## 1. Identification

**Product Name:** Remelt Ingot and Cast Aluminum Products 3XX.X Series

**Other means of Identification:**

**SDS number:** B300

**Synonym(s):** 3XX.X series, K-Alloy (304.0, 304.1), 319.0, 319.1, 319.2, A319.0, A319.1, B319.0, B319.1, 332.0, 332.1, 332.2, 333.0, 333.1, 354.1, 354.1X, 354.2, 355, 355.0, 355.1, 355.2, A355.0, A355.2, C355.0, C355.1, C355.2, 356.0, 356.1, 356.2, A356.0, A356.1, A356.2, B356.0, B356.2, C356.2, 357.0, 357.1, A357.0, A357.2, C357.0, C357.2, 359.0, 359.2, A359.0, A359. 1360.0, 360.2, A360.0, A360.1, A360.2, 363.1, 367.0, 367.1, 368.0, 368.1, A380.0, A380.1, A380.2, B380.0, B380.1, 383.0, 383.1, 383.2, A383.0, A383.1, B390.0, B390.1

**Uses:** Various fabricated aluminum parts and products

**Responsible:** Beck Aluminum International, LLC
6150 Parkland Blvd
Mayfield Heights, OH 44124

**Emergency Information**: CHEMTREC 1.703.527.3887

## 2. Hazards Identification

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication)

**Physical Hazard:** Not classified

**Health Hazard:** Dust may be irritating to respiratory tract, eyes and skin. Suspected of causing cancer by inhalation. May damage organs through prolonged or repeated exposure by inhalation.

**Specific Hazard:** Explosion/fire hazard may be present when:

- Dust or fines are dispersed in air
- Chips or dust are in contact with water
- Molten metal in contact with water/moisture or certain metal oxides

**Signal Word:** WARNING

**PICTOGRAM:**

**Hazards Not otherwise classified:** None Known

## 3. Composition and ingredients

| Designation | C.A.S.No. | EC number | Content (%) |
|---|---|---|---|
| Aluminum (Al) | 7429-90-5 | 231-072-3 | 87 - 93 |
| Silicon (Si) | 7440-21-3 | 231-130-8 | 4.5 – 18.0 |
| Iron (Fe) | 7439-89-6 | 231-096-4 | 0.04 – 1.3 |
| Copper (Cu) | 7440-50-8 | 231-142-3 | 0.03 – 5.0 |
| Manganese (Mn) | 7439-96-6 | 231-105-1 | 0.03 – 0.8 |
| Magnesium (Mg) | 7439-95-4 | 231-104-6 | 0.17 - 0.65 |
| Chromium (Cr) | 7440-47-3 | 231-157-5 | 0.0 - 0.25 |
| Nickel (Ni) | 7440-02-0 | 231-111-4 | 0.0 – 0.50 |
| Zinc (Zn) | 7440-66-6 | 231-158-0 | 0.03 – 3.0 |
| Titanium (Ti) | 7440-32-6 | 231-142-3 | 0.03 - 0.25 |
| Lead (Pb) | 7439-92-1 | 231-100-4 | < 0.25 |
| Tin (Sn) | 7440-31-5 | 231-141-8 | 0.0 – 0.35 |
| Strontium (Sr) | 7440-24-6 | 231-133-4 | 0.008 – 0.04 |
| Beryllium (Be) | 7440-41-7 | 231-150-7 | 0.0003 – 0.007 |

## 4. First Aid Measures

**Inhalation of dust:** In case of discomfort, remove to a ventilated area. If discomfort persists, consult a physician.

**Skin contact:** In case of burns with hot metal, rinse with cold water. If burn is severe, consult a physician.

**Eyes:** Flush eyes thoroughly with water, taking care to rinse under eyelids. If irritation persists continue flushing for 15 minutes, rinsing from time to time under the eyelids. If discomfort continues, consult a doctor.

**Ingestion:** Not applicable.

## 5. Firefighting Measures

In solid form there is no fire or explosion hazard. Never put water on molten metal. This will cause explosion.

**Extinguishing Media:** Suspensions of aluminum dust in air may pose a burn or severe explosion hazard, especially in a confined atmosphere. Avoid sparks and prevent electrostatic charges from accumulating. In the case of aluminum fires, use a Class D dry-powder extinguisher. Do not use water, moist sand or halogenated extinguishing media.

**6. Accidental Release**

**Small or large molten spill:** Contain the flow using DRY sand or salt flux as a dam. Do not use shovels or other hand tools to halt the flow of molten aluminum. Allow to cool entirely before handling**.**

**Solid form (scrap):** Recycle product if possible.

**7. Handling and Storage**

**Storage**: Product should be kept dry. Cracks or cavities, if present, should be pointed downwards to avoid moisture entrapment.

**Handling precautions:** Avoid contact with sharp edges or heated metal. Hot and cold aluminum are not visually different and will not present a warning color change. Exercise caution since metal may be hot.

