

Aluminum Puffs

Section 1 Identification

Product name: Aluminum Puffs

Recommended use: Filler

Details of the supplier of the safety data sheet:

Freeman Manufacturing and Supply Company
 1101 Moore Road, Avon, OH 44011
 Phone (440) 934-1902
 FAX (440) 934-7200

HMIS	
H	1
F	0
R	1
PPE	
Sec. 8	

24 Hour Emergency Phone Number: (800) 424-9300

Section 2 Hazards Identification

GHS Classification by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not classified

Label Elements

None

Hazards not otherwise classified

This product is present in a massive form as an alloy. It does not present the same hazard when the individual components are in their powdered forms. The materials present in this product in their powdered forms present aquatic toxicity to the environment, pyrophoricity, flammability, self-heating capabilities, carcinogenicity, water reactivity, and acute toxicity. When processed or where dust is generated a combustible dust hazard may be present. Avoid generating dust, generating sparks, ignition sources, and take all precautions. Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath. Under normal use and handling of the solid form of this material there are few health hazards. Cutting, welding, melting, grinding etc. of these materials will produce dust, fume or particulate containing the component elements of these materials. Exposure to the dust, fume or particulate of these materials may present significant health hazards. Exposure to dust or fume may cause irritation of the eyes, skin and respiratory tract. Fine particulates dispersed in air may present an explosion hazard.

Section 3 Composition/Information on Ingredients

Component	CAS Number	Weight %
Aluminum	7429-90-5	>75
Silicon	7440-21-3	<17
Zinc	7440-66-6	<11
Iron	7439-89-6	<11
Copper	7440-50-8	<10
Magnesium	7439-95-4	<8
Nickel	7440-02-0	<3
Manganese	7439-96-5	<3
Silver	7440-22-4	<1
Chromium	7440-47-3	<0.5
Cobalt	7440-48-4	<0.25
Cadmium	7439-43-9	<0.03

Section 4 First Aid Measures

Description of first aid measures

Eye Contact: Rinse immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Skin Contact: Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. Get medical attention if symptoms occur.

Ingestion: Do not induce vomiting. Keep respiratory tract clear. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Health effects from mechanical processing (e.g., cutting, grinding): Dust and fumes from processing can cause skin abnormalities (pigmentation changes), rashes, and reduction in the number of red blood cells (anemia). Acute overexposures can cause reduced ability of the blood to carry oxygen (methemoglobin), and the accumulation of fluid in the lungs (pulmonary edema).

Additional health effects from elevated temperature processing (e.g., welding, melting): Chronic overexposures can cause respiratory sensitization, asthma, scarring of the lungs (pulmonary fibrosis), central nervous system damage, secondary Parkinson's disease, reproductive harm in males, and lung cancer.

Notes to Physician

Treat symptomatically

Section 5 Fire-Fighting Measures

Suitable extinguishing media

Use Class D extinguishing agents, dry sand

Unsuitable extinguishing media

Water, halons, ABC powder, carbon dioxide, foam

Special hazards arising from chemical

This product does not present fire or explosion hazards as shipped.

May be a potential hazard under the following conditions:

- Dust clouds may be explosive.
- Chips, fines and dust in contact with water can generate flammable/explosive hydrogen gas.
- Dust and fines in contact with water can generate flammable/explosive hydrogen gas.
- Dust and fines in contact with certain metal oxides (e.g., rust, copper oxide).
- Molten metal in contact with water/moisture or certain metal oxides (e.g., rust, copper oxide).

Hazardous combustion products

Oxides of aluminum. Oxides of tin. Oxides of nickel. Oxides of copper. Oxides of silicone and carbon. Oxides of lead. Oxides of silver.

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.

Section 6 Accidental Release Measures

Personal Precautions

Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Molten, heated and cold aluminum look alike; do not touch unless you know it is cold. Avoid contact with sharp edges or heated metal.

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Section 6 Accidental Release Measures continued

Environmental Precautions

Reuse or recycle material whenever possible.

Methods for Containment and Clean Up

Clean up spills immediately and dispose of waste safely. For particulates and dust: Avoid actions that cause dust to become airborne such as dry sweeping or using compressed air. Use HEPA vacuum or thoroughly wet with water to clean-up dust. Use PPE described in Section 8. Vacuum must be fitted with HEPA filter to prevent release of particulates during clean-up.

Section 7 Handling and Storage

Precautions for safe handling

Use personal protection recommended in Section 8. Hot aluminum does not necessarily glow red. Beryllium may concentrate in the dross formed when aluminum scrap is remelted. Therefore, the potential for exposures to beryllium when handling dross must be considered. Control of airborne dust levels would be critical in reducing or eliminating this potential.

