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Section 1 **Identification of the substance/mixture and of the company/ undertaking**	**Trade Name:** Aluminum billet **Generic Name:** Aluminum billet **Chemical Name:** Aluminum **Chemical Family:** Aluminum alloys **Use:** Fabricated into extrusions, forgings, and plate products. **Company Information:** Vista Metals Corp. 13425 Whittram Avenue. Fontana, California 92335 +1.909.823.4278 E-mail address: rebeca@vistametals.com **Emergency phone number:** +1.909.823.4278
Section 2 **Hazards Identification**	**This substance is classified as <u>not dangerous</u> in accordance with Directives 67/548/EEC and 1999/45/EC.** **General Effects of Overexposure:** Primary route of exposure is inhalation. Operations such as burning, welding, sawing, brazing, machining, and grinding may cause health effects if exposures exceed recommended limits as listed under **Hazardous Ingredients**. **Eye Contact:** Excessive exposure to high concentrations of dust may cause irritation to the eyes. Use safety glasses or goggles as required for machining operations. **Skin Contact:** Dust may cause irritation or sensitization of the skin, possible leading to dermatitis. Protective gloves should be worn as required for handling operations. **Inhalation:** Excessive inhalation to fumes of metal oxide particles can produce an acute reaction known as “metal fume fever.” Symptoms consist of chills and fever, metallic taste in the mouth, dryness and irritation of the throat followed by weakness and muscle pain. Oxide fumes of manganese and copper have been associated with causing metal fume fever. Chronic inhalation of excessive concentrations of metal fumes may result in pneumoconiosis, pulmonary disorders, respiratory irritation, asthma, nosebleed, and ulceration of the nasal septum, as well as respiratory cancer. **Ingestion:** Ingestion of dust may cause nausea or vomiting.

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Section 3
Composition /information on ingredients*

Ingredient	CAS No.	%	Limit, Type
Aluminum	7429-90-5	80-99	15 mg/m3, TWA total dust, OSHA PEL
Silicon	7440-21-3	0-15	15 mg/m3, TWA total dust, OSHA PEL
Zinc	7440-66-6	0-10	5 mg/m3, TWA, OSHA PEL
Copper	7440-21-3	0-6	0.1 mg/m3, TWA fume, OSHA PEL
Magnesium	7439-95-4	0-6	15 mg/m3, TWA particulate, OSHA PEL
Nickel	7440-02-0	0-2	1 mg/m3, TWA as Ni, OSHA PEL
Iron	7439-89-6	0-2	10 mg/m3, TWA particulate, OSHA PEL
Manganese	7439-96-5	0-2	5 mg/m3, TWA (ceiling), OSHA PEL

*refer to certificate of analysis for additional composition information

Section 4
First Aid Measures

Eye Contact: Flush the affected eye(s) with water. If irritation develops, seek medical attention.
Skin Contact: Wash skin thoroughly with soap and water. If irritation or abrasion develops, seek medical attention.
Inhalation: Move away from exposure to fumes and into fresh air. If symptoms of exposure develop, seek medical attention.
Ingestion: If ingested seek medical attention.

Section 5
Fire-fighting Measures

Flash Point (TCC): Not applicable
Lower Flam. Limit: Not applicable
Upper Flam. Limit: Not applicable
Autoignition Temp: Not applicable

NFPA Ratings:
Health: 1 (dust)
Fire: 0
Reactivity: 0

Fire & Explosion Hazards: Not applicable for the solid product. Do not use water on molten metal.

Products of Combustion: Metal oxides, alloy elements, and oxides of carbon and nitrogen.

Extinguishing Media: Not a fire hazard unless in powdered or finely divided state. Suspension of aluminum dust in air may pose a severe explosion hazard. In case of aluminum fire, use a class D dry-powder extinguisher. Do not use water or halogenated extinguishing media.

Fire Fighting Procedures: Do not release runoff from fire control methods to sewers or waterways. Wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive pressure mode and full protective clothing. Only fight fire if properly trained.

Section 6
Accidental Release Measures

Personal Precautions:

Environmental Precautions: Keep away from sewers and surface water.

If molten: Contain the flow using dry sand or salt flux as a dam. Do not use shovels or hand tools to halt the flow of molten metal. Allow the spill to cool before re-melting as scrap.

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Section 7 **Handling & Use**

Handling & Storage

Processing: Avoid breathing metal fumes or dust generated during machining operations. Practice good housekeeping. Provide grounding and bonding where necessary to prevent accumulation of static charges during aluminum dust handling and transfer operations.

Re-melting: Molten aluminum and water can be an explosive combination. The risk is greatest when there is sufficient molten metal to entrap or seal off the water. Water and other forms of contamination on contained in aluminum scrap or re-melt ingot are known to have caused explosions in melting operations. While the products may have minimal surface roughness and internal voids, there remains the possibility of moisture contamination or entrapment. Drops of molten aluminum in water (i.e. from plasma arc cutting), while not normally an explosion hazard, can generate enough flammable hydrogen to present an explosion hazard. Circulation of the water and removal of the metal particles minimize the hazards.

During melting operations, the following minimum guidelines should be observed:

1. Inspect all aluminum materials prior to furnace charging and completely remove surface contamination such as water, ice, snow, deposits of grease and oil or other surface contamination resulting from weather exposure, shipment, or storage.
2. Store materials in dry, heated areas with any cracks or cavities pointed downwards.
3. Preheat and dry large items such as ingot adequately before charging into a furnace containing molten aluminum. This is typically done by use of a drying oven or homogenizing furnace. The drying cycle should bring the metal of temperature of the coldest item if the batch it 400*F and then hold at that temperature for 6 hours.
4. Ingot that is charged into molten aluminum should always be preheated.

