SAFETY DATA SHEET: Powder Coated Aluminum Cubes & Trays

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Section 1: Product Information

Product Name	CUBE-PC.
Description	Powder coated aluminum planter/bench cubes.
Prepared By	Bison Innovative Products.
Chemical	Aluminum alloy and powder coats.
Products	All Bison powder coated aluminum cubes. CUBE-PC.

Section 2: Hazard Identification

Aluminum Alloy

Aluminum in its metallic or alloy form is inert and exhibits no toxic properties to man. Silver-gray solid without an odor. Non-flammable as supplied. Small chips, fine turnings and dust from post processing may ignite readily. Explosion or fire hazards may be present when chips, fine turnings, or dust in contact with water. Do not allow aluminum fines or dust to collect on the structure as it could represent a fire or a secondary explosion. Reacts violently with halogenated hydrocarbons and with oxidizers to produce heat. Aluminum fines-avoid contact with water, do not use water to clean-up spills. Use non-sparking tools for clean-up or natural bristle broom. Avoid generation of dust cloud of fine particles during clean up. Aluminum is a nuisance dust. Dust or fumes from processing can cause eye, skin, or upper respiratory tract irritation. If dusts or fumes are generated by processing:

Eyes	May produce irritation.
Skin	May produce irritation or physical abrasion of skin. Some aluminum products are supplied with an oil coating or have residual oil from the manufacturing process. Prolong or repeated skin contact with oil may result in skin irritation, dermatitis or both.
Inhalation	May produce irritation of the upper respiratory tract. Low health risk by inhalation. Aluminum dust should be treated as a nuisance dust as defined by ACGIH and OSHA. Welding and plasma arc cutting of Aluminum can generate ozone. Over exposure to ozone can result in mucous membrane and respiratory tract irritation. Over exposure can cause pulmonary edema.
Ingestion	Unknown.
General	Plasma cutting of Aluminum can generate oxides of nitrogen (NO, NO_2). Oxides of nitrogen can cause irritation to eyes, skin, and upper respiratory tract. Exposure of high level of nitrogen oxides can cause delayed pulmonary edema which may be fatal.
Carcinogenicity	Not listed by OSHA, IARC, or NTP as a carcinogen.

Powder Coating

The following statements apply to the raw powder before it is baked onto the cubes. The cubes in their shipped condition do not pose the same exposures.

Considered hazardous with OSHA Hazard Communication Standard 29 CFR 1910.1200. May form combustible dust concentrations in air.

Hazard Statements		**Precautionary Statements**	
H317	May cause an allergic skin reaction. (1)	P280	Wear protective gloves/protective clothing/eye protection/face protection for handling.
H412	Harmful to aquatic life with long lasting effects. (3)	P201	Obtain special instructions before use.
H351	Suspected of causing cancer. (2)	P202	Do not handle powder until all safety precautions have been read and understood.
H372	Causes damage to organs through prolonged or repeated exposure. (1)	P260	Do not breathe dust.
H318	Causes serious eye damage. (1)		If exposed or concerned: Get medical advice/attention.
H340	May cause genetic defects. (1B)		Dispose in accordance to Federal, State, and local laws.
	May form combustible dust concentrations in air.		
	Acute Inhalation/Oral Toxicity (4)		
	Target Organ Systemic Toxicant (2)		
	Harmful if swallowed		

	Carcinogenicity (2)

( ) Indicates Category of OSHA/HCS Classification.

