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# MATERIAL SAFETY DATA SHEET

(This product contains one or more toxic chemicals subject to the reporting requirements of section 313 of the EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT of 1986 and of 40CFR72).

ISSUE DATE

November 25, 1985

REVISED

May 1, 2010

For Information or In An Emergency  
Call: (847) 455-7111

## Section 1 - Product Identification

Manufacturer's Name

Various

Product Name / Trade Name

Aluminum Alloys  
Aluminum Alloys Containing Lead

Common Name / Grade

1XXX thru 7XXX Series  
Leaded 2011 & 6262

## Section 2 - Hazardous Ingredients

NOTE: Products Under Normal Conditions Do Not Represent An Inhalation, Ingestion or Contact Health Hazard.

Base Metal, Alloying Elements And Metallic Coatings	CAS#	WT % (1)	OSHA PEL (mg/g <sup>3</sup> ) (3)	ACGIH TLV TWA (Unless Noted Otherwise) (mg/m <sup>3</sup> ) (2)
Base Metal				
Aluminum (Al)	7429-90-5	80-99.7	15	10 (Total Dust)
Alloying Elements				
Copper (CO)	7440-50-8	<10	1	1 (Dust & Mist)
Magnesium (Mg)	1309-48-4	<10	15	10 (As Magnesium Oxide Fume)
Zinc (Zn)	1314-13-2	<10	5	5 (As Zinc Oxide Fume)
Cobalt (Co)	7440-48-4	<2	0.1	0.02 (Dust & Fume)
Iron (Fe)	7439-89-6	<2	10	5 (As Iron Oxide)
Manganese (Mn)	7439-96-5	<2	5	0.2
Silicon (Si)	7440-21-3	<2	15	10 (Total Dust)
Tin (Sn)	7440-31-5	<2	2	2
Chromium (Cr)	7440-47-3	<.5	0.5	.5
Nickel (Ni)	7440-02-0	<.5	1	0.5
Leaded Alloys 2011 & 6262				
Lead (Pb)	7439-92-1	<1	.05	0.05 (Dust & Fume)

(1) % Of Alloying Material Varies With Grade Of Material.

(2) 1996 ACGIH Threshold Limit Value.  
(3) 1993 OSHA Permissible Exposure Limit.

## Section 3 - Physical Data

Material Is (At Normal Conditions)

Solid

Appearance and Odor

Silver-Metallic, Odorless

Melting Point (Base Metal)

440 - 1220° F

Specific Gravity

>2

## Section 4 - Fire And Explosion

Extinguishing Media

Dry Powder (Class D) or Sand

Special Firefighting Procedures

Do not use water or halogen on dust fires.

Unusual Fire and Explosion Hazards

Damp aluminum dust may spontaneously heat with liberation of hydrogen to form explosive mixtures.  
Molten may explode on contact with water.

## Section 5 - Reactivity Data

Stability

Stable

Incompatibility (Materials to Avoid)

Anhydrous Bromine. Also see NFPA #491M

Conditions to Avoid

See Special Precautions. See Fire and Explosion Section.

Hazardous Decomposition Products

See Special Precautions. See Fire and Explosion Section.

Product  
Aluminum

**Section 6 - Health Hazard Data**

NOTE: STEEL PRODUCTS IN THE NATURAL STATE DO NOT PRESENT AN INHALATION, INGESTION OR CONTACT HAZARD. HOWEVER, OPERATIONS SUCH AS BURNING, WELDING, SAWING, BRAZING AND GRINDING MAY RELEASE FUMES AND/OR DUSTS WHICH MAY PRESENT HEALTH HAZARDS IF TLV'S ARE EXCEEDED

**MAJOR EXPOSURE HAZARD**

Inhalation       Skin Contact       Skin Absorption       Eye Contact       Ingestion

**Effects of Overexposure**

Aluminum dust should be treated as a nuisance dust and high exposure may produce irritation of eyes and respiratory system. The potential for overexposure to copper fumes may exist when welding, flame cutting, etc. on alloys containing high amounts of copper >2.5%. These alloys include 2XXX, 7XXX and 4145 wrought alloys. Overexposure to copper fumes can result in respiratory irritation, nausea and metal fume fever.

Nickel and chromium are contained in certain alloys at levels of 0.1% or more. Chromium and nickel and their compounds are listed in the 3rd Annual Report on Carcinogens, as prepared by the National Toxicology Program (NTP). Their presence in Aluminum alloys, however, should not present a carcinogenic or health concern due to either their low concentrations or the chemical form in which they are present.

Inhalation or ingestion of lead particles may result in lead-induced systemic toxicity. Symptoms of lead poisoning include abdominal cramps, anemia, muscle weakness and headache. Prolonged exposure can cause behavioral changes, kidney damage, CNS damage and reproductive effects.

Plasma arc cutting or welding aluminum can generate ozone. Overexposures to ozone can result in mucous membrane irritation, as well as pulmonary changes including irritation, congestion and edema.

Suspected Cancer Agent?     ND: This product's ingredients are not found in the lists below.

YES:     Federal OSHA     NTP     IARC

**Emergency and First Aid Procedures**

If exposed to excessive levels of metal fumes, remove to fresh air, seek medical aid immediately.

Eyes - Flush with water for at least 15 minutes.

**Section 7 - Spill or Leak Procedures**

**Spill or Leak Procedures**

NA

**Waste Disposal Methods**

According to local, state and federal regulations

**Section 8 - Special Protection**

**Respiratory**

NIOSH/MSHA - Approved dust and fume, respirator should be used to avoid excessive inhalation of particulates when exposure exceeds TLV's.

**Ventilation**

Local exhaust ventilation should be utilized when welding, burning, sawing, brazing, grinding or machining when exposure exceeds TLV's.

**Eye Protection and Protective Clothing**

Safety glasses or goggles should be utilized as required by exposure. Other protective equipment should be utilized as required by the welding standards.

**Section 9 - Special Precautions**

1. Halogen acids and sodium hydroxide in contact with aluminum may generate 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. Hard alloy ingots in the 2000 and 7000 series must be stress-relieved to prevent explosion when sawed.
6. 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 A. M. Casile & Co., 3400 N. Wolf Road, Franklin Park, IL 60131 Attn: Corp. Safety Mgr.