



## MATERIAL SAFETY DATA SHEET

<b>Manufacturer Name:</b> <b>Trade Name &amp; Synonyms:</b> <b>Chemical Name:</b>	Brand X Metals, Inc. Aluminum Alloy Alloy Series 1000, 2000, 3000, 5000, 6000 and 7000
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### Section I – PRODUCT INGREDIENTS

Material or Component	CAS Number	% Weight	Exposure Limits OSHA PEL		Exposure Limits 8hr TWA		NTP Listed	IARC Listed
			DUST	FUME	DUST	FUME		
<b>Base Metal</b> Aluminum (Al)	7429-90-5	83.0 - 99.7	15	----	10	5	NO	NO
<b>Alloying Elements</b>								
Bismuth (Bi)	7440-69-9	0.40 – 0.7	----	----	----	----	NO	NO
Boron (B)	7440-42-8	0.06 Max	----	15	----	10	NO	NO
Chromium (Cr)	7440-47-3	0.01 – 0.4	10	----	5	----	YES	YES
Cobalt (Co)	7440-48-4	1.0 – 10.0	1	----	1	----	NO	NO
Copper (Cu)	7440-50-8	0.05 – 6.0	10	----	10	.2	NO	NO
Iron (Fe)	7439-89-6	0.35 – 1.0	----	10	----	5	YES	NO
Lead (Pb)	7439-92-1	0.40 – 0.7	.05	.05	15	15	NO	YES
Magnesium (Mn)	1309-48-4	0.03 – 4.9		15	----	10	NO	NO
Manganese (Mn)	7439-96-5	0.02 – 1.5	5	5	5	1	NO	NO
Nickel (Ni)	7440-02-0	3 Max	10	----	10	----	NO	YES
Nitric Oxide	10102-43-9	N/A	----	30	----	30	NO	NO
Nitrogen Dioxide	10102-44-0	N/A	----	9	----	18	NO	NO
Ozone	100028-15-6	N/A	----	2	----	2	NO	NO
Silicon (Si)	7440-21-3	0.25 – 1.2	15	----	10	----	NO	NO
Tin (Sn)	7740-31-5	1.0 -10.0	2.0	2.0	20	2.0	NO	NO
Titanium (Ti)	7440-32-6	0.02 – 0.2	----	15.0	----	10	NO	NO
Vandium (V)	7440-62-2	0.05 Max	5	1	.05	.05	NO	NO
Zinc (Zn)	1314-13-2	0.05 – 6.1	----	5	10	5	NO	NO

NOTE: Aluminum alloys will be comprised of various combinations of the elements shown above. In addition, other alloying elements may be present in minute quantities. No permissible exposure limits (PEL) or threshold limit values (TLV) exist for aluminum alloys. Values shown are applicable to component elements..

### Section II. PHYSICAL DATA

Material is <b>SOLID</b> at 'Normal Conditions'	Appearance and odor Silvery-Grey, Odorless	% Volatile by Volume N/A	Vapor Density N/A
Acidity / Alkalinity pH = N/A	Melting Point Approx. 900-1200 F Boiling Point = N/A	Specific Gravity (H <sub>2</sub> O=1) Approx. 2.5-2.9	Vapor Pressure (MM Hg @ 20 C) N/A

### Section III – PERSONAL PROTECTIVE EQUIPMENT

<b>RESPIRATORY PROTECTION:</b> Appropriate dust/mist/fume respirator should be used to avoid excessive inhalation of particulates. If exposure limits are reached or exceeded, use NIOSH approved equipment.	<b>HANDS, ARMS and BODY:</b> Protective gloves should be worn as required for welding, burning or handling operations.
<b>EYES and FACE:</b> Safety glasses should be worn when grinding or cutting. Face shields should be worn when welding, cutting or burning.	<b>OTHER CLOTHING and EQUIPMENT:</b> As required depending on operations and safety codes.



**Section IV – EMERGENCY MEDICAL PROCEDURES**

INHALATION:	Remove to fresh air; if condition continues, consult a physician
EYE CONTACT:	Flush thoroughly with running water to remove particulate; obtain medical attention
SKIN CONTACT:	Remove particulates by washing thoroughly with soap and water. Seek medical attention if condition persists
INGESTION:	If significant amounts of metal are ingested, consult physician

**Section V – HEALTH/SAFTEY INFORMATION**

For standard operations (e.g. melting, cutting, grinding), aluminum 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. Nickel and chromium are other alloying elements considered hazardous as fume; however, they do not present a carcinogenic or other health concern due to their low concentration 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, anemia and chromosomal changes. The welding of aluminum alloys may generate carbon monoxide, carbon dioxide, ozone nitrogen oxides, infrared radiation and ultraviolet radiation.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** See Product Ingredients Section 1

Flash Point = N/A	Auto Ignition Temperature = N/A	Flammable Limits in Air = N/A	Extinguishing Media = For molten aluminum use dry powder or sand
Damp aluminum dust may spontaneously heat with liberation of hydrogen to form explosive air mixtures. SEE: ADDITIONAL INFORMATION below		EXTINGUISHING MEDIA NOT TO BE USED Do not use water or halogen agents on molten aluminum	
<b>STABILITY</b> (X) Stable ( ) Unstable		<b>INCOMPATIBILITY (MATERIALS TO AVOID)</b> Reacts with strong acids to form hydrogen gas	

**CONDITIONS TO AVOID:** Aluminum products under normal conditions are stable during use, storage and transportation. Halogen acids and sodium hydroxide in contact with aluminum may generate explosive mixtures of hydrogen. Finely divided aluminum, such as small chips and fines, will form explosive mixtures in air. It also will form explosive mixtures in air in the presence of bromates, iodate, or aluminum nitrate. Strong oxidizers cause violent reactions with heat generation.

**Section VI – ENVIRONMENTAL**

**SPILL OR LEAK PROCEDURES**  
Fine turnings and small chips should be swept or vacuumed. Scrap metal can be reclaimed for re-use.

**WASTE DISPOSAL METHOD\***  
Used or unused products should be disposed of in accordance with Federal, State or Local Laws and Regulations.  
\*Disposer must comply with Federal, State and Local disposal or discharge laws.

**Section VII – ADDITIONAL INFORMATION**

- Acids and bases in contact with aluminum may generate explosive mixtures with hydrogen
- Finely divided aluminum will form explosive mixtures in air.
- When re-melting 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 re-melting.
- 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.
- Aluminum powder must be packaged and shipped as a Flammable Solid.
- The welding of aluminum alloys may generate carbon monoxide, carbon dioxide, ozone, nitrogen oxides, infra-red radiation and ultra-violet radiation, in addition to metal fume.
- Some aluminum scrap may be contaminated with oil at levels greater than 1%. Melting of aluminum scrap may generate oil vapors which are irritating to the eyes and upper respiratory tract. Prolonged or repeated skin contact with oil may cause skin irritation.
- Vapor degreaser must be properly maintained to limit the accumulation of aluminum fines. The accumulation of aluminum fines could result in a potential degreaser fire or explosion.
- Beryllium, Chromium, Lead, Cadmium and Nickel, listed on California’s Proposition 65 list of “Chemicals Known to cause Cancer or Reproductive Harm” may exist in this product at the following maximum concentrations by weight – B (.05%), C (0.1%), L (.05%), Cad (.05%), Nickel (1.2%)

**DISCLAIMER**

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