Section 3: Composition/Information on Ingredients

Product Component	Chemical	Symbol	Max Content by Weight %	Long Term Exposure Limit (8hr TWA) mg/m³	Short Term Exposure Limit (10min TWA) mg/m³
Aluminum Alloy	Copper	Cu	12	1 – Total Inhalable 0.2 – Respirable Fume	2 – Total Inhalable
	Magnesium	Mg	12	(10) – Total Inhalable (4) – Respirable Fume	(10) – Respirable Fume
	Silicon	Si	26	10 – Total Inhalable 4 – Respirable Fume	-
	Iron	Fe	1.5	(5) – Respirable Fume	(10) – Respirable Fume
	Manganese	Mn	3	14 – Total Inhalable 1 – Respirable Fume	3 – Respirable Fume
	Nickel	Ni	3	0.5 – Total Inhalable	-
	Zinc	Zn	14	(5) – Respirable Fume	(10) – Respirable Fume
	Lead	Pb	1	0.15 – Total Inhalable	4 – Total Inhalable
	Tin	Sn	8	2 – Total Inhalable	-
	Titanium	Ti	1	(10) – Total Inhalable (4) – Respirable Fume	-
	Antimony	Sb	1	0.5 – Total Inhalable	-
	Beryllium	Be	0.08	0.002 – Total Inhalable	-
	Boron	B		(10) – Total Inhalable	(20) – Total Inhalable
	Bismuth	Bi	0.02	-	-
	Chromium	Cr	0.7	0.5 – Total Inhalable	-
	Cobalt	Co	0.6	0.1 – Total Inhalable	-
	Lithium	Li	0.01	0.025 – Total Inhalable	-
	Phosphorous	P	0.015	0.1 – Total Inhalable	-
	Sodium	Na	0.05	-	-
	Strontium	Sr	0.08	-	-
	Zirconium	Zr	0.5	5 – Total Inhalable	10 – Total Inhalable
	Calcium	Ca	0.2	(2) – Total Inhalable	-
	Silver	Ag	1.5	0.1 – Total Inhalable	-
	Aluminum	Al	Remainder	10 – Total Inhalable 4 – Respirable Fume	-
Black Powder Coat	1,3,5-Triglycidyl Isocyanurate	-	1-5	(See Section 8)	(See Section 8)
	Carbon Black	-	0.50-0.99	(See Section 8)	(See Section 8)
Bronze Powder Coat	MICA	-	1-5	(See Section 8)	(See Section 8)
	Titanium Dioxide	-	1-5	(See Section 8)	(See Section 8)
	Iron Oxide	-	< 1	(See Section 8)	(See Section 8)
Charcoal Powder Coat	Paraffin	-	1-5	(See Section 8)	(See Section 8)
	Titanium dioxide	-	1-5	(See Section 8)	(See Section 8)
	Aluminum Hydroxide	-	1-5	(See Section 8)	(See Section 8)
	CI Pigment Brown 24 / Chrome Antimony Titanium Buff Rutile	-	1-5	(See Section 8)	(See Section 8)
	Amorphous Silixon Dioxide	-	1-5	(See Section 8)	(See Section 8)
	Formaldehyde	-	-	(See Section 8)	(See Section 8)
Red Powder Coat	1,3,5-Triglycidyl Isocyanurate	-	4-15	(See Section 8)	(See Section 8)
	Titanium dioxide	-	0.8	(See Section 8)	(See Section 8)
Silver Powder Coat	Barium Sulfate	-	20-30	(See Section 8)	(See Section 8)
	Aluminum Powder	-	1-5	(See Section 8)	(See Section 8)

	e-Caprolactam	-	1-5	(See Section 8)	(See Section 8)
	Polytetrafluoroethylene	-	< 1	(See Section 8)	(See Section 8)
Product Component	**Chemical**	**Symbol**	**Max Content by Weight %**	**Long Term Exposure Limit (8hr TWA) mg/m³**	**Short Term Exposure Limit (10min TWA) mg/m³**
Midnight Blue Powder Coat	Titanium Dioxide	-	25 – < 50	(See Section 8)	(See Section 8)
	1,3,5-Triglycidyl Isocyanurate	-	10 – < 25	(See Section 8)	(See Section 8)
	Aluminum	-	10 – < 25	(See Section 8)	(See Section 8)
	Carbon Black	-	5 – < 10	(See Section 8)	(See Section 8)
	2,4,7,9-Tetramethyldec-5-yne-4,7-diol	-	1 – < 5	(See Section 8)	(See Section 8)
	Quartz	SiO2	< 1	(See Section 8)	(See Section 8)
Terracopper Powder Coat	Titanium Dioxide	-	25 – < 50	(See Section 8)	(See Section 8)
	1,3,5-Triglycidyl Isocyanurate	-	10 – < 25	(See Section 8)	(See Section 8)
	Aluminum	-	10 – < 25	(See Section 8)	(See Section 8)
	Carbon Black	-	5 – < 10	(See Section 8)	(See Section 8)
	2,4,7,9-Tetramethyldec-5-yne-4,7-diol	-	1 – < 5	(See Section 8)	(See Section 8)
	Quartz	SiO2	< 1	(See Section 8)	(See Section 8)
Forest Green Powder Coat	Titanium Dioxide	-	25 – < 50	(See Section 8)	(See Section 8)
	1,3,5-Triglycidyl Isocyanurate	-	10 – < 25	(See Section 8)	(See Section 8)
	Aluminum	-	10 – < 25	(See Section 8)	(See Section 8)
	Carbon Black	-	5 – < 10	(See Section 8)	(See Section 8)
	2,4,7,9-Tetramethyldec-5-yne-4,7-diol	-	1 – < 5	(See Section 8)	(See Section 8)
	Quartz	SiO2	< 1	(See Section 8)	(See Section 8)
White Powder Coat	Titanium Dioxide	-	36.64	(See Section 8)	(See Section 8)
	Triglycidyl Isocyanurate	-	4.04	(See Section 8)	(See Section 8)
	Talc	-	3.38	(See Section 8)	(See Section 8)
	Amorphous Silica	-	1.17	(See Section 8)	(See Section 8)

