

Section 1 Identification

Product name: Aluminum Shot MF-40
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)
 Some conditions may create combustible dust

Hazard Symbol: None

Signal Word: Warning

Hazard Statements: May form combustible dust concentrations in air.

Precautionary Statements

Prevent dust accumulation to minimize explosion hazard.

Response

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Storage

Keep dry

Disposal

Reuse or recycle material whenever possible.

Hazards not otherwise classified

Non-combustible as supplied. Small chips, fine turnings, and dust from processing may be readily ignitable. Explosion/fire hazards may be present when chips, dust or fines are: dispersed in air, in contact with water, or in contact with certain metal oxides (e.g., rust, copper oxide).

Explosion/fire hazards may be present when molten metal is in contact with water/moisture or certain metal oxides (e.g., rust, copper oxide).

Section 3 Composition/Information on Ingredients

Component	CAS Number	Weight %
Aluminum	7429-90-5	90-100
Iron	7439-89-6	<5.0
Copper	7440-50-8	<1.5
Silicon	7440-21-3	<1.1
Magnesium	7439-95-4	<1.1
Manganese	7439-96-5	<0.7
Chromium	7440-47-3	<0.06
Nickel ¹	7440-02-0	0-0.04
Lead ²	7439-92-1	0-0.05

Section 3 Composition/Information on Ingredients continued

Additional information

- 1 - Present as impurity. While Nickel is not intentionally added to this mixture, it could potentially enter through the recycle stream.
- 2 - Present as impurity. While Lead is not intentionally added to this mixture, it could potentially enter through the recycle stream.

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

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

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.

Environmental Precautions

Reuse or recycle material whenever possible.

Methods for Containment and Clean Up

If molten: Use dry sand to contain the flow of material. All tooling (e.g., shovels or hand tools) and containers which come in contact with molten metal must be preheated or specially coated, rust free and approved for such use. Allow the spill to cool before remelting as scrap.

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

Store and handle in accordance with all current regulations and standards. Store in a well-ventilated place. Store in a cool, dry place.

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

General

Sampling to establish lead level exposure is advised where exposure to airborne particulate or fumes is possible. Consult OSHA Lead Standard 29 CFR 1910.1025 for specific health/industrial hygiene precautions and requirements to follow when handling lead compounds.

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 as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Section 8 Exposure Controls/Personal Protection continued

Skin and body protection: Wear appropriate protective gloves and clothing to prevent skin exposure. Molten metal: Wear fire/flame resistant/retardant clothing.
 The need for personal protective equipment should be based upon a hazard assessment and recommendations from health / safety professionals.

Respiratory Protection

Dust and fumes from processing: Use NIOSH-approved respiratory protection as specified by an Industrial Hygienist or other qualified professional if concentrations exceed the limits listed in Section 8. Suggested respiratory protection: N95, N100 for lead.

Hygiene Measures

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

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	1190 - 1215 °F (643.33 - 657.22 °C)
Boiling Point/Range	No information available
Flash Point	No information available
Evaporation Rate	No information available
Flammability (solid, gas)	Not a flammable solid based on testing in accordance with UN test methods
Upper / lower explosive limits	No information available
Vapor Pressure	Negligible
Vapor Density	No information available
Density	2.7 g/cm ³
Solubility	Insoluble
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 generation of dust. Chips, fines, dust and molten metal are reactive with heat and water. Molten metal can react violently with water or moisture, particularly when the water is entrapped. Grinding, sanding, and polishing operations may generate aluminum dust that must not be co-mingled with dust of steel, iron, iron oxide (rust) or other metal oxides. Vacuum and dust collection systems utilized for processing aluminum must be placarded as follows:
 WARNING – Aluminum Metal Only – Fire or Explosion Can Result with Other Metals.

Section 10 Stability and Reactivity continued

Incompatible Materials

Chips, fines, dust and molten metal are considerably more reactive with the following: Strong oxidizers, acids and alkalis, halogenated compounds, iron oxide (rust) and other metal oxides, iron powder, and water.

Hazardous Decomposition Products

Oxides of aluminum

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 LD50 (Rat) >10,000 mg/kg
Acute inhalation toxicity No data available
Dermal No data available
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 No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen.
NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen.
OSHA No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen.

Reproductive Effects

Can cause reduced fertility and fetal toxicity

Specific Target Organ Toxicity - Single exposure

May cause nausea and muscle cramps

Specific Target Organ Toxicity - Repeated exposure

Can cause weakness in the extremities (peripheral neuropathy), abdominal cramps, gastrointestinal tract effects, kidney damage, liver damage, central nervous system damage, damage to the blood forming organs, blood cell damage and reproductive harm.

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

Disposal methods: Reuse or recycle material whenever possible. If reuse or recycling is not possible, disposal must be made according to local or governmental regulations.

Waste codes: RCRA Status: Must be determined at the point of waste generation. If material is disposed as a waste, it must be characterized under RCRA according to 40 CFR, Part 261, or state equivalent in the U.S. TCLP testing is recommended for Chromium and Lead in a waste disposal scenario.

Waste from residues / unused products: Dispose of in accordance with local regulations.

Contaminated packaging: Dispose of in accordance with local 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 Chemicals: Listed

SARA 313 (TRI reporting): Copper

US State Regulations

California Proposition 65:  WARNING: This product can expose you to chemicals including nickel and lead, 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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