**8. Exposure controls/personal protection**

**Personal Protection:** Special ventilation should be used to remove finely divided metallic dust in order to eliminate explosion hazards. Dust concentration in ventilation ducts should be below the lower explosive limit of 40 g/m3. Use an approved respirator designed for the hazard where concentrations exceed exposure limits.

Molten metal: Heat resistant gloves. Wear appropriate gloves to avoid any skin injury. The need for personal protective equipment (gloves) should be based upon a hazard assessment and recommendations from health / safety professionals. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

**EXPOSURE LIMITS**

| Designation | C.A.S.No. | ACGIH TWA/TLV | OSHA PEL TWA |
|---|---|---|---|
| Aluminum | 7429-90-5 | 10 mg/m³ | 5 mg/m³ |
| Silicon | 7440-21-3 | N/A | 5 mg/m³ |
| Copper | 7440-50-8 | 1.0 mg/m³ | 1.0 mg/m³ |
| Iron (oxide fume) | 7439-89-6 | 5 mg/m³ | 10 mg/m³ |
| Chromium | 7440-47-3 | 0.5 mg/m³ | 1.0 mg/m³ |
| Manganese | 7439-96-6 | 0.2 mg/m³ | 5 mg/m³ |
| Magnesium oxide | 1309-48-4 | 10 mg/m³ | 15 mg/m³ |
| Nickel | 7440-02-0 | 1mg/m³ | 1mg/m³ |
| Zinc oxide | 1314-13-2 | 2 mg/m³ | 5 mg/m³ |
| Titanium | 7440-32-6 | N/A | N/A |
| Beryllium | 7440-41-7 | 0.05 µg/m$^3$ | .2 µg/m$^3$ |
| Lead | 7439-92-1 | .15 mg/m³ | .05 mg/m³ |
| Tin (Sn) | 7440-31-5 | N/A | 0.1 mg/m³ |

**9. Physical and Chemical properties**

| | | | |
|---|---|---|---|
| **Appearance** | | | |
| **Physical state** | Solid. | **Vapor pressure** | Not applicable |
| **Form Solid.** | Solid. | **Vapor density** | Not applicable |
| **Color** | Silver-colored. | **Relative density** | Not determined |
| **Odor** | Odorless | **Solubility(ies)** | Insoluble |
| **Odor threshold** | Not Applicable | **Partition coefficient** | Not applicable. |
| **pH** | Not Applicable | **(n-octanol/water)** | Not applicable. |
| **Melting point/freezing point** | 482 - 660 °C (899,6 - 1220 °F) | **Auto-ignition temperature** | Not applicable. |
| **Initial boiling point and boiling range** | Not determined | **Decomposition temperature** | Not applicable. |
| **Flash point** | Not applicable | **Viscosity** | Not applicable. |
| **Evaporation rate** | Not applicable | **Oxidizing properties** | Not applicable. |
| **Flammability (solid, gas)** | Not applicable | | |
| **Upper/lower flammability or explosive limits** | | | |
| **Flammability limit - lower (%)** | Not applicable | | |
| **Flammability limit - upper (%)** | Not applicable | | |
| **Explosive limit - lower (%)** | Not applicable | | |
| **Explosive limit – upper(%)** | Not applicable | | |
| **Explosive properties** | Dust clouds may be explosive under certain conditions. | | |

**10. Stability and reactivity**

**Reactivity:** Metal is stable and non-reactive under normal condition of use, storage and transport.

**Chemical Stability:** Stable under normal conditions o use, storage as shipped.

**Possibility of hazardous reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Molten aluminum may explode on contact with water particularly if water is entrapped.

**Incompatible materials:** Heat generation and release of flammable hydrogen gas may occur when fines, chips or dust are mixed with halogenated acids, halogenated solvents, bromides, iodides or ammonium nitrate.

**11. Toxicological information**

**Information on likely routes of exposure**

**Ingestion:** Not relevant, due to the form of the product.

**Inhalation:** Dust and fumes from processing:
Dust: Can cause irritation of the upper respiratory tract. Chronic overexposures: Can cause reduction in the number of red blood cells (anemia), skin abnormalities (pigmentation changes), respiratory sensitization, scarring of the lungs (pulmonary fibrosis), central nervous system damage, secondary Parkinson's disease and reproductive harm. Contains (Cobalt, Nickel). May produce an allergic reaction.

Additional health effects from elevated temperature processing (e.g., welding, melting): Dust and fumes from processing: Can cause irritation of the respiratory tract. Acute overexposures: Can cause metal fume fever (nausea, fever, chills, shortness of breath and malaise), the accumulation of fluid in the lungs (pulmonary edema) and reduced

ability of the blood to carry oxygen (methemaglobin). Chronic overexposures: Can cause respiratory sensitization, scarring of the lungs (pulmonary fibrosis), and lung cancer.