( ) Figures in brackets are for oxides of metals. The exposure limits are those listed in Guidance Note EH 40/98(1198) published by the UK Health Safety Executives. The current EH40 has precedence over the information above. During normal handling of aluminum alloys, the exposure limits for the elements present in this alloy will not be exceeded. Elements present in the aluminum alloy do not present any carcinogenic or other health hazard due to their low concentrations and the chemical form in which they are present.

Section 4: First Aid Measures

Eye	Flush eyes thoroughly with clean, low-pressure water or saline for 15 minutes. Treat as one would a foreign contaminant and seek medical attention. Check for and remove contact lenses. Immediately call a poison center of doctor/physician. Causes serious eye damage.
Skin	Wash affected skin thoroughly with soap and water. DO NOT USE solvents or thinners. If necessary, immerse affected skin in cool water/wrap in wet bandages. Wash clothes before reuse. May cause an allergic skin reaction or dermatitis.
Ingestion	Rinse mouth. DO NOT induce vomiting unless directed by a medical professional. Obtain emergency medical attention. Call a poison center or doctor/physician if you feel unwell. Swallowing a small quantity of this material may result in serious health hazard.
Respiratory	Upon cutting and machining generating dust, leave the exposure area and obtain fresh air and at rest in a position comfortable for breathing. Provide artificial respiration or oxygen by trained personnel. Call a poison center or doctor/physician if you feel unwell. Provide appropriate protection before allowing re-entry. Danger of serious damage to health by prolonged exposure through inhalation. May cause cancer if inhaled.
Other	Call a Poison Center immediately and follow up with a medical professional if exposed through particulates in eyes, ingested, inhaled, or skin irritated. May cause genetic defects. Causes damage to organs.

Acute/Delayed Exposure	Raw products may cause serious eye damage, irritation to the nose/throat/lungs, and may cause an allergic skin reaction.

Section 5: Fire Fighting Measures

Aluminum Alloy	
Extinguishing Media	Water Spray for aluminum chips or turnings. For fines, dust or molten aluminum, use Class D extinguishing agents. DO NOT USE: Halogenated extinguishing agents on small chips/fines. DO NOT USE: Water in fighting fires around molten aluminum. For molten aluminum fires, ring with sand. AVOID: Generating dust clouds of aluminum fines during firefighting and move material towards the fire in creating a fire break.
Explosion and Fire Hazards	Does not present fire or explosion hazards as shipped. Should product be machined into chips, turnings, or dust, particulates may ignite readily. Fine aluminum chips, fines, and dusts in contact with water can generate flammable/explosive gases.
Special Fire Fighting Procedures	Fire fighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing when appropriate.
Flammable Limits	LEL: 40 mg/L (Aluminum fines).
Powder Coating	
Extinguishing Media	Foam, alcohol foam, dry chemical, carbon dioxide, water fog or sand. DO NOT USE heavy water stream.
Explosion and Fire Hazards	This product is stable at normal handling and storage conditions. In powder form accumulating dusts may form an explosive mixture in the air.
Special Fire Fighting Procedures	Fire fighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing when appropriate. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering the environment.
Hazardous Combustion Products	Decomposition of products may result in CO, CO_2, smoke, and oxides of any heavy metals that are reported in section 3.
Other	
In the case of inhalation of decomposition products in a fire, symptoms may be delayed. Exposed person may need to be kept under medical surveillance for 48 hrs.	

