1000 TWA (mg/m³)**
Cobalt, Co	7440-48-4	W, P		0.1	0.1
Copper, Cu	7440-50-8	W	P	0.2, as fume	0.1, as fume
Iron, Fe	1309-37-1	W, P		5.0, as fume	10.0, as fume
Magnesium, Mg	1309-48-4	W	P	10.0, as fume	15.0, as fume
Manganese, Mn	7439-96-5	W		1.0, as fume	5.0 Ceiling
Silicon, Si	7440-21-3		W, P	10.0, as total dust 5.0, as respirable dust	Not established " "
Tin, Sn	7440-31-5	P		2.0, as oxide and metal	2.0, as inorganic compounds
Zinc, Zn	1314-13-2	W, P		5.0, as fume	5.0, as fume
Lead, Pb	7439-92-1		W	.15, as fume	

Key:
W = Wrought aluminum (fabricated products)
P = Prime and ingot hardener aluminum
*TLV = Threshold-Limit-Value
**TWA = Time-Weighted-Average

Note: Aluminum alloys may be comprised of all or variations of the alloys shown here. In addition, the welding of aluminum alloys may produce the products listed in Section VII, #7.

II. PHYSICAL DATA

MATERIAL IS (At Normal Conditions)	APPEARANCE AND ODOR
☐ Liquid ☒ Solid ☐ Gas ☐ Other	Metallic appearance; no odor

ACIDITY/ALKALINITY			VAPOR PRESSURE (mm Hg at 20°C)
pH = NA	Melting Point 440-1215 °F Boiling Point NA °F	Specific Gravity (H_2O = 1) 2.5 - 2.9 Solubility in water (% by weight) nil	NA

III. PERSONAL PROTECTIVE EQUIPMENT

Appropriate personal protective equipment is required when melting, casting, machining, forging, or otherwise processing. The nature of the processing activity will determine what form of equipment is necessary, i.e., glasses, respirator, protective clothing, and ear protection.

IV. EMERGENCY MEDICAL PROCEDURES

USEPA SF
1265425

For Skin contact, remove particles by thoroughly washing with soap and water.

For eye contact, flush with water for at least 15 minutes. Get medical attention if irritation persists.

V. HEALTH/SAFETY INFORMATION

Health

Inhalation: Not likely unless material machined, welded or remelted. Short term overexposure to welding fumes may result in discomfort such as dizziness, nausea, or dryness or irritation of throat and nose.

Ingestion: Not likely.

Skin: Not likely.

Eyes: May irritate eyes when welding or plasma cutting.

THRESHOLD LIMIT VALUE
See Ingredients Section.

Fire and Explosion

Flash Point	AUTO IGNITION TEMPERATURE	FLAMMABLE LIMITS IN AIR	EXTINGUISHING MEDIA
NA °F	NA °F	Lower NA %, Upper %	Dry powder or sand.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Damp aluminum dust may spontaneously heat with liberation of hydrogen to form explosive air mixtures. SEE ADDITIONAL INFORMATION.

EXTINGUISHING MEDIA NOT TO BE USED
Do not use water or halogen on dust fires.

Reactivity

STABILITY
[X] Stable [ ] Unstable

INCOMPATABILITY (Materials to Avoid)
Anhydrous bromine

CONDITIONS TO AVOID
See Fire and Explosion Section. SEE ADDITIONAL INFORMATION.

HAZARDOUS DECOMPOSITION PRODUCTS
See Fire and Explosion Section. SEE ADDITIONAL INFORMATION.

VI. ENVIRONMENTAL

SPILL OR LEAK PROCEDURES
NA

WASTE DISPOSAL METHODS*
Used or unused product should be tested to determine hazard status and disposal requirements under federal, state, or local laws and regulations.

*Disposer must comply with Federal, State and Local disposal or discharge laws.

VII. ADDITIONAL INFORMATION

1. Halogen acids and sodium hydroxide in contact with aluminum may generate explosive mixtures of hydrogen.
2. Finely divided aluminum will form explosive mixtures in air. It will also form explosive mixtures in air in the presence of bromates, iodates, or ammonium nitrate.
3. When remelting aluminum scrap, entrapped moisture or the presence of strong oxidizers such as ammonium nitrate could cause an explosion. This applies to the collection of moisture in sow cavities as well. Moisture must be driven off prior to remelting.
4. Do not touch cast aluminum metal or heated aluminum product without knowing metal temperature. Aluminum experiences no color change during heating. If metal is hot and touched, burns can result.
5. Aluminum powder must be packaged and shipped as a Flammable Solid, UN1396.
6. Hard alloy ingots in the 2000 and 7000 series must be stress-relieved to prevent explosion when sawed.
7. The welding of aluminum alloys may generate carbon monoxide, carbon dioxide, ozone, nitrogen oxides, infra-red radiation and ultra-violet radiation.

The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any representation or warranty, express or implied, regarding the accuracy or correctness.

