

Company Name THERMACOTE-WELCO COMPANY York Road, Hwy. 161 Kings Mountain, NC 28086	Issue Date June 1, 1985	Revision Number
Trade Name (Common Name or Synonym) ALUMINUM ALLOYS	Emergency Phone Number 704-739-6421	
Chemical Name Aluminum (does not include lithium and nickel alloys)	Formula Al	DOT Identification Number NA

I. INGREDIENTS

Material or Component	1984-85 ACGIH TLV (mg/m ³)		OSHA 1910.1000 TWA (mg/m ³)**
BASE METAL	% COMPOSITION BY WEIGHT		
Aluminum	99.0-99.7		10.0, as metal dust and oxide 5.0, as welding fume
	MAXIMUM % COMPOSITION BY WEIGHT		
ALLOYING ELEMENT	1.0-10.0	1.0-20.0	1984-85 ACGIH TLV (mg/m³)*
			OSHA 1910.1000 TWA (mg/m³)**
Cobalt, Co	W, P		0.1
Copper, Cu	W	P	0.2, as fume
Iron, Fe	W, P		5.0, as fume
Magnesium, Mg	W	P	10.0, as fume
Manganese, Mn	W		1.0, as fume
Silicon, Si		W, P	10.0, as total dust 5.0, as respirable dust
Tin, Sn		P	2.0, as oxide and metal
Zinc, Zn	W, P		5.0, 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 composed 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

Melts at (At Normal Conditions) <input type="checkbox"/> Liquid <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Gas <input type="checkbox"/> Other		Appearance and Odor Metallic appearance; no odor	
Acid/Alkalinity pH = NA	Melting Point 440-1215 °F Boiling Point NA °F	Specific Gravity (H ₂ O = 1) 2.5 - 2.9 Solubility in water (% by weight) nil	Vapor Pressure (mm Hg at 20°C) 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

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	NA	°F	Auto Ignition Temperature	Flammable Limits in Air	Extinguishing Media
				NA	°F	Lower Upper NA % %
Unusual Fire and Explosion Hazards						Extinguishing Media Not to be Used
Damp aluminum dust may spontaneously heat with liberation of hydrogen to form explosive air mixtures. SEE ADDITIONAL INFORMATION.						Do not use water or halogen on dust fires.
Reactivity	Stability		Incompatibility (Materials to Avoid)			
	<input checked="" type="checkbox"/> Stable <input type="checkbox"/> Unstable		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

Cleanup 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 saw 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.

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