Section 6: Accidental Release Measures

Wear the appropriate protective equipment needed for handling powder coated aluminum cubes.
Maintain a clean jobsite. For fines and chips, do not use water and use non-sparking tools to clean up. Minimize dust generation and wear protective equipment. Dispose waste according to local, state, and federal law. Prevent entry of raw materials to sewers and public waters. Notify authorities if raw materials enter sewers or public water. Avoid release into the environment.
Remove ignition sources, do not smoke on jobsite due to potential combustible dust particles if machined.

Section 7: Handling and Storage

Wear appropriate protective equipment when handling. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and when you are leaving the work site.
Product should be kept dry in well ventilated area. Store in accordance with local regulations. Avoid contact with sharp edges, heated metal, or other heat sources. Avoid the generation of dust clouds of fine aluminum and powder coating particles. Avoid oxidizing agents and strongly alkaline and strongly acidic materials.
Incompatible products: Strong bases and acids. Incompatible materials: Source of ignition.

Section 8: Exposure Control and Personal Protection

Respiratory Protection	Not expected to be needed, but in the case that cubes are machined, respiratory protection approved by NIOSH/MSHA for protection against airborne particulates.
Eye Protection	Not expected to be needed, but in the case that the cubes are machined, wear safety glasses with side shields, goggles, or face shield.
Skin Protection	Wear impervious gloves to avoid cutting by sharp edge pieces.
Ventilation	Not expected to be needed but in the case that cubes are machined, make sure that particulates are allowed to ventilate.

Other	Wash hands thoroughly after handling. DO NOT eat, drink, or smoke in the work area. Maintain a clean jobsite.

Powder Coating						
Product Component	**Chemical**	**CAS #**	**ACGIH TLV *TWA* (Canada)**	**NIOSH REL**	**NIOSH REL**	**OSHA PEL (TWA)**
Black Powder Coat	1,3,5-Triglycidyl Isocyanurate	2451-62-9	0.05 mg/m³ 8 hrs.	-	-	-
	Carbon Black	1333-86-4	3 mg/m³ 8 hrs.	0.1 mg of PAHs/cm³ 10 hrs.	3.5 mg/m³ 8 hrs.	3.5 mg/m³ 8 hrs.
	Crystalline Silica	14808-60-7	0.025 mg/m³ 8 hrs.	-	-	-
	Limestone	1317-65-3	-	-	-	-
Bronze Powder Coat	MICA	12001-26-2	3 mg/m³	-	-	20 mppcf <1% Crystalline Silica
	Titanium Dioxide	13463-67-7	10 mg/m³	-	-	15 mg/m³
	Iron Oxide	1309-37-1	5 mg/m³	-	-	5 mg/m³
Charcoal Powder Coat	Paraffin	8002-74-2	2 mg/m³	-	-	-
	Titanium Dioxide	13463-67-7	10 mg/m³			15 mg/m³
	Aluminum Hydroxide	21645-51-2	1 mg/m³	-	-	-
	CI Pigment Brown 24 (…)	68186-90-3	0.5 mg/m³ Sb 0.5 mg/m³ Cr	-	-	0.5 mg/m³ Sb 0.5 mg/m³ Cr
	Amorphous Silixon Dioxide	112926-00-8	1.5-10 mg/m³ (See locality)	-		20 mppcf 80 / %SiO_2 mg/m³
Powder Coating						
Product Component	**Chemical**	**CAS #**	**ACGIH TLV *TWA* (Canada)**	**NIOSH REL**	**NIOSH REL**	**OSHA PEL (TWA)**
Red Powder Coat	1,3,5-Triglycidyl Isocyanurate	2451-62-9	0.05 mg/m³ 8 hrs.	-	-	15 mg/m³ 8 hrs.
	Titanium Dioxide	13463-67-7	10 mg/m³	-	-	15 mg/m³
Silver Powder Coat	Barium Sulfate	7727-43-7	5-10 mg/m³ (See locality)	-	-	5 mg/m³
	Aluminum Powder	7429-90-5	1 mg/m³ (See locality)	-	-	5 mg/m³
	e-Caprolactam	150-60-2	5 mg/m³ (See locality)	-	-	-
	Polytetrafluoro-ethylene	9002-84-0	(See locality)	-	-	-
Midnight Blue Powder Coat	Titanium Dioxide	13463-67-7	10 mg/m³	-	-	15 mg/m³
	1,3,5-Triglycidyl Isocyanurate	2451-62-9	0.05 mg/m³ 8 hrs.	-	-	-
	Aluminum	7429-90-5	1 mg/m³ (See locality)	-	-	5 mg/m³
	Carbon Black	1333-86-4	3 mg/m³ 8 hrs.	0.1 mg of PAHs/cm³ 10 hrs.	3.5 mg/m³ 8 hrs.	3.5 mg/m³ 8 hrs.
	2,4,7,9-Tetramethyldec-5-yne-4,7-diol	126-86-3	-	-	-	-
	Quartz	14808-60-7	-	-	-	0.05 mg/m³
Terracopper Powder Coat	Titanium Dioxide	13463-67-7	10 mg/m³	-	-	15 mg/m³
	1,3,5-Triglycidyl Isocyanurate	2451-62-9	0.05 mg/m³ 8 hrs.	-	-	-
	Aluminum	7429-90-5	1 mg/m³	-	-	5 mg/m³