**Skin contact:** Dust and fumes from processing: Can cause irritation. Contains (Cobalt, Nickel). May produce an allergic reaction. Prolonged or repeated skin contact may cause sensitization and allergic contact dermatitis.

**Eye contact:** Dust in the eyes will cause irritation.

**Symptoms:** Health effects not likely to occur unless cutting generates dust or unless material is melted**.**

**Dust from processing:** Can cause irritation of the upper respiratory tract.

**Chronic overexposures:** Can cause reduction in the number of red blood cells (anemia), skin abnormalities (pigmentation changes), scarring of the lungs (pulmonary fibrosis), central nervous system damage, and reproductive harm. Contains (Cobalt, Nickel). May produce an allergic reaction.

**Acute overexposure**: Can cause metal fume fever, (nausea, fever, chills, shortness of breath and malaise, the accumulation of fluid in the lungs (pulmonary edema) and reduced ability of the blood to carry oxygen (methemaglobin). Chronic overexposure: Can cause respiratory sensitization, scarring of the lungs (pulmonary fibrosis), secondary Parkinson's disease and lung cancer.

**ACGIH Carcinogens**

| | |
|---|---|
| Aluminum (CAS 7429-90-5) | A4 Not classifiable as a human carcinogen. |
| Beryllium (CAS 7440-41-7) | A1 Confirmed human carcinogen |
| Cadmium (CAS 7440-43-9) | A2 Suspected human carcinogen. |
| Chromium (CAS 7440-47-3) | A4 Not classifiable as a human carcinogen. |
| Chromium (III) compounds (CAS No. Not available) | A4 Not classifiable as a human carcinogen. |
| Cobalt (CAS 7440-48-4) | A3 Confirmed animal carcinogen with unknown relevance to humans. |
| Lead (CAS 7439-92-1) | A3 Confirmed animal carcinogen with unknown relevance to humans. |
| Lead compounds, inorganic (CAS No. Not available) | A3 Confirmed animal carcinogen with unknown relevance to humans. |
| Nickel (CAS 7440-02-0) | A5 Not suspected as a human carcinogen. |
| Nickel compounds, insoluble (CAS No. Not available) | A1 Confirmed human carcinogen. |

**IARC Monographs. Overall Evaluation of Carcinogenicity**

| | |
|---|---|
| Beryllium (CAS 7440-41-7) | 1 Carcinogenic to humans |
| Cadmium (CAS 7440-43-9) | 1 Carcinogenic to humans. |
| Chromium (CAS 7440-47-3) | 3 Not classifiable as to carcinogenicity to humans. |
| Chromium (III) compounds (CAS No. Not available) | 3 Not classifiable as to carcinogenicity to humans. |
| Lead (CAS 7439-92-1) | 2B Possibly carcinogenic to humans. |
| Lead compounds, inorganic (CAS No. Not available) | 2A Probably carcinogenic to humans. |
| Nickel (CAS 7440-02-0) | 1 Carcinogenic to humans. |

**12. Ecological Information**

| Components | | Species | Test results |
|---|---|---|---|
| Lead (CAS 7439-92-1) | | | |
| **Aquatic** | | | |
| Fish | LC50 | Rainbow trout, donaldson trout (Oncorhynchus mykiss) | 1.17 mg/l, 96 hours |
| Manganese (CAS 7439-96-5) | | | |
| **Aquatic** | | | |
| Crustacea | EC50 | Water flea (Daphnia magna) | 40 mg/l, 48 hours |
| Nickel (CAS 7440-02-0) | | | |
| **Aquatic** | | | |
| Crustacea | EC50 | Water flea (Daphnia magna) | 1 mg/l, 48 hours |
| Fish | LC50 | Fathead minnow (Pimephales promelas) | 2.923 mg/l, 96 hours |
| Zinc (CAS 7440-66-6) | | | |
| **Aquatic** | | | |
| Crustacea | EC50 | Water flea (Daphnia magna) | 2.8 mg/l, 48 hours |
| Fish | LC50 | Rainbow trout, donaldson trout | 0.56 mg/l, 96 hours |

**Mobility:** Aluminum is not mobile in the environment unless contact is made with an aqueous environment with a pH below 5.5 or above 8.5.

**Biodegradability**: Not relevant for metals.

**13. Disposal considerations** Reuse or recycle material wherever possible. Material may be disposed of at an industrial landfill. Dispose of waste in accordance with local, state and federal regulations.

**14. Transport Information:** Basic shipping information suggest provide proper freight classification, SDS Number and Product Name on shipping documents.

**15. Regulatory information** May contain specifically regulated substances per U.S. OSHA 29 CFR 1910.1001-1050

**16. Other information** The information in this Safety Data Sheet was obtained from sources believed to be reliable, but it is not guaranteed. This information may be used in a manner which is beyond our knowledge and/or control. Therefore, this information is provided for advice only, with no representation of warranty, either express or implied.