**Product Form:** Aluminum Architectural Cladding with Powder Coated Woodgrain Finishes

**Product Name:** Plank System

**Synonyms:** Aluminum Panel

**Intended Use:** Designed for cladding applications to provide an effective rain screen wall system.

**Responsible Party:** AL13® Architectural Systems

 1278 Cliveden Avenue Delta

 BC. Canada V3M 6G4

**Emergency Number:** 1-800-535-5053

 **Classification:** Finished aluminum product.

 **Hazard:** Not classified as a hazardous material when handling or under normal use.

 **Label Elements:** Not applicable

 **Other Hazards:** WARNING! - sawing, grinding, and machining may cause dust and/ or fumes to be released. These fumes may be harmful if inhaled and may irritate the eyes, skin, and respiratory tract. Molten material may cause thermal burns.

 **Unknown Acute Toxicity (GHS-US):** No information at this time.

 **Substance:** Not applicable

 **Mixture:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chemical/Material** | **CAS Number** | **Concentration** | **Common name/ Synonym** |
| Aluminum | 7429-90-5 | >95.0% | Al |
| Chromium | 7440-47-3 | 0.0 – 0.35% | Cr |
| Iron | 65996-67-0 | * <0.75%
 | Fe |
| Magnesium | 7439-95-4 | 0.0 - 1.6% | Mg |
| Manganese | 7439-96-5 | - 1.6% | Mn |

 **General:**

When product is used as designed, first aid should not be needed.

 Dust can be released by sawing, grinding or machining of product and should only be undertaken with adequate ventilation and personal protection.

 **After Inhalation:**

Not likely to be inhaled as designed unless material is machined, welded or melted. Short term exposure to welding fumes may result in discomfort.

 **After Skin Contact:**

 In the event that irritation occurs, wash carefully using soap or a proprietary cleanser to remove irritant.

 **After Eye Contact:**

 May irritate eyes if welding or grinding.

 Dust particles should be removed by flushing with clean water. Seek medical attention if irritation persists.

 **After Ingestion:**

 Product is not edible.

 **Most Important Symptoms & Effects, Acute & Delayed:**

None.

 **Immediate Medical Attention & Special Treatment Needed:**

None.

 **Suitable Extinguishing Media:**

 Use Class D extinguishing agents on dust, fines or molten metal.

 Use coarse water spray on chips and turnings.

 **Un-Suitable Extinguishing Media:**

 DO NOT USED Halogenated agents on small chips, dusts or fines. Molten metal and water can be an explosive combination.

 **Specific Hazards Arising From The Product:**

This product does not present fire or explosion hazard as shipped. Small chips, turnings, dust and fines from processing may be readily ignitable.

 Explosion hazard may be present when:

 Dust or fines are dispersed in the air. Even a minor dust cloud can explode violently.

 Chips, dust or fines in contact with water can generate flammable/explosive hydrogen gas. Hydrogen gas could present an explosion hazard in confined or poorly ventilated spaces.

 Dust or fines in contact with certain metal oxides (e.g. rust) can initiate a thermite reaction.

 Molten metal is in contact with water/moisture can initiate a thermite reaction.

 In fire situations beware of low visibility due to soot and avoid smoke inhalation. Smoke contains carbon monoxide and other gases which may be harmful to health if inhaled.

 **Special Protective Equipment & Precautions for Fire-Fighters:**

 Fire fighters should use self-contained breathing apparatus.

 Fire Fighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing when appropriate.

 Saturate burning foam with water from a spray nozzle.

Molten metal and water can be an explosive combination. The risk is greatest when there is sufficient molten metal to entrap or seal off the water. Water and other forms of contamination on or contained in scrap or re-melt ingot are known to have caused explosions in melting operations.

 **Personal Precautions, Protective Equipment and Emergency Procedures**

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

 Small chips, turnings, dust and fines from processing may be readily ignitable.

 **Environmental Precautions**

Molten metal and water can be an explosive combination. The risk is greatest when there is sufficient molten metal to entrap or seal off the water. Water and other forms of contamination on or contained in scrap or re-melt ingot are known to have caused explosions in melting operations.

 **Methods and Materials for Containment and Cleaning Up**

 Collect scrap for recycling.

