Great Ingot= Great Castings

Safety Data Sheet

NFPA	HMIS	PPE	Transport Symbol
	HEALTH 1 FLAMMABILITY 0 REACTIVITY 0	 Safety Glasses  Gloves	Not Regulated

Issuing Date: 10 July 2013 **Revision Date: 10 July 2013** **SDS Number: 016**

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Alloy C355.2 Aluminum Ingot
Synonyms: Not Applicable
Product Code(s): Not applicable
Recommended Use: Not applicable
Emergency Telephone Number: 708-757-4200
Manufacturing Locations: 900 E. 14th Street Chicago Heights, IL 60411

2. HAZARDOUS IDENTIFICATION

CAUTION! Dust may be irritating to respiratory tract, eyes, and skin.
Appearance: Silver/grey dependent on scrap composition.
Physical Sate: Solid
Odor: None

Potential Health Effects:

Acute Toxicity

Eyes: Dust may be irritating to eyes.
Skin: Dust may be irritating to skin.
Inhalation: Inhalation of dust in may cause irritation of respiratory system.
Indigestion: Not an expected route of exposure. May cause irritation to mucous membranes; may be harmful if swallowed

Chronic Effects: Pulmonary fibrosis, facial pallor, anemia, gingival lead line, tremors,

writs drop encephalopathy, nephropathy, hypotension. Aluminum has been implicated in Alzheimer's disease. Lead, nickel, beryllium, cadmium, and hexavalent chromium have been implicated as carcinogens. See Section 11 for carcinogen status of components.

Aggravated Medical Conditions: Medical conditions generally aggravated by exposure include any condition involving the GI tract, central nervous system, kidneys, blood, and gingival tissue.

Environmental Hazard: See Section 12 for additional Ecological information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Aluminum	7429-90-5	0-95%
Beryllium	7440-41-7	0%
Chromium	7440-47-3	0%
Copper	7440-50-8	1.0-1.5%
Iron	7439-89-6	0-0.12%
Lead	7439-92-1	0%
Magnesium	7439-95-4	0.50-0.60%
Manganese	7439-96-5	0-0.50%
Nickel	7440-02-0	0%
Silicon	7440-21-3	4.5-5.5%
Strontium	7440-24-6	0%
Tin	7440-31-5	0%
Titanium	7440-32-6	0.05-0.10%
Zinc	7440-66-6	0-0.05%

4. FIRST AID MEASURES

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

Skin Contact: Wash off immediately with plenty of soap and water for at least 15 minutes. If symptoms persist, call a physician.

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If symptoms persist, call a physician.

Ingestion: Not an expected route of exposure. Immediate medical attention is not required. Consult a physician if necessary.

Notes to Physician: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable Properties: Finely divided aluminum powder or dust may form explosive mixtures in air.

Flash Point: Not applicable.

Suitable Extinguishing Media: Do not use water or foam. Dry chemical recommended.

Unsuitable Extinguishing Media: DO NOT USE WATER OR FOAM.

Explosion Data
Sensitivity to Mechanical Impact: None

Sensitivity to Static Discharge: None

Additional Precautions: None

Specific Hazards Arising from the Chemical: Finely divided aluminum will form explosive mixtures in air.

Protective Equipment and Precautions for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA: Health Hazard 1 Flammability 0 Stability 0 Physical/Chemical Hazards-

HMIS: Health Hazard 1 Flammability 0 Stability 0 Personal Precautions- B

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Ensure adequate ventilation. Use personal protective equipment.

Methods for Containment: Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up: No special precautions for large product fragments. For dust cleanup, use protective equipment. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

Small/Large Spills: Clean up spilled material and place in dry metal containers.

7. HANDLING AND STORAGE

Handling: Handle in accordance with good industrial hygiene and safety practice. Wear personal protective equipment. Avoid dust formation. Do not breathe vapors/dust.

Storage: Keep in a dry, cool, and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines: The following table lists exposure limits for all chemicals listed in Section 3 where a limit exists.

