










# SDS – Safety Data Sheet

## Global Harmonized System

**Manufacturer's Name:** Bridesburg Foundry Company    **Address:** 901 Front Street Whitehall PA, 18052  
**Emergency Telephone Number:** 610-266-0900

NFPA	HMIS	PPE	Transport Symbol								
	<table style="margin: auto;"> <tr><td style="background-color: blue; color: white;">HEALTH</td><td style="background-color: blue; color: white;">1</td></tr> <tr><td style="background-color: red; color: white;">FLAMMABILITY</td><td style="background-color: red; color: white;">0</td></tr> <tr><td style="background-color: yellow; color: black;">REACTIVITY</td><td style="background-color: yellow; color: black;">0</td></tr> </table>	HEALTH	1	FLAMMABILITY	0	REACTIVITY	0	<table style="margin: auto;"> <tr> <td style="text-align: center;"> <b>Safety Glasses</b>   </td> <td style="text-align: center;"> <b>Gloves</b>   </td> </tr> </table>	<b>Safety Glasses</b> 	<b>Gloves</b> 	<h3 style="margin: 0;">Not Regulated</h3>
HEALTH	1										
FLAMMABILITY	0										
REACTIVITY	0										
<b>Safety Glasses</b> 	<b>Gloves</b> 										

### Section 1: PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Alloy 443 Aluminum Ingot  
**Trade Names/Synonyms:** Not Applicable  
**Product Code(s):** Not Applicable  
**Recommended Use:** Not Applicable

**NFPA Hazard Rating:**  
 Health: 1  
 Flammability: 0  
 Reactivity: 0

### Section 2: HAZARDS IDENTIFICATION

**CAUTION!** Dust may be irritating to respiratory tract, eyes, and skin.

**Appearance:** Silver/grey dependent on scrap composition.

**Physical State:** 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.

### Section 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 – 0.25%
Copper	7440-50-8	0 – 0.6%
Iron	7439-89-6	0 – 0.6%
Lead	7439-92-1	0 – 0.03%
Magnesium	7439-95-4	0 – 0.05%
Manganese	7439-96-5	0 – 0.50%
Nickel	7440-02-0	0 – 0.10%
Silicon	7440-21-3	4.5 – 6.0%
Strontium	7440-24-6	0 – 0.01%
Tin	7440-31-5	0%
Titanium	7440-32-6	0.03 – 0.25%
Zinc	7440-66-6	0 – 0.50%

### Section 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.

### Section 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

## Section 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.

## Section 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.

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

**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 required 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.



## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical Appearance:</b>	Silver/grey dependent on scrap composition
<b>Physical State:</b>	Solid
<b>Odor:</b>	None
<b>Odor Threshold:</b>	No information available
<b>pH:</b>	No information available
<b>Melting Point/Range:</b>	1220°F (660°C)
<b>Boiling Point/Range:</b>	4550°F (2450°C)
<b>Flash point:</b>	Not applicable
<b>Evaporation Rate:</b>	No information available
<b>Flammability Limits in Air:</b>	No information available
<b>Explosion Limits:</b>	No information available
<b>Vapor Pressure:</b>	1 @ 1284°C
<b>Vapor Density:</b>	No data
<b>Specific Gravity/Density:</b>	2.5-3.12 g/cm <sup>3</sup>
<b>Solubility:</b>	Insoluble
<b>Auto Ignition Temp:</b>	No information available
<b>Decomposition Temp:</b>	No information available
<b>VOC Content:</b>	N/A

## Section 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.

## Section 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 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

## Section 12: ECOLOGICAL INFORMATION

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

## Section 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.

## Section 14: TRANSPORTATION 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

## Section 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.

**Internal Regulations:**

**Mexico**

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

**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

## **Section 16: OTHER INFORMATION**

**Issue Date**      January 2017

**Revision Date**   None

### **References:**

IARC Monographs. Overall Evaluation of Carcinogenicity

NIOSH Pocket Guide to Chemical Hazards

“Threshold Limit Values of Chemical Substances in Work Environment” – ACGIH

National Toxicity Program (NTP) Reports on Carcinogens

### **Disclaimer:**

The above information is provided for the sole purpose of complying with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). The information is given in good faith and is believed to be correct, but without guarantee. We do not assume responsibility for the results of its use.