Aluminum-Silicon Alloys

Safety Data Sheet

1. Product and Company Identification

Manufacturer

Lucas Milhaupt, Inc.
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Emergency Phone Number

Chemtrec: 800-424-9300

SDS Number: 496

Product Codes: 29-714, 62-718, 69-836, 69-837, 72-100 (Alumibraze X100), 97-000

Product Use(s): Alloys for brazing and other metallurgical processes

2. Hazards Identification

Note: the following GHS classifications are applicable only to powdered forms of the product. No hazard classifications are applicable to the product in other forms (e.g., wire, strip, grain).

Classification(s)

Flammable Solid: Hazard Category 1
Substances Which, in Contact with Water, Emit Flammable Gases: Hazard Category 2

Label Symbol(s): Flame

Label Signal Word(s): Danger

Label Hazard Statement(s)

Flammable solid.
In contact with water releases flammable gases.

Label Precautionary Statement(s)

Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Use explosion-proof electrical/ventilating/lighting equipment.
Do not allow contact with water.
Wear protective gloves and eye/face protection.
IN CASE OF FIRE: Use dry sand, dry clay, dry limestone, or Class D fire extinguishers. Do not use carbon dioxide, halogenated agents, or water.
Brush off loose particles from skin and immerse in cool water/wrap.
Store in a dry, well-ventilated place in a closed container.
Store away from other materials.
Dispose of contents/container in accordance with applicable regulations.
The acute toxicities of 85-98% of the product’s ingredients are unknown.

3. Composition/Information on Ingredients

Ingredient	CAS Number	%	Impurities
Aluminum	7429-90-5	85-98	None known
Silicon	7440-21-3	2-15	None known

4. First Aid Measures

Eye

Flush affected areas with water for at least fifteen minutes. Seek medical assistance if necessary.

Skin

Remove contaminated clothing. Wash affected area with large quantities of water for at least five minutes. Seek medical attention if necessary. Launder or dry-clean clothing before reuse.

Ingestion

If subject is conscious, induce vomiting. If unconscious or convulsive, seek immediate medical assistance. Do not give anything by mouth to an unconscious or convulsive person.

Inhalation

If signs and symptoms of toxicity are observed, remove subject from area, administer oxygen, and seek medical attention. Keep the subject warm and at rest. Perform artificial respiration if breathing has stopped.

Note to Physician or Poison Control Center

None of the components are acutely toxic by ingestion, nor are they absorbed through the skin. Extensive or prolonged skin contact may cause dermatitis.

5. Fire Fighting Measures

Fire and Explosion Hazards

This product in powdered form may ignite if exposed to flame or by reaction with incompatible materials (see Section #10). If present in a fire or explosion, it may emit fumes of the constituent metals or their oxides. Powders containing aluminum can also form explosive mixtures in a dust cloud in air. Avoid static discharges where powder may be present.

Extinguishing Media

Use dry sand, dry clay, dry limestone, or Class D fire extinguishers. Do not use carbon dioxide, halogenated agents, or water.

Fire Fighting Instructions

If fighting a fire in which this product is present, wear a self-contained breathing apparatus with full facepiece operated in pressure-demand or other positive pressure mode.

6. Accidental Release Measures

Methods and Materials

If a powdered form of product is spilled, clean up spillage with a brush or sponge, using non-sparking equipment. Only vacuum cleaners approved for use with combustible metal dusts should be used. If cleaning by vacuum, piping, hoses, and attachments should be electrically conductive and grounded.

Personal Precautions

Avoid contact with skin, eyes, and mucous membranes.

Environmental Precautions

Prevent spills from entering sewers or contaminating soil.

7. Handling and Storage

Handling Precautions

Avoid handling product where there is the potential for static discharge.

Work and Hygiene Practices

To prevent ingestion following use of the product, wash hands and face before eating, drinking, applying cosmetics, or using tobacco. Remove contaminated clothing or protective equipment before entering eating/drinking areas.

