MATERIAL SAFETY DATA SHEET

Trex® Reveal® Railing

SECTION 1

Supplier Name:
Trex Company
160 Exeter Drive
Winchester VA 22601

Emergency Telephone Number:
1-800-289-8739 (1-800-BUY-TREX)

6005 T6 ALUMINUM ALLOY

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MATERIAL SAFETY DATA SHEET - TREX REVEAL RAILING

6005 T6 Aluminum Alloy

Chemical Name and Synonyms	Aluminum / Aluminum Alloy
Trade Name and Synonyms	Aluminum pig, rod, billet, slab, ingot
Chemical Family	Aluminum
Formula	AL

Section II – Ingredients / Alloys

Base Metal	***% Composition By Weight***	***2004 ACGIH TLV (MG/MG3)***	***OSHA 1910.1000 TWA (MG/M3)***
Aluminum, Al	80.0-99.9	10.0, as metal dust & Oxide 5.0, as welding fume	5.0 as respirable dust (PEL) 15.0 as total dust (PEL)
Alloying Element	***(Maximum composition by weight 1-20%)***	***ACGIH-TLV (MG/M3)***	***OSHA 1910.1000 TWA (MG/M3)***
Beryllium, Be	Less than 0.1% - Trace amount only	.002, as fume	.025 ceiling .005 STEL .002 PPM
Chromium, Cr	.25 max	.5 as metal .05 with water soluble compounds	1.0 as metal & insoluble salts
Copper, Cu	4.0 max	0.2 as fume 1.0 as dust/mist	0.1 as fume 1.0 as dust
Iron, FE	2.5 max	5.0 as fume/dust	10.0 as fume/dust
Magnesium, Mg	8.0 max	10.0 as oxide fume	15.0 as total particulate
Manganese, MN	2.0 max	0.2 as inorganic compound	5.0 ceiling
Nickel, Ni	Less than .001	1.5 as metal 0.1 as soluble compound	1.0 metal
Silicon, Si	13.0 max	10.0 as total dust	5.0 respirable dust (PEL) 15.0 total dust (PEL)
Sodium, Na	Less than 1.0	Hydroxide – STEL 2.0	2.0 ceiling

The elements in Section II are a representative sample only of the finished product and some of these elements may not be found in the finished product. Individual analyses may vary.

MATERIAL SAFETY DATA SHEET - TREX REVEAL RAILING

6005 T6 Aluminum Alloy

Section III – Physical Data

Boiling Point	NA	Specific Gravity (H2O=1)	2.65 – 2.80
Vapor Pressure (mm Hg.)	NA	Percent Volatile by Volume (%)	NA
Vapor Density (AIR-=1)	NA	Evaporation Rate	NA

Solubility in Water: Insoluble

Appearance and Odor: Silvery White metal - Odorless

Section IV – Fire and Explosion Hazard Data

Flash Point (Method Used)	Flammable Limits	Lel	Uel
NA	NA	NA	NA

Special Fire Fighting Procedures:

Do not use halogenated-extinguishing agents on small chips or fires.

Extinguishing Media:
Use coarse water spray on chips or turnings. Use Class D extinguishing agents or dry sand on fires.

Unusual Fire and Explosion Hazards:
Firefighters should use self-contained breathing apparatus. Prevent formation of dust clouds may be explosive. Molten aluminum may explode on contact with water. May react violently with water rust.

Section V – Health Hazard Data

Aluminum dust fires and fumes are low health risks by inhalation. For standard operations i.e., milling, cutting, grinding, etc. aluminum, should be treated as a nuisance dust and is so defined by the ACGIH.

Emergency First Aid Procedures:

Dust in eyes – flush for 15 minutes. Chips or sharp edges can cause cuts. Normal medical procedures for cuts.

Section VI – Reactivity Data

Stability	Unstable		Conditions to Avoid – NA
	Stable	**X**	

Incompatibility (Materials to Avoid):

Do not use Halogen or water on dust fires

Hazardous Decomposition Products:

See fire and explosion hazards and additional information.

Section VII – Spill or Leak Procedures

Steps to be taken in case material is released or spilled.

Pick up spilled scrap for remelting.

Waste Disposal Method:

Comply with Federal, State and local disposal or discharge.

Section VIII – Special Protection Information

Respiratory Protection (Specify Type):

Appropriate PPE is required when melting, casting, forging or otherwise processing. The nature of processing will determine what form of equipment is necessary.

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Protective Equipment:

Glasses, goggles, respirator, gloves, ear protection and protective clothing.

User is required to match employee exposure with applicable personal protective equipment as required by OSHA standards and to comply with all OSHA standards dealing with employee protection. The personal protective equipment and respirator protection set out herein is only a guideline. Actual exposures and OSHA standards must be used to select the appropriate personal protective equipment.