Chemical Name	ACGIH TLV	OSHA PEL
Aluminum 7429-90-5	TWA: 1 mg/m³ (dust)	TWA: 15 mg/m³ (total) TWA: 5 mg/m³ (respirable)
Aluminum Oxide 1344-28-1	None	TWA: 5 mg/m³ (respirable)
Magnesium Oxide 1309-48-4	TWA: 10 mg/m³ (inhalable)	Ceiling: 15 ppm, total particulate
Cadmium 1306-19-0	TWA: 0.002 mg/m³	None
Manganese 7439-96-5	TWA: 0.2 mg/m³	Ceiling: 5 mg/m³
Silicon 7440-21-3	None	TWA: 15 mg/m³ (total)
Copper 7440-50-8	TWA: 0.2 mg/m³ (fume) TWA: 1 mg/m³ (dust)	TWA: 0.1 mg/m³ (dust)
Magnesium 7439-95-4	TWA: 10 mg/m³	TWA: 10 mg/m³ (total)
Nickel 7440-02-0	TWA: 1.5 mg/m³	TWA: 1 mg/m³
Beryllium 7440-41-7	TWA: 0.00005 mg/m³	TWA: 0.002 mg/m³
Chromium 7440-47-3	TWA: 0.5 mg/m³	TWA: 1 mg/m³
Tin 7440-31-5	TWA: 2 mg/m³	TWA: 2 mg/m³

Other Exposure Guidelines: Hexavalent chrome may be formed during welding. The welding of aluminum alloys may generate carbon monoxide, carbon dioxide, ozone, nitrogen oxides, infrared radiation, and ultra-violet radiation.

Engineering Measures: Showers, Eyewash Stations, Ventilation Systems

Personal Protective Equipment

Eye and Face Protection: Tightly fitting safety goggles. Avoid contact with eyes
Skin and Body Protection: Impervious gloves.

Respiratory Protections: If exposure limits are exceeded or irritation is

experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be require for high airborne containment concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures: Handle in accordance with good industrial hygiene/safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Silver/grey dependent on scrap composition

Odor: None

Odor Threshold: No information Available

Physical State: Solid

pH: No information available

Flash Point: Not applicable

Autoignition Temp: No info available

Decomp Temp: No information available

Boiling Point/Range: 4550ºF (2450ºC)

Melting Point/Range: 1220ºF (660ºC)

Flammability Limits in Air: No information available

Explosion Limits: No info available

Solubility: Insoluble

Evaporation Rate: No info available

Vapor Pressure: 1 @ 1284ºC

Vapor Density: No data

Specific Gravity/Density: 2.5-3.12 g/cm³

VOC Content: N/A

10. STABILITY AND REACTIVITY

Stability: Stable under recommended storage conditions.
Incompatible Products: Avoid halocarbons, mercury, chlorine, chlorates, bromates, iodates, peroxides, perchlorates, nitrates, nitrites, oxides, performates, persulfates, halogens, oxides of nitrogen, melted sulfates, sulfur dioxide, propylene dichloride sodium carbide, sodium carbonate, sodium hydroxide. Do not use with water.
Conditions to Avoid: Avoid storage or potential contact with strong oxidizing agents.
Hazardous Decomposition Products: Metal oxide fumes.
Hazardous Polymerization: Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: The product itself has not been tested.

Chronic Toxicity: Aluminum metal and alloys have a low order of chronic toxicity. Overexposure to Manganese oxide fumes may cause metal fume fever. It is unlikely Manganism will develop if exposure limits are maintained below the limits cited in Section 8. Symptoms of Manganism develop very gradually and can include headache, irritability, insomnia, and muscle cramps. Chronic exposure to inert dust of silicon can cause increased airways resistance and contribute to chronic bronchitis.

Carcinogenicity: The following metals and metal compounds are considered carcinogenic by the International Agency for Research on Cancer (IARC) and the National Toxicology program (NTP) as carcinogens: lead, beryllium, cadmium, hexavalent chromium, and nickel.

Sensitization: Some individuals may be allergic to metals or metal salts. Sensitization to metals will generally take the form of a skin rash at the site of contact. Once an individual becomes sensitized, they should not have any further contact with the causative agent, since any exposure, however small, will trigger the symptoms.

Mutagenic Effects: None Known
Reproductive Toxicity: None Known
Developmental Toxicity: None Known
Target Organ Effects: No specific effects other than those listed under Chronic Toxicity

12. ECOLOGICAL INFORMATION

Ecotoxicity: The environmental impact of this product has not been fully investigated.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Dispose of in accordance with all applicable environmental laws and regulations.

