

## SAFETY DATA SHEETS

**This SDS packet was issued with item:**

073295086

N/A

**Brown Aluminum Oxide****Material Safety Data Sheet****Section I**

Manufacturer: **Garreco, Inc.**  
**P.O. Box 1258**  
**Heber Springs, AR 72543**

Emergency Telephone Number: CHEMTREC 800-424-9300  
Telephone Number for Information: 501-362-6261  
Date Prepared: 05/12/2011

**Section II - Hazardous Ingredients/Identity Information**

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	% (optional)
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> )	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	96%
Titanium Dioxide (TiO <sub>2</sub> )	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	3%

Impurities total less than 1%  
(SiO<sub>2</sub>+FeO<sub>3</sub>+Na<sub>2</sub>O+MgO+K<sub>2</sub>O+CaO+ZrO<sub>2</sub>+MnO+Cr<sub>2</sub>O+C)

**Section III - Physical/Chemical Characteristics**

Boiling Point: NAIF	Specific Gravity (H <sub>2</sub> O=1): 3.95
Vapor Pressure (mm Hg.): NAIF	Melting Point: 2040°C
Vapor Density (AIR=1): NAIF	Evaporation Rate (Butyl Acetate =1): NAIF
Solubility in Water: Insoluble	Appearance and Odor: Granular brown, odorless

**Section IV - Fire and Explosion Hazard Data**

Flash Point: NAIF	Flammable Limits: (LEL) N/A (UEL) N/A
Extinguishing Media: NAIF	Special Fire Fighting Procedures: None
Unusual Fire and Explosion Hazards: None	

**Section V - Reactivity Data**

Stability: Stable	Conditions to Avoid: None
Incompatibility: NAIF	Hazardous Decomposition or Byproducts: NIAF
Hazardous Polymerization: Will Not Occur	Conditions to Avoid: None

**Section VI - Health Hazard Data**

Route(s) of Entry:	Inhalation? Yes	Skin? Yes	Ingestion? Yes
Health Hazards:			
Acute: May cause coughing and shortness of breath			
Chronic: May affect breathing capacity			
Carcinogenicity:	NTP? No	IARC Monographs? No	OSHA Regulated? No
Signs and Symptoms of Exposure: NAIF			
Medical Conditions Generally Aggravated by Exposure: NAIF			
Emergency and First Aid Procedures			
Inhalation: Remove to fresh air *. Ingestion: *. Skin: *. Eye: Wash with large amounts of water *. (* Obtain first aid or medical attention if needed.)			

**Section VII - Precautions for Safe Handling and Use**

Steps to Be Taken in Case Material is Released or Spilled:  
Normal cleanup procedures, respirators may be required.

Waste Disposal Method:  
Standard landfill methods consistent with federal, state, and local laws.

Precautions to Be Taken in Handling and Storing:  
Handle with adequate ventilation for nuisance dust.

Other Precautions: NAIF

**Section VIII- Control Measures**

Respiratory Protection: As needed, approved dust respirator	
Ventilation	Local Exhaust: Recommended Mechanical (General): Recommended
	Special: NAIF Other: NAIF
Protective Gloves: As Desired	Eye Protection: Goggles Recommended
Other Protective Clothing or Equipment: NAIF	Work/Hygienic Practices: NAIF

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**SECTION 1 : Identification of the substance/preparation and of the company / undertaking****(a) GHS product identifier**

Aluminum Oxide, Brown

**(e) Emergency phone number**

CHEMTREC 1-800-424-9300

**(b) Other means of identification**

NA

**(c) Recommended use of the chemical and restrictions on use**

For professional dental applications.

**(d) Supplier's details**

Garreco, LLC.  
430 Hiram Road  
Heber Springs, AR 72543  
Phone: 1-800-334-1443

**SECTION 2: Hazards identification****(a) GHS classification of the substance/mixture****Substance Name**

1. Aluminum Oxide
2. Silicon Dioxide
3. Titanium Dioxide

**(b) Label Elements****Hazard statements**

Suspected of causing cancer via inhalation.

**Precautionary statements**

Wear protective gloves/protective clothing/eye protection/face protection.

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

If exposed or concerned: Get medical attention.