Section IX – Emergency Medical Procedures

1. For skin contact, remove particulars by thoroughly washing with soap and water.
2. For eye contact, flush with water for at least 15 minutes. Get medical attention if irritation persists.

Section X – Additional Information

1. Our product in its solid state has no unusual hazards. When melting, welding, cutting, grinding, blasting, polishing, etc., which may produce a vapor, mist dust, aerosol, particulate, etc., TLV's are given for you reference on page 1.
2. The elements in the aluminum must be treated as separate entities (see concentration in Section II).
3. Halogen acids and sodium hydroxide in contact with aluminum may generate explosive mixtures of hydrogen.
4. Finely divided aluminum will form explosive mixtures in air. It will also form explosive mixtures in air in the presence of bromates, iodates or ammonium nitrate.
5. Do not touch cast aluminum metal or heated aluminum product without knowing metal temperature. Aluminum experiences no color change during heating. If metal is hot and touched, burns can result.
6. The welding of aluminum alloys may generate carbon monoxide, carbon dioxide, ozone, nitrogen oxides, infrared radiation and ultra-violet radiation.
7. All remelt aluminum may have entrapped moisture. Precautionary measures should be taken. Explosions may result. All remelt material should be preheated prior to charging.

MATERIAL SAFETY DATA SHEET - TREX REVEAL RAILING

6005 T6 Aluminum Alloy

Section XI – Additional Information - Alloys

a. Beryllium (Aluminum Beryllium) – Health Hazard Information Primary Route(s) of Exposure.

Inhalation: Inhalation of metal dust, fume or powder may result from melting, cross handling, casting, welding, grinding, crushing or similar operations which generate airborne metal particulate during use of this material

Ingestion: Hand, clothing, food and drink contact with metal dust, fume or powder can cause ingestion of particulate during hand to mouth activities such as eating, drinking, smoking, nail biting, etc.

Skin: Skin contact with this material may cause, in some sensitive individuals, and allergic response if elements such as chrome and nickel are present. In the form of metal dust or powder, skin contact or abrasion may also cause irritation or dermatitis.

Eyes: Particulate metal (dust, fume or powder) may be dangerous to the eye and surrounding tissue. Airborne particulate (chips, dust or powder) is always a potential problem as well as inserting fingers into the eye socket if the hand or clothing is contaminated with metal particulate.

Toxicity: There is no information on the toxicity of this alloy. Under normal handling and use of the solid form of this material there are few health hazards. Cutting, welding, melting, grinding, etc. of this material will product dust, fume or particulate containing the component elements of this material. Exposure to the dust fume or particulate may present significant health hazards, which are referable to the elemental constituents in Section II.

Effects of Overexposure:

Acute: The metal dust and fumes of those elements in Section II can cause irritation to the skin and mucous membranes. As dust, powder or fume, exposure, which abrades the skin, can cause irritation and dermatitis. Injury to the eyes is generally a result of particulate irritation or mechanical injury to the cornea or conjunctiva by dust or particulate. Excessive inhalation of aluminum and various aluminum alloy dusts and fumes may cause respiratory irritation, cough and bronchitis.

Chronic: Respiratory disease with symptoms ranging from shortness of breath and cough to permanent disability due to loss of lung function, fibrosis or subsequent effects on the heart may be caused by excessive exposure to dust or fumes containing beryllium. Beryllium metal and certain compounds have been linked to lung cancer. Inhalation of beryllium in excess concentrations can cause a serious lung disease, berylliosis. Aluminum has been indicated to cause gastro-intestinal disorders and non-significant changes in the lung.

Carcinogenic References:

Beryllium metal and some of its compounds have been listed in the 3rd Annual Report on Carcinogens as prepared by National Toxicology Program (NT) as well as the International Agency for Research on Cancer (IARC) Monograph Series. Detailed information form these sources may be obtained from the following: IARC, Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man; Geneva, WHO, IARC 1972-1977 (multi-volume work) 29 Sheridan Street, Albany, NY 12219. Third Annual Report on Carcinogens, Summary, September, 1983 NTP 82-330 NTP Public Information Office, MD B2-03 Box 12233, Research Triangle Park, NC 27709.

Medical Conditions Aggravated by Exposure:

Persons with impaired pulmonary function, airway diseases and conditions such as asthma, emphysema, chronic bronchitis, etc., may incur further disability if excessive concentrations of dust or fume are inhaled. If prior damage or disease to the Neurologic (nervous), Circulatory, Hematologic (blood) or Renal (kidney) systems has occurred, proper screening or examinations should be conducted on individuals who may be exposed to further risk if handling and use of this material causes excessive exposure.

*Source of information - NGK Metals Corporation
Environmental, Health and Safety Services
PO Box 13367
Reading, PA 19612-3367
(215) 921-5000

b. Chromium

EFFECTS OF OVEREXPOSURE

Effects, associated with overexposure to metal dust, may include respiratory irritation, conjunctivitis, pneumoconiosis, etc.