Contaminated Packaging: Dispose of in accordance with applicable local regulations.

14. TRANSPORT INFORMATION

DOT **U.S. Department of Transportation**	Not Regulated
TDG **Transport Dangerous Goods (Canada)**	Not Regulated
MEX **Transport Dangerous Goods (Mexico)**	Not Regulated
ICAO **International Civil Aviation Organization**	Not Regulated
IATA **International Air Transport Association**	Not Regulated
IMDG/IMO **International Maritime Dangerous Goods Code/ International Maritime Organization**	Not Regulated
RID **International Transport of Dangerous Goods by Rail**	Not Regulated
ADR **International Transport of Dangerous Goods by Rail**	Not Regulated
AND **International Transport of Dangerous Goods by Inland Waterway**	Not Regulated

15. REGULATORY INFORMATION

U.S. Federal Environmental Regulations

CONEG: This material meets CONEG requirements for packaging materials in that the sum of the concentration levels of incidentally introduced lead, mercury, cadmium, and hexavalent chromium present do not exceed 100 ppm.

FDA: Not applicable

SARA 313: Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals, which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical Name	CAS-No	Weight %	SARA 313 Threshold Values %
Aluminum dust and fines	7429-90-5	0-95%	1.0
Cadmium	7440-43-9	0-3%	0.1
Cobalt	7440-48-4	0-3%	0.1
Manganese	7439-96-5	0-1%	1.0
Zinc	7440-66-6	0-1.5%	1.0
Copper	7440-50-8	0-1.5%	1.0
Lead	7439-92-1	0-0.1%	* (any amount)
Nickel	7440-02-0	0-0.1%	0.1
Beryllium	7440-41-7	0-0.1%	0.1
Chromium	7440-47-3	0-0.1%	0.1

SARA 311/312 Hazard Categories

Acute Health Hazard: No
Chronic Health Hazard: No
Fire Hazard: No
Sudden Release of Pressure Hazard: No
Reactive Hazard: No

U.S. State Regulations:

California Proposition 65: This product contains chemicals known to the State of California to cause cancer or reproductive toxicity.

Chemical Name	California Proposition 65	CAS-No
Antimony oxide (Antimony trioxide)	Cancer	1309-64-4
Arsenic (inorganic arsenic compounds)	Cancer	---
Arsenic (inorganic oxides)	Developmental	---
Beryllium and beryllium compounds	Cancer	---
Cadmium	Developmental, Male	---
Cadmium and cadmium compounds	Cancer	---
Chromium (hexavalent compounds)	Cancer	---
Chromium (hexavalent compounds)	Developmental, Female, Male	---
Cobalt metal powder	Cancer	7440-48-4
Cobalt [II] oxide	Cancer	1307-96-6
Lead	Developmental, Female, Male	---
Mercury and mercury compounds	Developmental	---
Nickel (Metallic)	Cancer	7440-02-0
Nickel compounds	Cancer	---
Nickel oxide	Cancer	1313-99-1
Vanadium pentoxide (orthorhombic crystalline form)	Cancer	1314-62-1

Nickel and chromium are listed by Pennsylvania as “Special Hazardous Substance” under Pennsylvania Worker and Community Right-to-Know Regulations.

International Regulations:
Mexico

Chemical Name:	Carcinogen Status	Exposure Limits
Aluminum	None	Mexico: TWA= 10 mg/m³
Nickel	IARC/NTP	Mexico: TWA= 1 mg/m³
Manganese	None	Mexico: TWA= 0.2 mg/m³ Mexico: TWA= 1 mg/m³ Mexico: STEL= 3 mg/m³
Chromium	IARC/NTP (hexavalent)	Mexico: TWA= 0.5 mg/m³

Canada: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the info required.

WHMIS Hazard Class: D2A

16. OTHER INFORMATION

Issuing Date: July 10, 2013

Revision Date: July 10, 2013

Revision Note: Not applicable

Disclaimer: Information herein is given in good faith as authoritative and valid; however, no warranty, express or implied, can be made.

The condition or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this reason, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with the handling, storage, use, or disposal of the product.

END OF SAFETY DATA SHEET