Storage Precautions

Store away from incompatible materials (see Section #10).

8. Exposure Controls and Personal Protection

Ingredients - Exposure Limits

Aluminum
- ACGIH TLV: 1 mg/m3 TWA (respirable fraction)
- OSHA PELs: 15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)

Silicon
- No ACGIH TLV(s)
- OSHA PEL: 15 mg/m3 TWA (total dust); 5 mg/m3 (respirable fraction)

Ingredients – Biological Limits

Aluminum
- No ACGIH BEI(s) or other biological limit(s)

Silicon
- No ACGIH BEI(s) or other biological limit(s)

Engineering Controls

Use dilution or local exhaust ventilation adequate to maintain concentrations of all components and their byproducts to within their applicable standards.

Eye/Face Protection

Wear eye protection adequate to prevent eye contact with finely-divided product and eye injury if products are used with a flame. Plastic-frame spectacles with side shields and filter lenses (shade #3/#4) are recommended.

Skin Protection

Wear appropriate protective gloves and clothing to prevent skin injury if these products are used with a flame and/or for prolonged or repeated contact with finely-divided forms of product. Avoid flammable fabrics.

Respiratory Protection

If an exposure level to a component(s) exceeds an applicable standard, use a NIOSH-approved respirator having a configuration (facepiece, filter media, assigned protection factor, etc.) effective for the concentration of the component(s) generated. For guidance on selection and use of respirators, consult American National Standard Z88.2 (ANSI, New York, NY 10036, USA).

9. Physical and Chemical Properties

Appearance: Silver-gray alloy, various forms
Odor: none
Odor threshold: not applicable
pH: not applicable
Melting Point: not determined
Freezing point: not applicable
Boiling point/boiling range: not determined
Flash Point: not applicable
Evaporation Rate: not applicable
Flammability Class: not applicable
Lower Explosive Limit: not applicable
Upper Explosive Limit: not applicable
Vapor pressure: not applicable
Vapor density: not applicable
Relative density (H2O): approx. 2.7
Solubility (H2O): insoluble
Oil-water partition coefficient: not applicable
Autoignition Point: not applicable
Decomposition temperature: not applicable
Viscosity: not applicable

10. Stability and Reactivity

Reactivity: none reasonably foreseeable
Stability: stable
Hazardous Polymerization: will not occur
Risk of Dangerous Reactions: see “Conditions to Avoid”

Conditions to Avoid

Contact with incompatible materials, static, moisture, and flames.

Incompatible Materials

Ammonium nitrate; bromates; chlorates; iodates; antimony trichloride; arsenic trichloride; halogens; peroxides; carbon disulfide; carbon tetrachloride; halogenated hydrocarbons; chromic anhydride; copper oxide; diborane; sodium; performic acid; phosgene; silver chloride; sulfates; alkali carbonates; cesium and rubidium carbides; cobaltic fluoride; iodine pentafluoride; silver fluoride; calcium; potassium.

Hazardous Decomposition Products

Heating to elevated temperatures may liberate metal/metal oxide fumes.

11. Toxicological Information

This product has not been tested for toxicology by the manufacturer.

Ingredients - Toxicological Data

Aluminum
LD50: No data available LC50: No data available
Silicon
LD50: 3,160 mg/kg (oral/rat) LC50: No data available

Primary Routes(s) of Entry

Ingestion; inhalation.

Eye Hazards

Eye contact with this product may cause irritation.

Skin Hazards

Skin contact with this product may cause irritation.

Ingestion Hazards

Ingestion of this product may cause nausea, vomiting, and gastrointestinal irritation.

Inhalation Hazards

Inhalation of toxicologically-significant quantities of the components is unlikely when the product is used in accordance with instructions and specified protective measures (see Section #8).

Symptoms Related to Overexposure

Pre-existing pulmonary diseases (e.g., bronchitis, asthma) may be aggravated by inhalation overexposure, particularly as fume.