 If molten: Contain the flow using dry sand or salt flux as a dam. Do not use shovels or hand tools to halt the flow of molten aluminum. Allow the spill to cool before re-melting as scrap. Molten metal and water can be an explosive combination. The risk is greatest when there is sufficient molten metal to entrap or seal off the water.

 **Handling:**

 Avoid generating dust. Do not allow chips, fines or dust to contact water, particularly in enclosed areas.

 Avoid contact with sharp edges or heated metal.

 Hot and cold aluminum are not visually different.

 **Storage:**

 Deliver materials and components in manufacturer’s unopened containers or bundles, fully identified by name, brand, type and grade.

 Prevent damage during unloading, storing and installation.

Store, protect and handle materials and components to prevent twisting, bending, mechanical damage, contamination and deterioration.

 Store materials off ground and keep clean, dry, and free of dirt and other foreign matter.

 **Use:**

 Aluminum cladding must be separated from direct contact with dissimilar metals.

 **Control Parameters:**

|  |  |  |
| --- | --- | --- |
| **Substance** | **Regulatory Limits** | **Recommended Limits** |
|  | **OSHA PEL** | **Cal/OSHA PEL** | **NIOSH REL** | **ACGIH 2019 TLV** |
|  | **mg/m3** | **8-hour TWS STEL Ceiling** | **Up to 10-hour TWA STEL Ceiling** | **8-hour TWA STEL Ceiling** |
| Aluminum Metal: |  |  |  |  |
| Total dust | 15 | 10 mg/m3 | 10 mg/m3 |  |
| Respirable fraction | 5 | 5 mg/m3 | 5 mg/m3 | 1 mg/m3 |
| Chromium (as Cr VI, inorganic compounds & certain water insoluble) | 0.0025 | 0.0025 mg/m3 | 0.001 mg/m3 | 0.01 mg/m3 |
| Iron  | 10 (as iron oxide fume) | 10 mg/m3 (as iron oxide dust & fume) | 5.0 mg/m3 (as iron oxide dust & fume) | 5.0 mg/m3 (as iron oxide dust & fume) |
| Manganese | (C) 5 | 0.2 mg/m3 | 1 mg/m3(ST) 3 mg/m3 | 0.02 mg/m3 (resp.)0.1 mg/m3 (IHL) (for elemental & inorganic compounds) |

**Appropriate Engineering Controls:**  Use with adequate ventilation.

**Individual Protection** **Measures:**

 **Inhalation:**

 Dust is not normally a hazard unless mechanical cutting is used.

Where dust is generated in confined spaces it is recommended that extraction be used. As with all cutting procedures, it is recommended that eye protection and disposable dust mask be worn.

 It is recommended when non-mechanical cutting is carried out that the product is cut with a trimming knife to minimize the generation of dust.

 **Hands:**

 It is recommended that gloves be worn when handling the product.

 **Eyes:**

As with all cutting procedures, it is recommended that eye protection be worn.

 When installing product in very bright or sunny weather, it is advisable to wear UV protective sunglasses or goggles.

 **Skin:**

 Due to the product’s reflective surfaces, when installing product in very bright or sunny weather it is advisable that suitable UV block sun-cream is applied.

 **Other:**

 The reflective facing sometimes used on AL13® panels can be slippery underfoot when wet. Therefore, it is recommended that any excess material should be contained to avoid a slip hazard.

 **Appearance:** Aluminum with varying color/finish and profile

 **Odor:** Negligible

 **Odor Threshold:** Not applicable

 **pH:** Neutral

 **Melting Point:** Aluminum: 660°C [1220°F]

 **Freezing Point:** Not applicable

 **Initial** **Boiling Point:** Not applicable

 **Boiling Range:** Not applicable

 **Flash Point:** Not applicable

 **Evaporation Rate:** Not applicable

 **Flammability (solid, gas):** Not applicable

 **Upper & Lower Flammability**

 **OR Explosive Limit:** Not applicable

 **Vapor Pressure:** Not applicable

 **Vapor Density (air = 1):** Not applicable

 **Relative Density (water = 1):** Not applicable

 **Solubility in Water:** Not applicable

 **Solubility in Other Liquids:** Not applicable

 **Partition Coefficient,**

 **n-Octanol/Water (Log Kow):** Not applicable

 **Auto-ignition Temperature:** Not applicable

 **Decomposition Temperature:** Not applicable

 **Viscosity:** Not applicable

 **Reactivity:**

 Stable and un-reactive during normal use.