Storage: Store away from acids, bases, and incompatibles. Store away from water to minimize the potential for explosion if re-melting.

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Section 8

Exposure Controls/ Personal Protection

Ingredient	CAS No.	% wt	Limit, Type
Aluminum	7429-90-5	80-99	15 mg/m3, TWA total dust, OSHA PEL
Silicon	7440-21-3	0-15	15 mg/m3, TWA total dust, OSHA PEL
Zinc	7440-66-6	0-10	5 mg/m3, TWA, OSHA PEL
Copper	7440-21-3	0-6	0.1 mg/m3, TWA fume, OSHA PEL
Magnesium	7439-95-4	0-6	15 mg/m3, TWA particulate, OSHA PEL
Nickel	7440-02-0	0-2	1 mg/m3, TWA as Ni, OSHA PEL
Iron	7439-89-6	0-2	10 mg/m3, TWA particulate, OSHA PEL
Manganese	7439-96-5	0-2	5 mg/m3, TWA (ceiling), OSHA PEL

Occupational exposure controls:

Eye protection: Use safety glasses or goggles as required for machining operations.

Skin protection: Protective gloves should be worn as required for handling operations.

Environmental exposure controls: Contain spills using dry sand or salt flux as a dam. Do not use shovels or hand tools to halt the flow of molten metal. Allow the spill to cool before re-melting as scrap.

Section 9

Physical and Chemical Properties

Appearance and Odor: Solid, bright, metallic gray, odorless

Melting Point:900-1200 F/482-649 C
Boiling Point: N/A
Vapor Pressure: N/A
% Volatile (vol.): N/A
Vapor Density: N/A
Evaporation Rate: N/A
Flammability: N/A
Explosive Properties: N/A
Oxidizing Properties: N/A
Partition Coefficient: N/A

Solubility (H_2O): Essentially none
pH: N/A
Density: 2.99 kg/l – 3.12 kg/l
API Gravity: N/A
Viscosity: N/A
Flash Point (CC): N/A

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Section 10 **Stability & Reactivity**	**Stability:** Stable under normal conditions of storage and handling. **Conditions to avoid:** Molten aluminum can react violently with water, rust, and certain metal oxides. **Materials to avoid:** May be incompatible with strong acid and alkaline solutions. May form hydrogen when mixed with strong acids. **Reactivity:** Molten aluminum may explode on contact with water. In the form of particles, may explode when mixed with halogenated acids, halogenated solvents, bromates, iodates or ammonium nitrate. Aluminum particles on contact with copper, lead, or iron oxides can react vigorously with the release of heat. **Hazardous Reaction/Decomposition Products:** Hydrogen gas may be generated when mixed with acids, bases, and solvents. Burning of the metal produces metal oxides, alloy elements, and oxides of carbon and nitrogen. **Polymerization Hazards:** This material will not polymerize.
Section 11 **Toxicological Information**	LD50 of LC50 found for oral, dermal or inhalation routes of administration: **Nickel**: oral rat LD 50: 9,000 mg/kg body weight **Silicon**: oral rat LD50: 3,160 mg/kg body weight **Manganese**: oral rat LD50: 9,000 mg/kg body weight
Section 12 **Ecological Information**	**Ecotoxicity:** No information found **Mobility:** Not available **Persistence and Degradability:** Not available **Bioaccumulative potential:** Not available **PBT assessment:** Not available **Other adverse effects:** Not available
Section 13 **Disposal Considerations**	All materials should be handled and transported off-site in accordance with federal, state, and local regulations. Dispose of waste in accordance with applicable local, state or federal hazardous waste requirements. May be a hazardous waste if not recycled.

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Section 14 **Transport Information**	**USDOT:** Solid aluminum metal is not regulated as hazardous material. **ADR/RID**: Not regulated as dangerous good. **ICAO/IMDG/IATA**: Not regulated as dangerous good. **Canadian TDG**: Not regulated as dangerous good.
Section 15 **Regulatory Information**	**US SARA Section 313 Notification:** This material contains the following SARA 313-listed chemicals: Aluminum (fume/dust), 7429-90-5; Beryllium, 7440-41-7; Cadmium, 7440-43-9; Chromium, 7440-47-3; Copper, 7440-50-8; Lead, 7439-92-1; Manganese, 7439-96-5; Nickel, 7440-02-0; Zinc (fume or dust), 7440-66-6. Please contact Vista Metals Corp. for additional information prior to completing any EPCRA report. **VOC Content, Material:** 0 **VOC Content, Less Water:** 0 **US, California Proposition 65:** Warning: This product contains the following chemicals known by the state of California to cause cancer, birth defects, or other reproductive harm: Beryllium, 7440-41-7; Cadmium, 7440-43-9; Lead, 7439-92-1; Nickel, 7440-02-0 **US HAP Listed Substances (when in dust form)** Beryllium compounds, cadmium compounds, chromium compounds, lead compounds, manganese compounds, nickel compounds. **European Community:** All components of this product are listed on MITI, the Ministry of International Trade Industry. **Canadian Domestic Substances List:** All components of this product listed on the Canadian DSL.
Section 16 **Other Information**	None
Prepared by:	JE Compliance Service Inc.
Date:	April 10, 2009