Dispose of contents/container in accordance with local/regional/national/international regulations

**Hazard Symbol(s)**

Health Hazard

**Signal Word(s)**

Warning

**(c) Other hazards which do not result in classification****IF ON SKIN:** Wash thoroughly with soap and warm water.**IF INHALED:** Remove to fresh air.**IF SWALLOWED:** Never give anything by mouth to an unconscious person. Rinse mouth with water.**IF IN EYES:** Flush eyes with water.**SECTION 3: Composition/information on ingredients****(a) Chemical(s) Identity:****(b) Common Name:**

Aluminum Oxide  
Silicon Dioxide  
Titanium Dioxide

**(c) CAS No.**

1344-28-1  
7631-86-9  
13463-67-7

**Mixture:****Concentration (Percentage)**

>95%  
<5%  
<5%

**SECTION 4: First-aid measures****(a) Description of first aid measures:****IF ON SKIN (OR HAIR):** Brush off loose particles from skin. Clean with water and soap. If skin irritation is experienced, consult a doctor.**IF INHALED:** Supply fresh air; consult doctor in case of complaints.**IF SWALLOWED:** Rinse out mouth and then drink plenty of water. Do not induce vomiting; immediately call for medical help.**IF IN EYES:** Immediately remove contact lenses if possible.**(b) Most important symptoms and effects, both acute and delayed:**

Coughing, gastric or intestinal disorders, breathing difficulty, danger of impaired breathing. Suspected of causing cancer.

**(c) Indication of any immediate medical attention and special treatment needed:**

No further relevant information available.

**SECTION 5: Fire-fighting measures****(a) Suitable extinguishing media:**

Use extinguishing measures that suit the environment.

**(b) Special hazards arising from the chemical or mixture:**

None

**(c) Special protective equipment and precautions for fire-fighters:**

Wear self-contained respiratory protective device. Wear fully protective suit.

**SECTION 6: Accidental release measures****(a) Personal precautions, protective equipment and emergency procedures:**

Use respiratory protective device against the effects of fumes/dust/aerosol. For large spills wear protective clothing.  
Avoid formation of dust. Ensure adequate ventilation.

**(b) Environmental precautions:**

None

**(c) Methods and material for containment and cleaning up:**

Dispose contaminated material as waste according to item 13. Send for recovery of disposal in suitable receptacles.

**SECTION 7: Handling and storage****(a) Precautions for safe handling:**

Prevent formation of dust. Any deposit of dust which cannot be avoided must be regularly removed. Use only in well ventilated areas. Avoid breathing dust. Do not dry clean dust covered objects and floors. Wash thoroughly with plenty of water.

**(b) Conditions for safe storage, including any incompatibilities:**

Store away from oxidizing agents. Store away from foodstuffs. Store in cool, dry conditions in well sealed receptacles.  
Store receptacle in a well ventilated area. Protect from humidity and water. This product is hygroscopic.

**SECTION 8: Exposure controls/Personal protection****(a) Control parameters:**

Chemical	ACGIH		OSHA	
	TLV	TLV-STEL	PEL TWA	PEL CEILING
Aluminum Oxide	1 mg/m <sup>3</sup> as respirable	NE	15 mg/m <sup>3</sup> as respirable and total dust	NE
Titanium Dioxide	10 mg/m <sup>3</sup>		15 mg/m <sup>3</sup> total dust	

**(b) Appropriate Engineering Controls:**

General industrial hygiene practice.

**(c) Individual protection measures:**

**RESPIRATORY:** Use suitable respiratory protective device in case of insufficient ventilation. For spills, respiratory protection may be advisable.

**EYE PROTECTION:** Safety Glasses.

**PROTECTIVE GLOVES:** Wear gloves for the protection against mechanical hazards according to OSHA and NIOSH rules. Gloves are advised for repeated or prolonged contact. The glove material has to be impermeable and resistant to the substance.

**OTHER PROTECTIVE EQUIPMENT:** Not required under normal conditions of use. Protection may be required for spills.

**SECTION 9: Physical and chemical properties**

<b>(a) Appearance:</b>	Light to Dark brown Granulate
<b>(b) Odor:</b>	Odorless
<b>(c) Odor threshold:</b>	ND
<b>(d) pH:</b>	Slightly alkaline
<b>(e) Melting point / freezing point:</b>	2050°C (3722°F)
<b>(f) Initial boiling point and boiling range:</b>	Undetermined
<b>(g) Flash point</b>	NA
<b>(h) Evaporation rate (BuAc=1):</b>	NA
<b>(i) Flammability:</b>	Product is not flammable.
<b>(j) Upper/lower flammability or explosive limits:</b>	ND
<b>(k) Vapor Pressure:</b>	NA
<b>(l) Vapor density:</b>	3.95 g/cm <sup>3</sup> (32.963 lbs/gal)
<b>(m) Relative density:</b>	ND
<b>(n) Solubility:</b>	Insoluble.
<b>(o) Partition coefficient: n-octanol/water:</b>	ND
<b>(p) Auto-ignition temperature:</b>	ND
<b>(q) Decomposition temperature:</b>	ND
<b>(r) Viscosity:</b>	NA