			(See locality)			
	Carbon Black	1333-86-4	3 mg/m³ 8 hrs.	0.1 mg of PAHs/cm³ 10 hrs.	3.5 mg/m³ 8 hrs.	3.5 mg/m³ 8 hrs.
	2,4,7,9-Tetramethyldec-5-yne-4,7-diol	126-86-3	-	-	-	-
	Quartz	14808-60-7	-	-	-	0.05 mg/m³
Forest Green Powder Coat	Titanium Dioxide	13463-67-7	10 mg/m³	-	-	15 mg/m³
	1,3,5-Triglycidyl Isocyanurate	2451-62-9	0.05 mg/m³ 8 hrs.	-	-	-
	Aluminum	7429-90-5	1 mg/m³ (See locality)	-	-	5 mg/m³
	Carbon Black	1333-86-4	3 mg/m³ 8 hrs.	0.1 mg of PAHs/cm³ 10 hrs.	3.5 mg/m³ 8 hrs.	3.5 mg/m³ 8 hrs.
	2,4,7,9-Tetramethyldec-5-yne-4,7-diol	126-86-3	-	-	-	-
	Quartz	14808-60-7	-	-	-	0.05 mg/m³
White Powder Coat	Titanium Dioxide	13463-67-7	10 mg/m³ 8 hrs.	-	-	15 mg/m³ 8 hrs.
	1,3,5-Triglycidyl Isocyanurate	2451-62-9	0.05 mg/m³ 8 hrs.	-	-	-
	Talc	14807-96-6	2 mg/m³ 8 hrs.	2 mg/m³ 10 hrs.	-	-
	Amorphous Silica	7631-86-9	-	6 mg/m³ 10 hrs.	-	-

Section 9: Physical and Chemical Properties

Aluminum Alloy			
Physical Appearance	Sheets of aluminum welded into a cube.	**Color**	Silver gray
Odor	Odorless	**Boiling Point**	>2,595° C
Solubility in Water	Insoluble	**Melting Point**	450-700° C
Density	2.5 – 2.9 g/cm³		
Powder Coating			
Black Powder Coat			
Physical Appearance	Solid	**Color**	Black
Density	1.6551 g/cm³	**Boiling Point**	55-90° C
Lower Explosion Limit	10 g/m³	**Upper Explosion Limit**	70 g/m³
Red Powder Coat			
Physical Appearance	Solid	**Color**	Red
Density	1.23 g/cm³	**Gallon Weight**	10.3 lbs/gal
Ignition Temperature	601°C		
	Midnight Blue Powder Coat		
Physical State	Solid	**Boiling Point**	>240° C at 103,500 Pa
Odor	Characteristic	**Auto-Ignition Temperature**	183° C
Flammability	Combustible but will not ignite readily	**Vapor Pressure**	0.006 hPa at 20° C
	Forest Green Powder Coat		
Physical State	Solid	**Boiling Point**	>240° C at 103,500 Pa
Odor	Characteristic	**Auto-Ignition Temperature**	183° C
Flammability	Combustible but will not ignite readily	**Vapor Pressure**	0.006 hPa at 20° C