EMERGENCY AND FIRST AID PROCEDURES:

If irritation occurs, flush eyes, wash skin, remove to fresh air, as applicable. Contact physician.

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6005 T6 Aluminum Alloy

PRIMARY ROUTE OF ENTRY:
Inhalation
CARCINOGENICITY RATING:
The International Agency for Research on Cancer has determined a "Causal" association between occupational exposures to chromium and certain chromium compounds and cancer in humans. This determination was based on evidence where exposures were essentially to hexavalent chromium compounds. The products covered in this data sheet contain chromium in the metallic state.

The American Conference of Governmental Industrial Hygienists has reviewed the available data and concluded that chromium metal is not carcinogenic to humans.

*Source of information - Shield Alloy Corporation
West Boulevard
Newfield, NJ 08344
(609) 692-4200

c. **Copper (Canned Copper)** – Prolonged exposure to copper fume and dust can result in upper respiratory tract irritation, nausea and metal fumes fever.

*Source of Information - U.S. Reduction Company
2025 175th Street
Lansing, IL 60438
(312) 895-9400

d. Iron (Pig Iron) – No toxic effects would be expected from its normal inert solid form. Prolonged, repeated exposure to fumes or dusts generated during heating may cause adverse health effects associated with the following constituents:

Iron	OSHA Std.	10 mg/m3
Carbon	OSHA Std.	.5 mg/m3
Silicon	OSHA Std.	15 mg/m3

No TLV's listed or pig iron. TLV's may be applicable to constituent elements.

Skin Contact: None
Eye Contact: None
Ingestion: None

*Source of Information - Pickands Mather & Company
100 Superior Avenue
Cleveland, OH 44114
(216) 694-5380

MATERIAL SAFETY DATA SHEET - TREX REVEAL RAILING

6005 T6 Aluminum Alloy

e. **Magnesium Primary Ingot, MI –** Health Hazard Data

Eye:	Mechanical injury only
Skin Contact:	Mechanical injury only. Molten material may burn skin.
Skin Absorption:	Skin absorption is unlikely due to physical properties.
Ingestion:	Ingestion is unlikely due to physical state. If dusts are produced, amounts ingested incidental to industrial handling are not likely to cause injury: However, ingestion of larger amounts could cause serious injury, even death, because the acute or oral toxicity of magnesium is considered moderate.
Inhalation:	Dust may cause irritation to upper respiratory tract.

Systemic and Other Effects: Based on available data, repeated exposures are not anticipated to cause any significant adverse effects.

*Source of Information - Dow Chemical USA
Midland, MI 48674
(517) 636-4400

f. Manganese (Metal)

FIRST AID PROCEDURES:

Inhalation:	Remove from dusty area to fresh air.
Skin Contact:	No hazard associated with skin contact.
Eye Contact:	Flush with water to be sure that no particles remain in the eye.

EFFECTS OF OVEREXPOSURE:

Acute: Dusts in high concentrations can cause irritation of the eyes and throat. Manganese fume fever is characterized by cold-like symptoms. No residual injury is expected from acute overexposure.

Chronic: Central nervous system disorders may develop in isolated cases. No physical disorders are expected. Chronic effects usually require 3 years of overexposure to develop. No residual injury is expected from handling lump or coarse material.

*Source of Information – Elkem Metals Company
PO Box 1344
Niagara Falls, NY 14302
(716) 286-7548

6005 T6 Aluminum Alloy

g. Silicon

Routes of Exposure	Yes	No	Acute Exposure Symptoms	Chronic Exposure Symptoms	Emergency Treatment & 1st Aid
Inhalation	X		Irritation, Coughing	Respiratory System Irritation	Move to well-ventilated area
Skin Contact		X			
Skin Absorption		X			
Eye Contact (DUST)	X		Mechanical Irritation		Flush eyes with water
Ingestion					

*Source of Information - Globe Metallurgical Inc.
PO Box 157
Beverly, OH 45715
(615) 984-2361

Section XII – SARA HAZARD NOTIFICATION
(40 C.F.R. Part 370): Immediate
Section 313 – Toxic Chemicals

This product contains the following substances which are defined as toxic chemicals under and subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and to C.F.R. part 372:

Toxic Chemical Name	Chemical Abstract Service Registry	Percent by Weight & Product
Aluminum	7429-90-5	80.0-99.9
Beryllium	7440-41-7	Less than 0.1
Chromium	7440-47-3	.25 max
Copper	7440-50-8	4.0
Lead	7439-92-1	
Manganese	7439-96-5	1.2 max
Nickel	7440-02-0	Less than .001
Zinc	7440-66-6	.20 max

