

- 1.1. **Product Form:** Composite Aluminum Panels of Aluminum Skin Face Sheets Bonded to Fire-Rated Mineral Core, with High Performance Fluorocarbon Coating Finish

Product Name: AL13 Architectural Systems- Fire Resistant (FR) Panel

Synonyms: Metal Composite Material
Polymer-based and Polymer-modified Exterior and Interior Wall Cladding

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

- 1.3. **Responsible Party:** AL13 Architectural Systems™
1278 Cliveden Avenue Delta
BC. Canada V3M 6G4

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

- 2.1 **Classification:** Finished aluminum product.

Hazard: AL13 Architectural Systems Fire Resistant Panel is defined as an article under the OSHA Hazard Communications standard. The standard applies to “chemicals”, but it does not apply to any substance, which is an “article”. The term “article” is defined in the OSHA warning rule as a manufactured item:

- which is formed to a specific design during manufacturer.
- which has end use function(s) dependent in whole or in part upon its shape or design use during end use.
- Which does not release or otherwise result in exposure to hazardous chemicals under normal conditions of use.

Not classified as a hazardous material when handling or under normal use.
No hazardous polymerization when stored under normal conditions.

- 2.2 **Labeling:** Not applicable



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2.3 **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.

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

3.1 **Substance:** Not applicable

3.2 **Mixture:**

Chemical/Material	CAS Number	Weight %
Aluminum Face Sheets-		-
Aluminum	7429-90-5	30 – 60%
Manganese	7439-96-5	< 1%
Composite May Contain-		-
Aluminum Hydroxide	21645-51-2	< 80%
Magnesium Hydroxide	1309-42-8	< 80%
Silicon Powder	7440-21-3	< 10%
Calcium Carbonate	1317-65-3	< 5%
If Coated, May Contain-		
Titanium compounds	13463-67-7	< 2%
Cobalt compounds	7440-48-4	< 2%
Antimony compounds	7440-36-0	< 1%
Nickel compounds	7440-02-0	< 1%
Chromium compounds	7440-47-3	< 1%
Carbon black	1333-86-4	< 1%
Silica, amorphous	112926-00-8	< 1%
Lead compounds	7439-92-1	< 1%

4.1 **General:**

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

Dust and fumes 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.

After Skin Contact:

In the event that irritation occurs, wash carefully using soap or a proprietary cleanser and water for at least 15 minutes to remove irritant.

After Eye Contact:

May irritate eyes if welding or grinding.

15 Dust particles should be removed by flushing with clean water or saline for at least minutes. Seek medical attention if irritation persists.

4.2 Symptoms/Injuries:

Not applicable with normal usage.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed:

If exposed or concerned, get medical advice and attention.

If medical advice is needed, have product container or label at hand.

5.1 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:

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

5.2 Fire Hazard:

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

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

Explosion Hazard:

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.

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

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

Reactivity:

Molten metal and water can be an explosive combination.

5.3 Precautionary Measures:

Fire fighters should use self-contained breathing apparatus.

Firefighting Instructions:

Saturate burning foam with water from a spray nozzle.

Protection During Firefighting:

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

Hazardous Combustion Products:

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

caused of contamination on or contained in scrap or re-melt ingot are known to have explosions in melting operations.

Other Information:

None

6.1 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.

6.1.1 For Non-Emergency Personnel

Molten metal and water can be an explosive combination. 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.

6.1.2 For Emergency Personnel

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

6.2 Environmental Precautions

caused 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 explosions in melting operations.

6.3 Methods and Materials for Containment and Cleaning Up

Collect scrap for recycling.



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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.

7.1 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.

7.2 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.

7.3 Use:

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

8.1 For substances listed in Section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

Substance	Regulatory Limits		Recommended Limits	
	OSHA PEL	Cal/OSHA PEL	NIOSH REL	ACGIH 2019 TLV
	mg/m ³	8-hour TWS STEL Ceiling	Up to 10-hour TWA STEL Ceiling	8-hour TWA STEL Ceiling
Aluminum Metal (as Al):				
Total dust	15	10 mg/m ³	10 mg/m ³	
Respirable fraction	5	5 mg/m ³	5 mg/m ³	1 mg/m ³
Antimony and compounds (as Sb)	0.5	0.5 mg/m ³	0.5 mg/m ³	0.5 mg/m ³
Calcium Carbonate:		See PNOR		
Total dust	15	10 mg/m ³	10 mg/m ³	