	Terracopper Powder Coat		
Physical State	Solid	**Boiling Point**	>240° C at 103,500 Pa
Odor	Characteristic	**Auto-Ignition Temperature**	183° C
Flammability	Combustible but will not ignite readily	**Vapor Pressure**	0.006 hPa at 20° C
White Powder Coat			
Physical Appearance	Solid	**Flash Point**	93.3°C
Density	1.68 g/cm³	**Viscosity**	Kinematic 40°C
Heat of Combustion	0.108 kJ/g		

Section 10: Stability and Reactivity

Aluminum Alloy	
Stability	Stable under normal conditions of use, storage and transportation as shipped.
Reactivity	**Water** – Slowly generates flammable/explosive gas and heat, and rate is increased with smaller fines. **Heat** – Oxides at rate dependent upon temperature and particle size. **Strong Oxidizers** – Violent reaction with considerable heat generation. **Acids and Alkalis** – Reacts to generate flammable/explosive hydrogen gas. And rate is increased with smaller fines. **Halogenated compounds** – Many halogenated hydrocarbons, including halogenated fire extinguishing agents, and can react violently with fines. **Iron oxide (Rust) and other oxides** – A violent thermite reaction generating considerable heat can occur. Reaction with aluminum fines and dusts requires only very weak ignition sources.

Powder Coating	
Stability	Stable under normal conditions of use, storage and transportation as shipped.
Avoid	**High or low temperatures**.
Avoid	**Strong oxidizing agents –** Products of decomposition may form hazardous fumes such as carbon monoxide, carbon dioxide, smoke oxides of nitrogen.

Section 11: Toxicological Information

Aluminum Alloy		
Chemical	**Regulation**	**Carcinogenicity**
Aluminum Alloy	LD50	Magnesium: Oral rat 9000 mg/kg body weight Silicon: Oral rat 3160 mg/kg body weight
Powder Coating		
Chemical	**Regulation**	**Carcinogenicity**
Raw Powder	ATE (Acute Toxicity)	Oral: 2,163.4 mg/kg. Inhalation (Vapors): 47.03 mg/L
Aluminum CAS# 7429-90-5	ATE (Acute Toxicity)	Inhalation (Dust/Mist): 1.14 mg/l /4h
1,3,5-Triglycidyl Isocyanurate CAS# 2451-62-9	ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
	LC50/LD50	Rat: Inhalation > 650 mg/m³. Rat (Male): Dermal > 2,000 mg/kg. Rat: Oral 100-200 mg/kg
	Additional Info	Rabbit: Severe eye irritation (Category 1). Mild skin irritation (1). Mutagenicity in mouse, and S. typhimurium (1B). Carcinogenicity (2).
	IARC	No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC.
	NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
	OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Aluminum Hydroxide	LD50	Rat (Oral): 5,000 mg/kg.

CAS# 21645-51-2		
Amorphous Silica CAS# 112926-00-8	ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
	Additional Info	Amorphous silica is not classified as to its carcinogenicity to humans, however crystalline silica inhaled in the form of quartz or cristobalite is carcinogenic to humans. Stomach irregularities based on human evidence.
	IARC	(Group 3): Not classifiable as to its human carcinogenicity to humans.
	NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
	OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Barium Sulfate CAS# 7727-43-7	ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
	Additional Info	Prolonged inhalation of dust may cause baritosis, a benign pneumoconiosis. If ingested, the presence of soluble barium salts as impurities may cause toxic reactions due to bioaccumulation. Damage to the lungs. Stomach irregularities based on human evidence. Carcinogenicity: Rat – Lungs, thorax, or respiratory tumors.
	IARC	No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC.
	NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
	OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Powder Coating		
Chemical	**Regulation**	**Carcinogenicity**
CI Pigment Brown 24 / Chrome Antimony Titanium Buff Rutile CAS# 68186-90-3	LD50	Rat (Oral): 10,000 mg/kg
Powder Coating		
Chemical	**Regulation**	**Carcinogenicity**
Carbon Black CAS# 1333-86-4	ACGIH, IARC, NTP, or EPA	Carcinogenicity by RTECS criteria: Rat (Inhalation) – Lungs, thorax, or respiratory tumors.
	LD50	Rabbit: Dermal > 3,000 mg/kg. Rat: Oral > 8,000 mg/kg
	IARC	(Group 2B): Possibly carcinogenic to humans.
	NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
	OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Crystalline Silica CAS# 14808-60-7	ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
	Additional Info	Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and military nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis. Liver irregularities based on human evidence. May cause damage to organs through prolonged or repeated exposure.
	IARC	(Croup 1): Carcinogenic to humans (Quartz).
	NTP	Known to be a human carcinogen (Quartz).
	OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
e-Caprolactam	LD50	Rat (Oral): 1,210 mg/kg. Rabbit (dermal): 1,438 mg/kg.