 **Chemical Stability:**

 Not applicable

 **Possibility of Hazardous Reactions:**

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

 Small chips, turnings, dust and fines from processing may be readily ignitable.

 **Conditions to Avoid:**

Molten metal and water can be an explosive combination. The risk is greatest when there is sufficient molten metal to entrap or seal off the water. Water and other forms of contamination on or contained in scrap or re-melt ingot are known to have caused explosions in melting operations.

 **Incompatible Materials:**

 Not applicable

 **Hazardous Decomposition Products:**

Not applicable

 **Likely Routes of Exposure:**

 \_\_\_ Inhalation \_X\_ Skin contact \_\_\_ Eye contact \_\_\_ Ingestion

 **Acute Toxicity:**

 **LC50:** No data available

 **LD50 (oral):** No data available

 **LD50 (dermal):** No data available

 **Notes:**

 **Skin Corrosion/Irritation:**

Aluminum dust, Chromium dust, Hexavalent Chromium, and Lead dust can cause irritation.

 Hexavalent Chromium can cause irritant dermatitis, allergic reactions and skin ulcers.

 **Serious Eye Damage/Irritation:**

 Aluminum dust can cause irritation

 **STOT (Specific Target Organ Toxicity), Single Exposure:**

 Acute overexposure of Lead dust of fume can cause nausea and muscle cramps.

Acute overexposure of Silica, amorphous, can cause dryness of eyes, nose, and upper respiratory tract.

 **Aspiration Hazard:**

 Aluminum dust can cause irritation

 **STOT (Specific Target Organ Toxicity), Repeated Exposure:**

Chronic overexposure of Manganese dust of fumes can cause inflammation of the lung tissue, scarring of the lungs (pulmonary fibrosis), central nervous system damage, secondary Parkinson’s disease & reproductive harm in males.

Chronic overexposure of Hexavalent Chromium can cause perforation of the nasal septum, respiratory sensitization, asthma, fluid in the lungs (pulmonary edema), lung damage, and kidney damage.

Chronic overexposure of Lead dust of fume can cause weakness in the extremities (peripheral neuropathy), abdominal cramps, and other gastrointestinal tract effects, kidney damage, liver damage, central nervous system damage, damage to blood forming organs, and blood cell damage.

 **Respiratory and/or Skin Sensitization:**

Aluminum dust, fines and fumes considered a LOW health risk by inhalation. Generally considered to be biologically inert.

 **Carcinogenicity:**

Chronic overexposure of Hexavalent Chromium can cause lung cancer, nasal cancer and cancer of the gastrointestinal tract.

 **Reproductive Toxicity:**

 **Development of Offspring:**

Chronic overexposure of Manganese dust of fumes can cause reproductive harm in males.

 Chronic overexposure to Lead dust of fume can cause reduced fertility and fetal toxicity in pregnant women.

 **Sexual Function & Fertility:**

No information at this time.

 **Effect on or via Lactation:**

No information at this time.

 **Germ Cell Mutagenicity:**

Chronic overexposure of Manganese dust of fumes can cause reproductive harm in males.

Chronic overexposure to Lead dust of fume can cause reduced fertility and fetal toxicity in pregnant women.

 **Interactive Effects:**

No information at this time.

 No information at this time.

 No information at this time.

 **Disposal Methods:**

 Collect and reclaim or dispose of at a licensed waste disposal site.

 Dispose of in accordance with all applicable regulations.

 **Contaminated Materials:**

 Dispose of in accordance with local regulations.

 **Container Disposal:**

Empty containers should be taken to an approved waste handling site for recycling or disposal.

No information at this time.

 **Safety, Health & Environmental Regulations:**

 This product may be regulated, have exposure limits or other information identified as the following: Cobalt; Nickel, inorganic compounds, insoluble; Nickel, insoluble compounds; Chromium (III) compound; Chromium (VI) compounds (certain water insoluble forms); Chromium (VI) compounds, water soluble; Chromates; Antimony; Lead Chromate; Silica fume (amorphous); Manganese compounds, n.o.s.

 **Date of Preparation:** November 2019