Respirable fraction	5	5 mg/m ³	5 mg/m ³	
Carbon black	3.5	3.5 mg/m ³	3.5 mg/m ³ (without PAHs); when PAHs are present, NIOSH considers carbon black to be a potential occupational carcinogen.	3.5 mg/m ³ (IHL)
Chromium compounds	0.0025	0.0025 mg/m ³ . (as Cr VI, inorganic compounds & certain water insoluble)	0.001 mg/m ³ (as Cr VI, inorganic compounds & certain water insoluble)	0.0001 mg/m ³ (as Cr VI, inorganic compounds & certain water insoluble)
Cobalt metal, dust, and fume (as Co)	0.1	0.02 mg/m ³	0.05 mg/m ³	0.02 mg/m ³ (IHL)
Lead inorganic (as Pb)		0.05 mg/m ³	0.05 mg/m ³	0.05 mg/m ³
Manganese compounds (as Mn)	(C) 5	0.2 mg/m ³	1 mg/m ³ (ST) 3 mg/m ³	0.02 mg/m ³ (resp.) 0.1 mg/m ³ (IHL) (for elemental & inorganic compounds)
Nickel, metal & insoluble compounds (as Ni)	1	metal 0.5 mg/m ³ insoluble 0.1 mg/m ³	Ca 0.015 mg/m ³	Soluble inorganic: 0.1 mg/m ³ (IHL)
Silicon Powder:		See PNOR		
Total dust	15	10 mg/m ³	10 mg/m ³	
Respirable fraction	5	5 mg/m ³	5 mg/m ³	
Titanium dioxide- Total dust	15	See PNOR	Ca (ultrafine particles) 2.4 mg/m ³ (fine) 0.3 mg/m ³ (ultrafine)	10 mg/m ³

8.2 General:

Use with adequate explosion-proof ventilation to meet the limits listed in the exposure guidelines.

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.

9.1	Physical State:	Solid
	Appearance:	Aluminum with varying color/finish and profile
	Odor:	Negligible
	Odor Threshold:	Not applicable
	pH:	Neutral
	Evaporation Rate:	Not applicable
	Melting Point:	Aluminum: 660°C [1220°F], Plastic: 108~126°C [226~258°F]
	Freezing Point:	Not applicable
	Boiling Point:	Not applicable
	Flash Point:	Not applicable
	Auto-ignition Temperature:	Not applicable
	Decomposition Temperature:	Not applicable
	Flammability (solid, gas):	Not applicable
	Vapor Pressure:	Not applicable
	Relative Vapor	
	Density at 20° C:	Not applicable
	Relative Density:	Not applicable
	Specific Gravity:	2.72
	Solubility:	Not applicable
	Partition Coefficient-	
	N-Octanol/Water:	Not applicable
	Viscosity:	Not applicable
	Other data:	None

- 10.1 **Reactivity:**
 Stable and un-reactive during normal use.

10.2 **Chemical Stability:**

Not applicable

10.3 **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.

10.4 **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.

10.5 **Incompatible Materials:**

Not applicable

10.6 **Hazardous Decomposition Products:**

Not applicable

11.1 **Acute Toxicity:**

Acute overexposure of Antimony and Antimony Trioxide can cause fever, chills, shortness of breath and malaise (metal fume fever).

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

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

Acute and chronic overexposure of Cobalt can cause respiratory sensitization, asthma, scarring of the lungs (pulmonary fibrosis) and damage to the heart (cardiomyopathy).

muscle

Skin Corrosion/Irritation:

Aluminum dust, Titanium dioxide, Cobalt, Antimony, Antimony Trioxide, Nickel dust & fumes, Chromium dust, Hexavalent Chromium, Carbon Black, and Lead dust can cause irritation.

Cobalt skin contact can cause allergic reactions.

Eye contact of Nickel dust and fumes can cause inflammation of the eyes and eyelids (conjunctivitis).

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

pH: Neutral

Respiratory or Skin Sensitization:

Aluminum dust, Titanium dioxide, Cobalt, Antimony, Antimony Trioxide, Nickel dust & fumes, Chromium dust, Hexavalent Chromium, Carbon Black, and Lead dust can cause irritation.

contact Skin contact of Nickel dust and fumes can cause sensitization and allergic dermatitis.

Germ Cell Mutagenicity:

harm 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.

Carcinogenicity:

and Nickel compounds are associated with lung cancer, cancer of the vocal cords and nasal cancer.

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

Reproductive Toxicity:

harm 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.

Specific Target Organ Toxicity (Single Exposure):

Acute overexposure of Antimony and Antimony Trioxide can cause fever, chills, shortness of breath and malaise (metal fume fever).

cramps. 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.

Specific Target Organ Toxicity (Repeated Exposure):

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

Chronic overexposure of Titanium dioxide can cause chronic bronchitis.

muscle Acute and chronic overexposure of Cobalt can cause respiratory sensitization, asthma, scarring of the lungs (pulmonary fibrosis) and damage to the heart (cardiomyopathy).

kidney Chronic overexposure of Antimony and Antimony Trioxide can cause dermatitis, ulcers in the mouth, chemical pneumonia, lung damage, liver damage and damage.

nasal sensitization, Chronic overexposure of Nickel dust and fumes can cause perforation of the septum, inflammation of the nasal passages (sinusitis), respiratory asthma and scarring of the lungs (pulmonary fibrosis).

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

Chronic overexposure of Carbon Black can cause chronic bronchitis and lung disease.

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.

After Ingestion:

Ingestion of Antimony and Antimony Trioxide can cause abdominal cramps, diarrhea, dizziness, abnormal heart rhythm (arrhythmia) and death.

12.1 No information at this time.

13.1 Waste Disposal Recommendations:

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

Dispose of in accordance with all applicable regulations.

Additional Information:

Dispose of contaminated materials in accordance with local regulations.

Ecology- Waste Materials:

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

14.1 No information at this time.

15.1 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.

- 16.1 This document has been prepared in accordance with the SDS requirements of the
OSHA Hazard Communication Standard 29 CFR 1910.1200

Date of Preparation:

December 2019