CAS# 105-60-2	LC50	Rat (Inhalation): 8.16 mg/l over 4 hrs.
	Additional Info	Target Organs: Central Nervous System (CNS), Central Vascular System (CVS), Eyes, Kidney, Liver, respiratory system, skin.
Iron Oxide CAS# 1309-37-1	LD50	Rat (Oral): 10,000 mg/kg.
Limestone CAS# 1317-65-3	LD50	Rat (Oral): 6,450 mg/kg.
	Additional Info	Rabbit (Eye): Draize test 750 ug/24hr severe. Rabbit (Skin): Draize test 500 mg/ 24 hr. moderate.
Paraffin CAS# 8002-74-2	LD50	Rat (Oral): 3,750 mg/kg. Rabbit (Oral): >3600 mg/kg.
2,4,7,9-Tetramethyldec-5-yne-4,7-diol CAS# 126-86-3	ATE (Acute Toxicity)	Oral: >500 mg/kg.
Quartz (SiO2) CAS# 14808-60-7	IARC	(Group 1)
Talc CAS# 14807-96-6	IARC	(Group 3).
	Additional Info	Mild skin irritant. Carcinogenicity (Category 1).
Titanium Dioxide CAS# 13463-67-7	LD50	Rat (Oral): 10,000 mg/kg.
	LC50	Fish: 1,000,000 ug/l over 96 hours.
	IARC	(Group 2B)
	Additional Info	Target Organs: Lungs/Respiratory system.

Section 12: Ecological Information

Raw powder discharge into the environment must be avoided.

Chemical	**CAS#**	**Toxicity**
1,3,5-Triglycidyl Isocyanurate	2451-62-9	Harmful to aquatic life with long lasting effects. 0.5-1% not biodegradable. Toxicity to algae 29-30 mg/l over 72hrs. Toxic to bacteria > 100 mg/l over 3hrs. Toxic to aquatic invertebrates > 100 mg/l over 24 hrs. Toxic to fish > 77 mg/l over 96 hrs.
Amorphous Silica	112926-00-8	No data available.
Barium Sulfate	7727-43-7	No data available.
Carbon Black	1333-86-4	Toxic to algae > 10,000 mg/l over 72 hrs. Toxic to aquatic invertebrates > 5,600 mg/l over 24 hrs. Toxic to fish > 1,000 mg/l over 96 hrs.
Chemical	**CAS#**	**Toxicity**
Crystalline Silica	14808-60-7	No data available.
e-Caprolactam	105-60-2	Toxic to algae 160 mg/l over 72 hrs. Toxic to Fish 930 mg/l over 96 hrs. Toxic to aquatic invertebrates 500 mg/l over 48 hrs.
Limestone	1317-65-3	No data available.
Titanium Dioxide	13463-67-7	Fish: 1,000,000 ug/l over 96 hrs.

Section 13: Disposal Consideration

This material when discarded or disposed of is not specifically listed as a hazardous waste. Under RCRA and would normally not exhibit any characteristics of hazardous waste as specified in 40 CFR part 261.2. However, if this material is processed, mixed or contaminated with other materials, it may become regulated as hazardous waste and subject to applicable RCRA requirements 40 CFR 262-266 and 268. Dispose in accordance to Federal, State, and local laws. Avoid release into the environment.

Section 14: Transport Information

Not regulated as hazardous material or dangerous good for transportation. Check with your carrier for additional restrictions that may apply. TSCA, DSL compliant.

Section 15: Regulatory Information

US Regulation	
Aluminum Alloy	
OSHA	This material is not known to be hazardous as defined by OSHA's Process Safety Management Standard, 29 CFR 1910.119.