Conditions for safe storage, including incompatible materials

Store and handle in accordance with all current regulations and standards. Store in a well-ventilated place. Store in a cool, dry place. Incompatible Materials: Strong acids, strong bases, strong oxidizers. Alkalis. Metal oxides. Water, humidity. Corrosive substances in contact with metals may produce flammable hydrogen gas.

Section 8 Exposure Controls/Personal Protection

Exposure Guidelines

Component	Type	Value	Form
Aluminum	OSHA TWA	5 mg/m ³	Respirable fraction
		15 mg/m ³	Total dust
Chromium	OSHA TWA	1 mg/m ³	
Copper	ACGIH TWA	1 mg/m ³	Dust and mist
		0.2 mg/m ³	Fume
Manganese	ACGIH TWA	0.2 mg/m ³	Inhalable fraction
		0.02 mg/m ³	Respirable fraction
Nickel	OSHA TWA	1 mg/m ³	
Silicon	OSHA TWA	5 mg/m ³	Respirable fraction
		15 mg/m ³	Total dust

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye protection: Wear appropriate protective eyeglasses or chemical safety goggles.

Skin and body protection: Wear appropriate protective gloves and clothing to prevent skin exposure. Personal protective equipment should be based upon a hazard assessment.

Respiratory Protection

Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Hygiene Measures

Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

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Section 9 Physical and Chemical Properties

Appearance	Silver-colored/gray solid
Odor	No information available
Odor Threshold	No information available
pH	No information available
Melting Point	476.7-660 °C (890.1-1220 °F)
Boiling Point	2450 °C (4442 °F)
Flash Point	No information available
Evaporation Rate	No information available
Flammability (solid, gas)	No information available
Upper / lower explosive limits	No information available
Vapor Pressure	Negligible
Vapor Density	No information available
Specific Gravity	2.5-3.13
Solubility	Insoluble in water
Partition coefficient; n-octanol/water	No information available
Autoignition Temperature	No information available
Decomposition Temperature	No information available

Section 10 Stability and Reactivity

Reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical Stability

Stable at normal temperatures and pressure.

Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

Conditions to Avoid

Avoid creating or spreading dust. Sparks, heat, open flame and other sources of ignition. Dust, chips, or ribbons can be ignited more easily, by an ignition source, by improper machining, or by spontaneous combustion if finely divided and damp.

Incompatible Materials

When molten: water. Strong acids, strong bases, strong oxidizers. Alkalis. Metal oxides. Moisture. Corrosive substances in contact with metals may produce flammable hydrogen gas.

Hazardous Decomposition Products

With acids, aluminum metals, or ammonium salts may react to form toxic vapors. May form solid compounds releasing heat. Metal oxides.

Section 11 Toxicological Information

Likely Routes of Exposure

Eye Contact	May cause irritation.
Inhalation	May cause respiratory tract irritation.
Skin Contact	May cause irritation on repeated contact.
Ingestion	Not expected

Information on toxicological effects

Acute oral toxicity	No data available
Acute inhalation toxicity	No data available
Acute dermal toxicity	No data available

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Section 11 Toxicological Information continued

Skin corrosion/irritation	May cause skin irritation
Serious eye damage/eye irritation	May cause eye irritation
Respiratory or skin sensitization	No data available
Germ cell mutagenicity	No data available
Carcinogenicity	
IARC	Nickel and Cobalt are classified as 2B: Possibly carcinogenic to humans
NTP	Nickel: 2-Evidence of Carcinogenicity
OSHA	Nickel: listed
Reproductive Effects	Can cause reduced fertility and fetal toxicity
Specific Target Organ Toxicity - Single exposure	No data available
Specific Target Organ Toxicity - Repeated exposure	No data available
Aspiration hazard	Not an aspiration hazard

Section 12 Ecological Information

Ecotoxicity	No data available
Persistence and Degradability	Not biodegradable
Bioaccumulation/ Accumulation	Not bioaccumulating
Mobility	Not considered mobile

Section 13 Disposal Considerations

Reuse or recycle material whenever possible. If reuse or recycling is not possible, disposal must be made according to local, regional, national, and international regulations.

Section 14 Transport Information


DOT	Not regulated
TDG	Not regulated
IATA	Not regulated
IMDG/IMO	Not regulated

Section 15 Regulatory Information

U.S. Federal Regulations

SARA 302 Extremely hazardous substance: Not listed
SARA 311/312 Hazardous Classes: Fire Hazard, Reactive Hazard
SARA 313 (TRI reporting): Listed

US State Regulations

California Proposition 65:  **WARNING:** This product can expose you to chemicals including nickel and cadmium, which are known to the State of California to cause cancer or birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

Inventories

TSCA (USA): On the inventory list, or in compliance with the inventory
DSL (Canada): On the inventory list, or in compliance with the inventory

Section 16 Other Information

Disclaimer

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