Delayed Effects from Long Term Overexposure

Chronic overexposure by inhalation and/or ingestion may aggravate pre-existing diseases of the respiratory system.

Carcinogenicity

The product contains no chemicals classified as potential or demonstrated carcinogens by IARC, NTP, or OSHA.

Germ Cell Mutagenicity

The product contains no chemicals determined to be germ cell mutagens.

Reproductive Effects

The product contains no chemicals determined to be damaging to fertility or the unborn child.

Acute Toxicity Estimates

LD50 (oral): >3,160 mg/kg
LD50 (dermal): no data available
LC50: no data available

Interactive Effects of Components: no data available

12. Ecological Information

No ecological data is available for the product. Available ecological data for the components is as follows:

Aluminum

Acute Toxicity to Fish: NOEC >100 mg/l. for 4 d. (freshwater fish)
Acute Toxicity to Invertebrates: NOEC >100 mg/l. for 48 h. (Daphnia)
Acute Toxicity to Plants: NOEC >100 mg/l. for 3 d. (Algae)
No data available for Toxicity to Terrestrial Organisms, Persistence and Degradability, Bioaccumulation Potential, Mobility in Soil.

Silicon

No data available for Aquatic Toxicity to Fish and Invertebrates, Aquatic Toxicity to Plants and Microorganisms, Toxicity to Terrestrial Organisms, Persistence and Degradability, Bioaccumulation Potential, Mobility in Soil.

Ozone Depletion Potential: This product contains no ingredients listed in the Annexes to the Montréal Protocol on Substances that Deplete the Ozone Layer.

13. Disposal Considerations

Do not discharge waste product into sanitary or storm sewers or allow it to contaminate soil. Consult applicable Federal, State/Provincial, and local regulations.

14. Transport Information

Note: this classification is applicable only to powdered forms of product.

UN Number: 1398
Proper Shipping Name: Aluminum silicon powder, uncoated
Hazard Class(es): 4.3
Packing Group: III
DOT Shipping Label: DANGEROUS WHEN WET
Environmental Hazards: not applicable
Transport in Bulk: not applicable
Special Precautions: not applicable

Transport of non-powdered forms of product is not regulated by USDOT, TDG (Canada), IATA, or IMO.

15. Regulatory Information

United States Regulatory Information

All components of this product are listed on the EPA's TSCA inventory.

SARA Hazard Classes: Chronic Health Hazard; Fire Hazard

SARA Section 313 Notification

These products contain these components at concentrations >1% (0.1% for carcinogens subject to Section 313 of the Emergency Preparedness and Community Right-to-Know Act (EPCRA) of 1986 and of 40CFR, Part 372:

1. Aluminum (CASRN 7429-90-5)

Canadian Regulatory Information

All components of these products are listed on either the Domestic Substances List (DSL) or the Nondomestic Substances List (NDSL).

WHMIS Class(es) and Division(s): D2B (also B4 and B6 for powdered forms only)
Components on Ingredients Disclosure List:

1. Aluminum, elemental (CASRN 7429-90-5)

This product has been classified according to the hazard criteria of the CPR and this SDS contains all of the information required by the CPR.

16. Other Information

HMIS Ratings

Health – 1* (slight chronic hazard)
Flammability – 3 (serious hazard)
Physical Hazard – 1 (slight hazard)
PPE - see Note

Note: Lucas-Milhaupt, Inc. recommends use of protective eyewear and gloves (Personal Protection Index "B") as standard PPE. HMIS recommends that its ratings be used only in conjunction with a fully implemented HMIS program, and that specific PPE codes be created by the user, who is familiar with the actual conditions under which the product is used. We cannot anticipate every condition of the product's use, and it is the user's responsibility to evaluate the hazards pertinent to its specific operations, and to determine the specific PPE required.

NFPA Ratings

Health - 1 Flammability - 3 Reactivity – 1

Preparation Information

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Date of Prior SDS: 9 July 2008

Disclaimer

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Lucas-Milhaupt, Inc.