TSCA	All components listed.
CERCLA	Reportable Quantity: Chromium, Zinc, and Nickel.
SARA 311/312	Physical and Health Categories: Immediate (acute), delayed (chronic) if particulates/fumes are generated during processing.
HMIS Rating	Health = 2 Flammability = 1 Reactivity = 1
Powder Coating	
OSHA	Moderate skin and eye irritant.
TSCA	All components listed.
SARA 304	This material does not contain any components with a section 304 EHS RQ.
SARA 311/312	1,3,5-Triglycidyl Isocyanurate 2451-62-9
	Carbon Black 1333-86-4
SARA 313	Ci Pigment Brown 24 / Chrome Antimony Titanium Buff Rutile (1.0% Threshold Values) 68186-90-3
	Barium Titanate (1.0% Threshold Values) 12047-27-7
	Barium Sulfate (1.0% Threshold Values) 7727-43-7
	Aluminum Powder (1.0% Threshold Values) 7429-90-5
HMIS Rating	Health = 2 Flammability = 1 Reactivity = 1 Personal Protection: E
State Regulation	
California	(Proposition 65): Safe Drinking Water and Toxic Enforcement Act of 1986. Product in its shipped condition doesn't pose an exposure risk. Not expected to occur but if cubes are machined due to post processing such as drilling, cutting, welding, or other machining may prompt an exposure risk.
	⚠**WARNING: This** product can expose you to chemicals including nickel (metallic), which are known to the State of California to cause cancer, and lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to - www.P65Warnings.ca.gov.
Massachusetts	**Right to Know.**
	Barium Sulfate — 7727-43-7
	Limestone — 1317-65-3
	Carbon Black — 1333-86-4
	Amorphous Silica — 112926-00-8
	Crystalline Silica — 14808-60-7

Pennsylvania	**Right to Know.**
	Barium Sulfate — 7727-43-7
	Limestone — 1317-65-3
	1,3,5-Triglycidyl Isocyanurate — 2451-62-9
	Carbon Black — 1333-86-4
	Amorphous Silica — 112926-00-8
	Crystalline Silica — 14808-60-7
	MICA — 12001-26-2
	Iron Oxide — 1309-37-1
	Paraffin — 8002-74-2
	Aluminum Powder — 7429-90-5
	Talc — 14807-96-6
New Jersey	**Right to Know.**
	Barium Sulfate — 7727-43-7
	Limestone — 1317-65-3
	1,3,5-Triglycidyl Isocyanurate — 2451-62-9
	Carbon Black — 1333-86-4
	Amorphous Silica — 112926-00-8
	Crystalline Silica — 14808-60-7

	Barium Sulfate	7727-43-7
	Aluminum Powder	7429-90-5

Section 16: Other Information

% Volatile by Volume	0	**% Volatile by Weight**	0
% Solids by Volume	100	**% Solids by Weight**	100
VOC Content	Content tested per EPA Method 24, ASTM D2369 is less than 1% wt./wt.		
Legend	ACGIH (American Conference of Governmental Industrial Hygienists) DOT (Department of Transportation) EPA (Environmental Protection Agency) IARC (International Agency for Research on Cancer) IATA (International Maritime Dangerous Goods (IMDG) NIOSH (National Toxicology Program) OSHA (Occupational Safety and Health Administration of the US Department of Labor) PEL (Permissible Exposure Limit) RQ (Reportable Quantity) STEL (Short Term Exposure Limit) TWA (Time-weighted average)		

Disclaimer: The data in this Safety Data Sheet applies only to the specific product designated herein and does not relate to use in combination with any other material or process. The data given here is based on current knowledge and experience. The purpose of this SDS is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customer and the protection of the environment. The information and data herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. Buyer assumes all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. United Construction Products, dba Bison Innovative Products and its subsidiaries make no warranty of any kind, expressed or implied, concerning the accuracy or completeness of the information and data herein. The implied warranties of merchantability and fitness for a particular purpose are specifically excluded. United Construction Products, dba Bison Innovative Products and its subsidiaries will not be liable for claims relating to any party's use of or reliance on information and data contained herein regardless of whether it is claimed that the information and data are inaccurate, incomplete or otherwise misleading.