MATERIAL SAFETY DATA SHEET - TREX REVEAL RAILING

6005 T6 Aluminum Alloy

ALUMINUM ALLOYS
INGREDIENTS WHICH MAY BE GREATER THAN OR EQUAL TO 1%

6005-T6
Silicon
Iron
Copper
Manganese
Magnesium
Chromium
Zinc
Aluminum

MATERIAL SAFETY DATA SHEET - TREX REVEAL RAILING

ZINC DIE CAST MSDS DATA

PRODUCT NAME: Zinc Casting Alloys DATE PREPARED: April 30, 2013

SECTION I – HAZARDOUS INGREDIENTS / IDENTITY INFORMATION*

CHEMICAL NAME	**CAS#**	**WEIGHT PERCENT RANGE**	**OSHA EXPOSURE LIMIT (TWA)**	**ACGIH TLV**
Zinc	7440666	71.5-96	10 (total) 5 (Respirable)	10 (TWA)
Aluminum	7429905	4 – 28	15 (total) 5 (Respirable)	10 (TWA)
Copper	7440508	0 – 3.5	1 (Dust)	1 (TWA)

*NOTE: When heated excessively, oxide fumes “may” be produced.
The following applies to oxide fumes:

Zinc Oxide	1314132	NA	5	5 (TWA)
Aluminum Oxide	1444281	NA	5	10 (TWA)
Copper	7440508	NA	0.1	0.2 (TWA)

MATERIAL SAFETY DATA SHEET - TREX REVEAL RAILING

ZINC DIE CAST

SECTION II – PHYSICAL AND CHEMICAL CHARACTERISTICS

Appearance and Odor: Bluish – white metal

Boiling Point:	1,665°F	Specific Gravity: 5.0-6.7
Melting Point:	Range 707-903°F	% Volatile by Volume: N/A
Vapor Pressure :	N/A	Vapor Density: N/A
Solubility in Water:	Negligible	Evaporation Rate: N/A
Solubility in Alcohol:	Negligible	

SECTION III – FIRE AND EXPLOSION HAZARD DATA

Flash point: N/A Flammable Limits: N/A Lel: N/A Uel: N/A

Extinguishing Media	Do not use water on burning metal: use dry powder extinguisher
Special Fire Fighting Procedures	Wear self-contained breathing apparatus.
Unusual Fire and Explosion Hazards	When heated excessively (Beyond melting point - >1,500°F) metal vapor burns in the air with a bright greenish-yellow flame to product zinc oxide fume.

SECTION IV – REACTIVITY DATA

Stability: Hazardous Polymerization:

Unstable: Stable: X Will Occur: Will Not Occur: X

Incompatibility (Materials to avoid):

Strong acids, halogen gases, oxidizers

Decomposition products: N/A Conditions to be avoided: N/A

Section V – HEALTH, FIRST AID AND MEDICAL TREATMENT

Routes of Entry: Routes of entry possible during subsequent operations – i.e. melting, welding, machining.

Inhalation: X Ingestion: X

Health Hazards (acute and chronic):

Inhalation of zinc oxide fume may cause “metal fume fever”.
Ingestion may irritate lining of stomach and intestines.

MATERIAL SAFETY DATA SHEET - TREX REVEAL RAILING

ZINC DIE CAST

Signs and Symptoms of Exposure:

Symptoms of "metal fume fever": fever, chill, metallic taste, chest tightness.

Symptoms of Ingestion: fever, stomach cramps, diarrhea

Emergency First Aid Procedures:

Terminate exposure and remove patient to fresh air. Refer patient to a physician. Avoid inhalation of dusts generated in any secondary operations.

Other Potential Health Risks:

Carcinogenicity: No reported chronic toxicity.

NTP: No IARC Monographs: No OSHA Regulated: No

Medical Conditions Generally Aggravated by Exposure:

Emphysema, Asthma

SECTION VI – PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken In Case Material Is Released Or Spilled:

If large quantities of dust are generated, use industrial vacuum to clean up. Molten metal should be
allowed to solidify prior to clean up.

Waste Disposal Method:

Reclaim using standard industrial practices (remelt). Dispose of dusts using approved methods consistent with applicable local, state and federal regulations.

Precautions to Be Taken In Handling and Storing:

Keep dry; if alloy becomes wet, alloy to dry before melting.

MATERIAL SAFETY DATA SHEET - TREX REVEAL RAILING

SECTION VII – CONTROL MEASURES

*Respiratory Protection (specify type)

*NIOSH /OSHA approved respirator for nuisance dust when fume levels exceed TLV.

*VENTILATION: Special: N/A
Mechanical (general): N/A
Other: N/A

Local Exhaust: Use as required to prevent fume from exceeding TLV.

*PROTECTIVE GLOVES: Recommended when significant skin contact can occur.

