

# Material Safety Data Sheet

<b>Company:</b> Encore Group Ltd 5607-67 St. N.W Edmonton, AB T6B 3H5	<b>Issue Date:</b> August 6/08	<b>Identification:</b> Aluminium
<b>Trade Name (Common name or synonym):</b> Aluminium	<b>Emergency Phone Number:</b> 780-577-0526 or contact your nearest Encore Metals Branch	
<b>Chemical Name:</b> Aluminium (Examples: 2024, 6061)	<b>Form:</b> Bar, Sheet, Tubing, Structural, Forgings	

## I. INGREDIENTS

Material or Component	CAS Number	% Weight	Exposure Limits	
			OSHA PEL (mg/m <sup>3</sup> )	ACGIH TLV (mg/m <sup>3</sup> )
<b>Base Metal</b>				
Aluminium(Al)	7429-90-5	90.00-99.70	10.0 as metal dust & oxide 5.0 as welding fumes	Not established Not established
<b>Alloying Elements</b>				
Cobalt(Co)	7440-50-8	<1.00-10.00	0.1 as fume	0.1 as fume
Copper(Cu)	7440-50-8	<1.00-10.00	0.2 as fume	0.1 as fume
Iron(Fe)	7439-89-6	<1.00-10.00	5.0 as fume	10.0 as fume
Lead(Pb)	7430-92-1	<0.20- 0.70	0.15 as dust and fumes	0.05 as dust and fume
Magnesium(Mg)	1309-48-4	<1.00-10.00	10.0 as fume	15.0 as fume
Manganese(Mn)	7439-96-5	<1.00-10.00	1.0 as fume	5.0 ceiling
Silicon(Si)	7440-21-3	<1.00-10.00	10.0 as total dust	Not established
Tin(Sn)	7440-31-5	<1.00-10.00	2.0 as oxide and metal	2.0 as inorganic compds
Zinc(Zn)	1314-13-2	<1.00-10.00	5.0 as fume	5.0 as fume

Note: The above listing is a summary of elements used in alloying steel. Various grades of steel will contain different combinations of these elements. Trace elements may also be present in minute amounts.

## II. PHYSICAL DATA

<b>Material is (under normal conditions):</b> <input type="checkbox"/> Liquid <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Gas <input type="checkbox"/> Other		<b>Appearance and Odor:</b> Metallic appearance/No odor		
<b>Acidity/Alkalinity:</b> Ph=NA	<b>Melting Point:</b> Approx. 900-1200° F	<b>Boiling Point:</b> NA	<b>Specific Gravity:</b> (H <sub>2</sub> O=1) 2.5-2.9	<b>Solubility in Water (% by weight):</b> NIL
<b>Vapor Pressure(mm Hg at 20° C):</b> NA				

## III. PERSONAL PROTECTIVE EQUIPMENT (PPE)

<b>Respiratory Protection:</b> Appropriate respirator depending upon potential airborne contaminants and their concentrations. If exposure limits are reached or exceeded use NIOSH approved respiration equipment.	<b>Hands, Arms and Body:</b> Appropriate gloves, especially for sheet and coil.
<b>Eyes and Face:</b> Safety glasses or shield as appropriate.	<b>Other equipment or clothing:</b> As needed depending on the operation and safety codes.

## IV. EMERGENCY MEDICAL PROCEDURES

<b>Skin Contact:</b> Remove particles by washing with soap and water.	<b>Eye Contact:</b> Flush thoroughly with water. Get medical attention of the irritation persists.
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## V. HEALTH AND SAFETY INFORMATION

<b>HEALTH</b>			
<p>For standard operations (e.g. melting, cutting, grinding), Aluminium alloys present a low health risk by inhalation and are usually considered a nuisance dust. Toxicity by ingestion-none expected. Skin and eyes-not an irritant. Welding a plasma cutting of alloys high in copper (2000 and 7000) series may present the potential for overexposure to copper fumes which can result in upper respiratory tract irritation, nausea, and metal fume fever. Nickel and Chromium are other alloying elements considered hazardous as fume; however, they do not present a carcinogenic or other health concerns due to their low concentrations of the chemical form in which they are present. Overexposure to lead fumes over an extended period of time can result in such toxic effects as central nervous system disturbances, renal changes, peripheral neuropathy, gastrointestinal disturbances, anaemia, and chromosomal changes.</p>			
<p>Medical conditions generally aggravated by exposure would be dermatitis and pulmonary disease or disorders.</p>			
<p>Occupational Exposure Limits: See Section I. Chromium and Nickel have been identified by the Internal Agency for Research on Cancer (IARC) and the National Toxicology Program (NTP) as potential carcinogens.</p>			
<b>FIRE AND EXPLOSION</b>			
<i>Flash Point:</i> N/A °F	<i>Auto Ignition Temperature:</i> N/A °F	<i>Flammable Limits in Air:</i> Lower: N/A % Upper: N/A %	<i>Extinguishing Media:</i> Dry powder or sand
<p><i>Fire and Explosion Hazards:</i> Small chips, fine turnings, and dust may ignite readily. Damp Aluminium dust may spontaneously heat with liberation of hydrogen to form explosive air mixtures. Molten Aluminium may explode on contact with water or certain metal oxides (e.g. oxides of copper, iron and lead).</p>			<p><i>Extinguishing Media NOT to be used:</i> Do not use water or halogen on dust fires.</p>
<b>REACTIVITY</b>			
<p><i>Stability:</i> <input checked="" type="checkbox"/> Stable   <input type="checkbox"/> Unstable</p>		<p><i>Incompatibility (Materials to avoid):</i> Reacts with strong acids to form hydrogen gas.</p>	
<p><i>Conditions to Avoid:</i> Aluminium products under normal conditions are stable during use, storage, and transportation. Halogen acids and sodium hydroxide in contact with Aluminium may generate explosive mixtures of hydrogen. Finely divided Aluminium, such as small chips and fines, will form explosive mixtures in air. It will also form explosive mixtures in air in the presence of bromates, iodates, or ammonium nitrate. Strong oxidisers cause violent reactions with considerable heat generation.</p>			
<p><i>Hazardous Decomposition Products:</i> See Additional Information in Section VII.</p>			

## VI. ENVIRONMENTAL

<i>Spill or Leak Procedures:</i> N/A	<p><i>Waste Disposal Method:</i> Used or unused product should be tested to determine the hazard status and disposal requirements under federal, state and local laws and regulations.</p>
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## VII. ADDITIONAL INFORMATION

<p><i>Other Precautions:</i></p> <ol style="list-style-type: none"> <li>1. Do not touch cast Aluminium metal or heated Aluminium product without knowing the metal temperature. Aluminium experiences no color change during heating. Burns could result.</li> <li>2. Aluminium powder must be packaged and shipped as a flammable solid.</li> <li>3. Hard alloy ingots in the 2000 and 7000 Series must be stress relieved to prevent explosion when sawed.</li> <li>4. The welding of Aluminium alloys may generate carbon monoxide, carbon dioxide, ozone, nitrogen oxides, infrared radiation and ultraviolet radiation.</li> </ol>
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