

SAFETY DATA SHEET

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SECTION I: Identification

CHEMICAL NAME: Aluminum

CHEMICAL ABSTRACT SERVICE NUMBER: (CAS): 7429-90-5

FORMULA: Al

TRADE NAME: Wrought Aluminum Alloy Extrusions, Mill Finish, Anodized, Painted, 1xxx Alloys, 3xxx Alloys, and 6xxx Alloys, Aluminum Drawn Tube

DOT IDENTIFICATION: N/A

HAZARD RATING: HEALTH = 0 (Negligible) FIRE = 1 (Slight) REACTIVITY = 1 (Slight)

SECTION II: Chemical Compounds

Aluminum alloy extrusions typically contain aluminum and one more of the ingredients listed below.

Ingredient	CAS Number	% By weight	OSHA PEL (mg/m3) Fume	OSHA PEL (mg/m3) Dust	ACGIH TLV (mg/m3) Fume	ACGIH TLV (mg/m3) Dust
Aluminum	7429-90-5	>95.0	5	15	5	10
Chromium	7440-47-3	<0.1*		1		0.5
Copper	7440-50-8	<0.3	1	1	0.2	1
Iron	7439-89-6	<0.8				
Magnesium	7439-95-4	<1.2		10	1	10
Manganese	7439-96-5	<0.2**	1	5 (Ceiling)	1	5
Silicon	7440-21-3	<1.0	10	10		10

*Alloy 6061 may contain from 0.1% to 0.2 % Chromium which would be subject to SARA Section 313 reporting requirements.

**Alloy 3003 may contain from 1.0% to 1.2% Manganese which would be subject to SARA Section 313 reporting requirements.

SECTION III: Physical Data

Physical state: Solid (under normal conditions)

Appearance: Metallic silver or gray
Various colors for painted

Odor: None

Boiling Point: 2450 C / 4450 F

Melting Point: 660 C / 1200 F

Specific Gravity: 2.7 (Water = 1)

Solubility in Water: None

Evaporation Rate: N/A

Vapor Pressure: 1 mm @ 1284 C

SECTION IV: Fire And Explosion Data

FLASH POINT: N/A

AUTOIGNITION: N/A

In case of fire, use Class D extinguishing agent or dry sand. DO NOT use any Halogenated extinguishing agents.

Moisture trapped in molten aluminum may cause an explosion. If aluminum extrusions are melted, make certain no moisture or water is present on external surfaces or in any cavities. Damp aluminum dust, fines, or small chips may spontaneously heat and liberate hydrogen to form explosive mixtures.

Aluminum is spontaneously combustible (pyrophoric) and this should reflect labeling requirements for shipping (DOT) classification.

SECTION V: Reactivity Data

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur

INCOMPATIBLE MATERIALS: Ammonium Nitrate, Strong Oxidizers, Halogenated Compounds, Water (when melting), Sodium Hydroxide

Acids and alkalis in contact with Aluminum may generate explosive mixtures of hydrogen. Consult National Fire Protection Association literature for more specific information.

SECTION VI: Health Hazard Data

ROUTES OF ENTRY: Inhalation (Applies to dusts, fumes, fines, etc. When fabricating and/or welding)

HEALTH HAZARDS: Aluminum alloy extrusions may produce dust and fines which are considered nuisance particulates.

Welding or machining of aluminum alloy extrusions may generate dusts and/or fumes which may cause irritation of the eyes, nose and throat. If aluminum is in an aerosol form, it has been implicated in Alzheimer's disease. Also, inhalation of finely divided powder has been reported as a cause of pulmonary fibrosis. Ozone may be produced as a by-product of welding or plasma arc cutting. Prolonged exposure to ozone may result in headache, nausea, and pulmonary edema.

Generally, if Aluminum exposures are kept below the OSHA Permissible Exposure Limits and Threshold Limit Values, the components present in this alloy should present no health concern.

CARCINOGENICITY: NTP = NO IARC = NO OSHA = NO

SIGNS AND SYMPTOMS OF EXPOSURE: Irritation of eyes, nose, and throat.

EMERGENCY AND FIRST AID PROCEDURES: If small particles or dust are in eyes, immediately flush eyes with water for at least 15 minutes. If particle is embedded in eye, immediately seek professional medical attention for foreign body removal.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Pre-existing upper respiratory and lung diseases

SECTION VII. Personnel Protective Equipment

VENTILATION: Adequate ventilation and local exhaust should be provided if PELs or TLVs are exceeded

EYE PROTECTION: Appropriate eye protection should be worn when grinding, sawing, welding (welding goggles) etc.

SKIN PROTECTION: Aluminum extrusions undergo no visual changes when heated to temperatures which can cause burns on contact. Protective gloves are recommended while grinding, welding, sawing aluminum and handling extrusions.

RESPIRATORY PROTECTION: A NIOSH-approved respirator should be worn when PELs or TLVs are, or may be, exceeded.

SECTION VIII. Disposal Procedures

Aluminum scrap should be collected for recycling. Any other disposal should be done in accordance with applicable federal, state and local laws.

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