*EYE PROTECTION: Consistent with industrial safety practices for grinding or machining nonferrous metals or handling molten metal.

*OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Consistent with material handled (heat resistant when working with molten metal).

*WORK / HYGIENIC PRACTICES: Wash after handling alloys.

ADDITIONAL INFORMATION

EPCRA REGULATIONS

This material contains substances that are reportable under the emergency planning and community right-to-know act. Refer to 40CFR370 for guidance.

MATERIAL SAFETY DATA SHEET - TREX REVEAL RAILING

Architectural Powder Coating

SECTION I – PRODUCT AND COMPANY INFORMATION

Product Name: AAMA 2604 BLACK TEX

Product Code: 10012-91616

FMIS HAZARD RATING: Health: 2 Fire: 1 Reactivity: 1 PPI: X

SECTION II – INGREDIENT INFORMATION

Ingredient	CAS Number	Percentage
BARIUM SULFATE	7727-43-7	15-30%
CARBON BLACK	1333-86-4	0-5%
TITANIUM DIOXIDE	1346367-7	0-5%
POLYESTER RESIN	-	60-70%

SECTION III – HAZARDS IDENTIFICATION

This cured coating product is a homogeneous composite in which the other unlisted ingredients are dispersed and encapsulated in a resin binder. During the manufacturing application process the ingredients listed may vary slightly dependent on color chosen.

MATERIAL SAFETY DATA SHEET - TREX REVEAL RAILING

302/304 Stainless Steel Screws

1- PRODUCT IDENTIFICATION

Product Identifier: Steel

Product Description: Wire, rod, bar, billet, plate, tube, and other shaped products. (All grades of steel).

Use: Wire products, including super elastic, thermal activated, high force, open and closed coil springs, including molar distalizing and separators.

2- COMPOSITION/INFORMATION ON COMPONENTS

IMPORTANT! This section covers materials that may be present in the steel article purchased. Dependent on the customers' end use, such as welding or grinding the metal, fumes, gases, and particulates may be generated; see Section 3 for possible contaminant exposure levels.

Component	(CAS No.)	Wt.%	PEL (mg/m^3)	TLV (mg/m^3)	Supplemental Information
Iron	(7439-89-6)	<99.0	10	5	PEL for iron oxide/TLV for welding fume
Chromium	(7440-47-3)	<35.0	1	0.5	
Nickel	(7440-02-0)	<35.0	1	0.5	
Manganese	(7439-96-5)	<10.0	5C	0.2	
Molybdenum	(7439-98-7)	<10.0	15	10	TLV for insoluble compounds
Tungsten	(7440-33-7)	<6.5	NL	5	TLV for insoluble compounds
Cobalt	(7440-48-4)	<4.5	0.1	0.02	
Copper	(7440-50-8)	<4.5	1 0.1	1 0.05	PEL/TLV for dust/mist PEL/TLV for fumes
Vanadium	(7440-62-2)	<4.5	.01.05	0.05	PEL/TLV for respirable van. pentoxide
Silicon	(7440-21-3)	<2.5	15(T) 5 (R)	10 -	
Titanium	(7440-32-6)	<2.5	15	10	PEL and TLV for titanium dioxide
Aluminum	(7429-90-5)	<2.0	15(T) 5 (R)	10 5	 TLV as aluminum in welding fume
Columbium	(7440-03-1)	<1.1	NL	NL	
Sulfer	(7704-34-9)	<0.45	13	5.2	PEL and TLV for sulfur dioxide
Phosphorus	(7723-14-0)	<0.45	0.1	0.1	
Tin	(7740-25-7)	<0.05	2	2	PEL and TLV for inorganic tin
Tantalum	(7440-25-7)	<0.02	2	5	
Boron	(7440-42-8)	<0.01	15	10	PEL and TLV for boron oxide

MATERIAL SAFETY DATA SHEET - TREX REVEAL RAILING

302/304 Stainless Steel Screws

3- HAZARD IDENTIFICATION

Health Hazard Overview: As shipped this product has no known toxicological properties. User generated dust and /or fumes can liberate hazardous contaminants when operations such as welding, brazing, grinding, cutting, etc. are performed.

The composition of the user generated dust and/or fumes will depend on how the user alters the product both mechanically and/or chemically. Thus it is the users responsibility to assess potential generated contaminant exposures based on their processing of the product.

For informational purposes, outlined below are potential health effects of the metal components present. Liberation of these components and/or potential concentrations is dependent on how the Metal is altered by the user. Additionally, when evaluating potential contaminant exposures, the product may have applied a metallic or non –metallic coating dependent on the customer's specifications. MATERIAL SAFETY DATA SHEET - TREX REVEAL RAILINGs on the specific coating applied, if employed, are attached.

