

**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       |   |
|------------|---|
| <b>H</b>   | 1 |
| <b>F</b>   | 0 |
| <b>R</b>   | 1 |
| <b>PPE</b> |   |
| 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 <sup>1</sup> | 7440-02-0  | 0-0.04   |
| Lead <sup>2</sup>   | 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 <sup>3</sup>    | Respirable fraction |
|           |           | 15 mg/m <sup>3</sup>   | Total dust          |
| Chromium  | OSHA TWA  | 1 mg/m <sup>3</sup>    |                     |
| Copper    | ACGIH TWA | 1 mg/m <sup>3</sup>    | Dust and mist       |
|           |           | 0.2 mg/m <sup>3</sup>  | Fume                |
| Manganese | ACGIH TWA | 0.2 mg/m <sup>3</sup>  | Inhalable fraction  |
|           |           | 0.02 mg/m <sup>3</sup> | Respirable fraction |
| Nickel    | OSHA TWA  | 1 mg/m <sup>3</sup>    |                     |
| Silicon   | OSHA TWA  | 5 mg/m <sup>3</sup>    | Respirable fraction |
|           |           | 15 mg/m <sup>3</sup>   | 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**

|   |   |
|---|---|
| <b>Appearance</b>                             | Silver-colored/gray solid   |
| <b>Odor</b>                                   | No information available  |
| <b>Odor Threshold</b>                         | No information available  |
| <b>pH</b>                                     | No information available  |
| <b>Melting Point</b>                          | 1190 - 1215 °F (643.33 - 657.22 °C)                                       |
| <b>Boiling Point/Range</b>                    | No information available  |
| <b>Flash Point</b>                            | No information available  |
| <b>Evaporation Rate</b>                       | No information available  |
| <b>Flammability (solid, gas)</b>              | Not a flammable solid based on testing in accordance with UN test methods |
| <b>Upper / lower explosive limits</b>         | No information available  |
| <b>Vapor Pressure</b>                         | Negligible  |
| <b>Vapor Density</b>                          | No information available  |
| <b>Density</b>                                | 2.7 g/cm <sup>3</sup>   |
| <b>Solubility</b>                             | Insoluble   |
| <b>Partition coefficient; n-octanol/water</b> | No information available  |
| <b>Autoignition Temperature</b>               | No information available  |
| <b>Decomposition Temperature</b>              | 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**

|                     |   |
|---------------------|---|
| <b>Eye Contact</b>  | May cause irritation.                     |
| <b>Inhalation</b>   | May cause respiratory tract irritation.   |
| <b>Skin Contact</b> | May cause irritation on repeated contact. |
| <b>Ingestion</b>    | Not expected                              |

**Information on toxicological effects**

|  |                           |
|--|---------------------------|
| <b>Acute oral toxicity</b>               | LD50 (Rat) >10,000 mg/kg  |
| <b>Acute inhalation toxicity</b>         | No data available         |
| <b>Dermal</b>                            | No data available         |
| <b>Skin corrosion/irritation</b>         | May cause skin irritation |
| <b>Serious eye damage/eye irritation</b> | May cause eye irritation  |
| <b>Respiratory or skin sensitization</b> | No data available         |
| <b>Germ cell mutagenicity</b>            | No data available         |

**Carcinogenicity**

|             |   |
|-------------|---|
| <b>IARC</b> | No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen. |
| <b>NTP</b>  | No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen.                |
| <b>OSHA</b> | 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**

|                                      |                       |
|--------------------------------------|-----------------------|
| <b>Ecotoxicity</b>                   | No data available     |
| <b>Persistence and Degradability</b> | Not biodegradable     |
| <b>Bioaccumulation/ Accumulation</b> | Not bioaccumulating   |
| <b>Mobility</b>                      | 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**

|                 |               |
|-----------------|---------------|
| <b>DOT</b>      | Not regulated |
| <b>TDG</b>      | Not regulated |
| <b>IATA</b>     | Not regulated |
| <b>IMDG/IMO</b> | 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](http://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**

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