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Data sheets of individual manufacturers may be obtained by contacting Copper & Brass Sales, Inc., 17401 Ten Mile Rd., E. Detroit, MI 48021

ALLOY (NOMINAL) COMPOSITION SHEET

COPPER AND BRASS SALES, INC.
17401 TEN MILE ROAD
EAST DETROIT, MICHIGAN 48021
313-775-7710

Copper Alloy UNS No.	Name	Copper, %	Zinc, %	Lead, %	Manganese, %	Tin, %	Phosphorus, %	Arsenic, %	Tellurium, %	Chromium, %	Cadmium, %	Sulfur, %	Zirconium, %	Silicon, %	Silver %	Beryllium %
C10100	Oxygen Free Electronic Copper	99.99+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10200	OF Copper	99.95+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10300	Oxygen Free Extra Low Phosphorus	99.95+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C10400	Silver Bearing OFHC Copper	99.94	-	-	-	-	.003	-	-	-	-	-	-	-	8-12 oz*	-
C10500	Silver Bearing OFHC Copper	99.94	-	-	-	-	-	-	-	-	-	-	-	-	25-30 oz*	-
C10800	Oxygen Free Low Phosphorus	99.95+	-	-	-	-	.008	-	-	-	-	-	-	-	0.01(B)	-
C11000	Electolytic Tough Pitch Copper	99.9+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C11300	Silver Bearing Copper	99.9	-	-	-	-		-	-	-	-	-	-	-	8 oz*	-
C11400	Silver Bearing Copper	99.9	-	-	-	-	-	-	-	-	-	-	-	-	10-15 oz*	-
C11500	Silver Bearing Copper	99.9	-	-	-	-	-	-	-	-	-	-	-	-	16 oz*	-
C11600	Silver Bearing Copper	99.9	-	-	-	-	-	-	-	-	-	-	-	-	25-30 oz*	-
C12000	Phosphorized Copper DLP	99.9+	-	-	-	-	.008	-	-	-	-	-	-	-	-	-
C12200	Phosphorized Copper	99.98	-	-	-	-	0.02	-	-	-	-	-	-	-	-	-
C14200	Arsenical Copper DPA	99.68	-	-	-	-	0.02	0.03	-	-	-	-	-	-	-	-
C14500	Tellurium Copper	99.49	-	-	-	-	0.01	-	0.50	-	-	-	-	-	-	-
C14700	OFHC® Sulfur Copper	99.70	-	-	-	-	-	-	-	-	-	0.30	-	-	-	-
C15000	Amzirc® (Zirconium Copper)	99.83	-	-	-	-	-	-	-	-	-	-	0.17	-	-	-
C16200	Cadmium Copper	99.0	-	-	-	-	-	-	-	-	1.00	-	-	-	-	-
C16500	Cadmium Copper	98.58	-	-	-	0.60	-	-	-	-	0.80	-	-	0.02	-	-
[illegible]	Beryllium Copper	98.1	-	-	-	-	-	-	-	-	-	-	-	-	-	1.70
[illegible]	Beryllium Copper	98.1	-	-	-	-	-	-	-		-	-	-	-	-	1.90
[illegible]	Beryllium Copper	97.7	-	0.40	-	-	-	-	-	-	-	-	-	-	-	1.00
[illegible]	Beryllium Copper	96.9	-	-	-	-	-	-	-	-	-	-	-	-	-	0.60
C18200	Chromium Copper	99.14	-	-	-	-	-	-	-	0.85	-	-	-	0.01	-	-
C18700	Leaded Copper	99.00	-	1.00	-	-	-	-	-	-	-	-	-	-	-	-
C21000	Gilding	95.00	5.00	-	-	-	-	-	-	-	-	-	-	-	-	-
C22000	Commercial Bronze	90.00	10.00	-	-	-	-	-	-	-		-	-	-	-	-
C22600	Jewelry Bronze	87.50	12.50	-	-	-	-	-	-	-	-	-	-	-	-	-
C23000	Red Brass	85.00	15.00	-	-	-	-	-	-	-	-	-	-	-	-	-
C24000	Low Brass	80.00	20.00	-	-	-	-	-	-	-	-	-	-	-	-	-
C26000	Cartridge Brass	70.00	30.00	-	-	-	-	-	-	-	-	-	-	-	-	-
C26800	Yellow Brass	66.00	34.00	-	-	-	-	-	-	-	-	-	-	-	-	-
C27000	Yellow Brass	65.00	35.00	-	-	-	-	-	-	-	-	-	-	-	-	-
C27200	Yellow Brass	63.00	37.00	-	-	-	-	-	-	-	-	-	-	-	-	-
C27400	Yellow Brass	62.00	38.00	-	-	-	-	-	-	-	-	-	-	-	-	-
C28000	Muntz Metal	60.00	40.00	-	-	-	-	-	-	-	-	-	-	-	-	-
C31400	Leaded Commercial Bronze	89.00	9.10	1.90	-	-	-	-	-	-	-	-	-	-	-	-
C31600	High Strength Commercial Bronze	89.50	7.65	1.75	-	-	0.10	-	-	-	-	-	-	-	1.00 (Ni)	-
C32000	Hardware Bronze	85.00	13.25	1.75	-	-	-	-	-	-	-	-	-	-	-	-
C33000	Low Leaded Tube Brass	66.50	33.00	0.50	-	-	-	-	-	-	-	-	-	-	-	-
C33100	Leaded Tube Brass	66.00	33.00	1.00	-	-	-	-	-	-	-	-	-	-	-	-
C33200	Free Cutting Tube Brass	66.50	31.90	1.60	-	-	-	-	-	-	-	-	-	-	-	-
C33500	Low Leaded Brass	65.00	34.50	0.50	-	-	-	-	-	-	-	-	-	-	-	-
[illegible]	Medium Leaded Brass	65.00	34.00	1.00	-	-	-	-	-	-	-	-	-	-	-	-

*Silver content is expressed in troy ounces per avoirdupois ton (1 oz. per ton is equivalent to 0.0034 per cent).
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