Potential Contaminant Exposures and Associated Health Effects:

Welding Fumes: Welding fumes are defined as fumes generated by manual arc or oxy-acetylene welding of iron, mild steel, or aluminum. Excessive exposures to welding fumes can cause metal fume fever, which results from exposure to freshly formed metal fume. Symptoms are flu-like, including dyspnea, coughing, muscle pains, fevers, and chills. Exposure may also cause respiratory irritation. In addition, exposure to the particular metal (nickel, chromium, etc.) liberated may pose additional toxic effects.

Iron Oxide: Chronic exposure, usually six to ten years, to iron oxide dust/fume may result in Siderosis, an accumulation of iron dust in the lungs. Siderosis is considered a benign condition and does not progress to the carcinogenic state.

Chromium: The level of toxicity of chromium is dependent on its oxidation state (i.e. solubility). Chromium metal is relatively non-toxic. When the metal is heated to high temperatures, such as welding, fumes produced may be very toxic, especially to the lungs. Under these high temperatures, hexavalent chromium may be produced, which in its insoluble form is designated as a confirmed human carcinogen (bronchogenic carcinoma). Other health effects include nasal irritation, and possible kidney and liver damage. Chromate dust may also cause skin ulcerations, dermatitis, and allergenic skin reactions.

MATERIAL SAFETY DATA SHEET - TREX REVEAL RAILING

302/304 Stainless Steel Screws

Nickel: Nickel metal is a cause of contact dermatitis in sensitized individuals. Based on a review of health data from exposed nickel refinery workers, the National Institute for Occupational Safety and Health (NIOSH) has reported that nickel metal and all inorganic nickel forms, when airborne, should be considered carcinogenic. The International Agency for Research on Cancer (IARC) has listed nickel compounds as carcinogenic to humans based on epidemiological and animal studies.

Manganese: Acute exposures can result in metal fume fever. Chronic exposures affect the central nervous system, with early symptoms including languor, sleepiness, and weakness in the legs. Emotional disturbances and spastic gait with tendency to fall during walking are observed in more advanced cases.

Molybdenum: Molybdenum compounds exhibit a low order of toxicity. Fumes from arcing molybdenum metal cause kidney and liver damage in experimental animals. Inhalation of high concentrations may be irritating to the respiratory tract.

Tungsten: Insoluble tungsten at high concentrations during tungsten carbide machining may cause hard metal disease, accompanied by pulmonary fibrosis. The disease is characterized by cough, dyspnea, and sneezing, with a high incidence of minor radiological abnormalities.

Cobalt: Potential symptoms to cobalt metal, fume, and dust include cough, dyspnea, fibrosis, and respiratory hypersensitivity. Cobalt liberation during tungsten machining is also associated with hard metal pneumoconiosis, and the development of hypersensitivity asthma in some workers. Repeated skin contact can cause sensitivity and allergic skin rashes. Animals injected with cobalt powders develop carcinogenic tumors.

Copper: Copper itself probably has little or not known toxicity, although there are conflicting reports in the literature. Fumes and dust may be irritating to the upper respiratory tract and as a sublimed oxide may be responsible for metal fume fever.

Vanadium: Vanadium itself is considered nontoxic; however, during smelting or refining, the oxides of Vanadium are toxic. Vanadium Pentoxide exposure is associated with, eye, skin, and respiratory irritation, conjunctivitis, and pulmonary damage.

Silicon: Elemental silicon is an inert material which appears to lack the property of causing fibrosis in lung tissue.

Titanium: Titanium and several of its compounds are considered to pose extremely low toxicity. Most of the available studies suggest that inhaled titanium dioxide is biologically inert.

Aluminum: Aluminum powder is an eye, skin, and respiratory irritant. Exposures to finely divided aluminum powder have been reported to cause pulmonary fibrosis with encephalopathy. Fumes associated with aluminum soldering flux have been reported to result in a delayed type of asthma. May be implemented in Parkinson's disease.

Columbium: No health information found in literature search.

Sulfur: Symptoms of inhalation include respiratory irritation, sneezing, and coughing. Sulfur is irritating to skin; repeated contact may induce allergenic response. Sulfur is an eye irritant. Chronic exposure to sulfur dioxide may cause permanent pulmonary impairment, which is caused by repeated episodes of bronchoconstriction. Sulfur dioxide is also extremely irritating to the respiratory tract and eyes.

Phosphorus: Phosphorus causes thermal and chemical burns on skin contact and will be absorbed by the skin. Phosphorus is highly toxic, associated with bone destruction and anemia. Ocular irritation and damage is associated with white phosphorus fumes.

Tin: Exposure to dust or fumes of tin is known to cause stannosis, a benign pneumoconiosis. The condition is characterized by no distinctive fibrosis, no evidence of disability, and no special complicating factors.

Tantalum: The toxicity of metallic tantalum is low, probably due to its poor solubility.

Boron: Elemental boron is not considered a poison. Boric acid and boron derivatives, when ingested or absorbed through the skin or mucous membranes for long periods, causes anorexia, vomiting, skin rash, convulsions, and anemia.

4- FIRST AID MEASURES

As shipped, the likelihood for hazardous consequences through inhalation, skin, or eye contact, or ingestion is considered to be minimal. The following measures are for exposures to dust or fumes.

Inhalation: Remove from exposure. If breathing difficulty occurs, or coughing persists, get prompt medical attention.

MATERIAL SAFETY DATA SHEET - TREX REVEAL RAILING
302/304 Stainless Steel Screws

FIRST AID MEASURES (Cont'd)

Skin/Eye Contact: Flush eyes with plenty of water for at least 15 minutes. If irritation persists, seek medical attention. Wash skin with soap and water to remove metallic particles. If a rash develops, seek medical attention.

Ingestion: Seek medical attention.

5- FIRE FIGHTING MEASURES

Flashpoint and Method: Not applicable.

Flammable Limits: Not applicable.

Auto-ignition Temperature: Not applicable.

General Hazard: In the form shipped, these specialty metals are not combustible. Note: Special care may be required for firefighting the metal, if reduced to particulates. (Dust)

Firefighting Instructions: No special equipment for product as shipped.

Firefighting Equipment: No special equipment for product as shipped.

Hazardous Combustion Products: In the form shipped, hazardous decomposition products are not expected.

6- ACCIDENTAL RELEASE MEASURES

Land/Water Spill: As shipped this product does not pose a hazard to the environment.

7- HANDLING AND STORAGE

Storage Temperature: Not applicable.
Storage Pressure: Not applicable.
General: Store material away from incompatible materials (see Section 10).

8- EXPOSURE CONTROL/PERSONAL PROTECTION

Engineering Controls: The use of local exhaust ventilation is recommended to control emissions near the source of where the metal is being altered (i.e. welding, grinding, etc.).

Personal Protection: When handling the product, leather gloves are recommended

MATERIAL SAFETY DATA SHEET - TREX REVEAL RAILING
302/304 Stainless Steel Screws

Wear appropriate personal protective equipment based on operations performed, such as safety glasses with side shields, when grinding or sawing the product.

Based on your processing of the product, if industrial hygiene monitoring reveals overexposures, refer to Section 2 for exposure limit values. Engineering controls are required to reduce exposures below mandated exposure limits (OSHA PELs). In the absence of feasible engineering controls, or in the interim of implementing engineering controls, wear a NIOSH approved respirator for the protection form particulates (high efficiency particulate absolute (HEPA) filter cartridge). Respiratory selection should be chosen in accordance with NIOSH's Respirator Decision Logic Publication No. 87-108.

9-

Vapor Pressure: Not applicable
Specific Gravity (H2O=1): 7.5-8.5
Solubility in Water: Insoluble
PH: Not applicable
Boiling Point: Not applicable
Viscosity: Not applicable
Vapor Density (Air=1): Not applicable
Evaporation Rate: Not applicable
Freezing Point: Not applicable
Odor: Odorless
Appearance: Gray in Color
Physical State: Solid

10- STABILITY AND REACTIVITY

General: As shipped, this product is stable and hazardous polymerization will not occur.

Incompatible Materials and Conditions to Avoid: Acids, bases, and oxidizers.

Hazardous Decomposition: None for product as shipped.

11- DISPOSAL CONSIDERATIONS

General: Consult an expert on the disposal of recovered material. Ensure disposal is in compliance with governmental requirements and ensure conformity to federal, state, and local regulations. Remember, scrap metal can be recycled.

MATERIAL SAFETY DATA SHEET - TREX REVEAL RAILING
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12- TRANSPORTATION INFORMATION

Dot (Department of Transportation)
Proper Shipping Name: Not applicable
Hazardous Class: Not applicable
Identification Number: Not applicable

13- REGULATORY INFORMATION

TSCA (Toxic Substances Control Act): Not applicable
CERCLA (Comprehensive Response Compensation and Liability Act): Not applicable

SARA Title III Superfund Amendments and Reauthorization Act):
311/312 Hazardous Categories: Not applicable for storage of item as shipped; however if processed, user end product may require reporting.

313 Reportable Ingredients: Chromium, nickel, manganese, cobalt, copper, vanadium, aluminum, and phosphorus.

Carcinogenicity (OSHA, Hazard Communication)
NTP National Toxicology Program: Not applicable

JARC International Agency for Research on Cancer: Not applicable

Other: Not applicable

Note: Dependent on customers' end use, components may be liberated that may be carcinogenic (refer to Section 3)

14- OTHER INFORMATION

This information relates to this specific material. It may not be valid for this material if used in combination with any other materials or in any process. It is the user's responsibility to satisfy oneself as the suitability and completeness of this information for his/her own particular use.

The information, recommendations, and suggestions contained in the material safety data Sheet was compiled from reference materials believed to be reliable. However, the fact sheet's accuracy or completeness is not guaranteed by either ODP, Inc., nor is any responsibility assumed or implied for any loss or damage resulting from inaccuracies or omissions. Since conditions are beyond our control, we expressly disclaim all warrantied, including warranties of merchantability and fitness for a particular purpose. This fact sheet is not intended as a license to operate under, or recommendations to infringe upon any patents. Appropriate warnings and safe handling procedures should be provided to handlers and users, including all applicable OSH rules and regulations.

MATERIAL SAFETY DATA SHEET - TREX REVEAL RAILING

Polyvinyl Chloride

AP1000(XX), AP2000(XX) Weatherable, Type II Rigid PVC Compound, Purge Compound

Section I – Hazardous Ingredients/ Information

Hazardous Components:	OSHA PEL	ACGIH-TLV	CAS NUMBER
Vinyl Chloride Monomer	1 ppm/8hr TWA	5 ppm	75-01-4
Titanium Dioxide	15mg/CM	10mg/CM	13463-67-7
Calcium Carbonate	15mg/CM (total dust)	15mg/CM (total dust)	1317-65-3
Calcium Stearate	(not established)	10mg/CM	1592-23-0
Organotin Compound	0.1mg/m3	0.1mg/m3	NJTSN 03365400-5002P

This product is predominately polyvinyl chloride, a substance not considered to be a hazardous chemical based on evaluations made by our company under the OSHA Hazard Communication Standard, 29 C.F.R. & 1910.1200.

Section II – Physical/Chemical Characteristics

Specific Gravity (H_2O = 1):
>1.2
Solubility in Water:
Slight

Appearance and Odor:
Fine powder of various colors. Bland odor.

Section III – Fire and Explosive Hazard Data

Flash Point (Method Used):
735°F (COC)

Extinguishing Media:
Water or ABC dry chemical

Special Fire Fighting Procedures:
Fire fighters should use self-contained breathing apparatus in the positive pressure mode.

Unusual Fire and Explosion Hazards:
This product evolves hydrogen chloride, carbon monoxide, and small amounts of various hydrocarbons when burned. Carbon monoxide and carbon dioxide are asphyxiates and hydrogen chloride is an irritant and corrosive.

MATERIAL SAFETY DATA SHEET - TREX REVEAL RAILING

Polyvinyl Chloride

Section IV – Reactivity Data

Stability:	**Conditions to Avoid:**
Stable	Prevent cross contamination of feed stocks

Hazardous Decomposition or By Products:
Hydrogen chloride, carbon monoxide, and carbon dioxide

Hazardous Polymerization:
Will not occur

Section V – Health Hazard Data

Route(s) of Exposure:	**Inhalation**	**Skin**	**Ingestion**
	Yes	Yes	No

Health Hazards (Acute and Chronic):
Inhalation may cause nausea, discomfort, and central nervous system effects. Exposure to dust may cause irritation of skin, eyes, and respiratory tract.

Carcinogenicity:	**NTP**	**IARC Monographs**	**OSHA Regulated**
	No	No	No

Signs and Symptoms of Exposure:
Nausea, discomfort, headache, dizziness, eye, skin, and respiratory tract irritation.

Emergency and First Aid Procedures:
If symptoms occur, remove affected individual form the area. Wash or flush affected areas thoroughly with flowing water for 15 minutes. Wash skin with mild soap and water. Irritation persists, seek medical attention.

Section VI – Precautions for Safe Handling and Use

Steps to be taken in Case Material is Released or Spilled:
Vacuum or sweep into closed container.

Waste Disposal Method:
Dispose of waste in a licensed landfill or by incineration in accordance with federal, state and local laws and regulations.

MATERIAL SAFETY DATA SHEET - TREX REVEAL RAILING

Polyvinyl Chloride

Section VI – Reactivity Data (Cont'd)

Precautions to be taken in Handling and Storing:

Inhalation of dust should be avoided. Exercise care when dumping bags, sweeping, mixing or performing other tasks that might create dust.

Section VII – Control Measures

Respiratory Protection:
Where large amounts of dust may occur, wear NIOSHA/MSHA approved dust/mist respirator.

Protective Gloves:
Wear protective gloves if handling hot material.

Eye Protection:
Safety glasses are recommended when handling this product.

SARA Title III
This product does not contain any toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization ACT of 1986 and C.F.R. Part 372.

Information contained herein is believed to be true and accurate, but all statements or suggestions are made without warranty, express or implied, regarding the accuracy of information, the hazards connected with the use of the material or the result to be obtained for the use thereof. Compliance with all applicable federal, state, and local laws and regulations remain the responsibility of the user.