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**SECTION 10: Stability and reactivity**

- (a) **Reactivity:** Not reactive if used and stored according to specifications.
- (b) **Chemical stability:** Stable if used and stored according to specifications.
- (c) **Possibility of hazardous reactions:** Reacts with strong acids, oxidizing agents, and strong alkali.
- (d) **Conditions to avoid:** ND.
- (f) **Hazardous decomposition products:** Toxic metal oxide smoke.

**SECTION 11: Toxicological information**

- Acute toxicity** None
- Skin corrosion/irritation** No irritant effect.
- Serious Eye Damage / Irritation** Slight irritant effect on eyes.
- Respiratory or skin sensitization** No sensitizing effects known.
- Germ cell mutagenicity** NE
- Carcinogenicity** NTP - Substance is not listed, OSHA-Ca - Substance is not listed.
- Reproductive toxicity** NE
- STOT-single exposure** None
- STOT-repeated exposure** Suspected of causing cancer via inhalation. May cause pulmonary disease.
- Aspiration Hazard** NE
- (a) **Exposure route:** Inhalation.
- (b) **Symptoms related to the physical, chemical and toxicological characteristics:**  
Cough, chest pain, difficulty breathing, gastrointestinal disturbance.
- (c) **Delayed and immediate effects and also chronic effects from short and long term exposure:**  
Cough, chest pain, difficulty breathing, gastrointestinal disturbance, cancer, and pulmonary disease.
- (d) **Numerical measures of toxicity:** NE

**SECTION 12: Ecological information**

- (a) **Ecotoxicity:** Generally not hazardous for water.
- (b) **Persistence and degradability:** Inorganic product, is not eliminable from water by means of biological cleaning processes.
- (c) **Bioaccumulative potential** Does not accumulate in organisms.
- (d) **Mobility in soil:** No further relevant information available.
- (e) **Other adverse effects:** No further relevant information available.

**SECTION 13: Disposal considerations****Product:****Recommendation**

**WASTE DISPOSAL METHOD:** Smaller quantities can be disposed of with household waste. Can be reused after reprocessing. Contact waste processors for recycling information. Disposal must be made according to official regulations for uncleaned packaging.

**SECTION 14: Transport information**

- (a) **UN Number** Not Regulated
- (b) **UN Proper shipping name** Not Regulated
- (c) **Transport hazard class(es)** Not Regulated
- (d) **Packing Group** Not Regulated
- (e) **Environmental hazards** No
- (f) **Transport in bulk** Not applicable
- (g) **Other Information** Not applicable

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**Date Prepared: 4/18/2016****SECTION 15: Regulatory information****SARA Reporting Requirements:** There may be reporting requirements for this product.**SARA Threshold Planning Quantity:** There may be specific Threshold Planning Quantities for the components of this product.**TSCA Inventory Status:** The components of this product are listed on the TSCA Inventory.**Other Federal Requirements:** Proposition 65 titanium dioxide is known to cause cancer. EPA Substance is not listed. IARC: Titanium Dioxide.**Other Canadian Regulations:** DSL: Substance is listed.**State Regulatory Information:** This product may contain components that are covered under specific state criteria.**SECTION 16: Other information****PREPARED BY:** Kathryn Harris**GAR QMS SDS REFERENCE:** A307**HAZARDOUS MATERIAL IDENTIFICATION (HMIS) RATING:**

Health	1
Flammability	0
Reactivity	0
Other	NA

**NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) HAZARD IDENTIFICATION RATING:**

Health	1
Flammability	0
Reactivity	0
Special Information	NA

**REVISION NUMBER:** 160418**CHANGES FROM PREVIOUS VERSION:** INITIAL VERSION**ABBREVIATIONS**

NA Not Applicable	LD Lethal Dose
ND Not Determined	TC Toxic Concentration
NE Not Established	TD Toxic Dose
ppm parts per million	BOD Biological Oxygen Demand
G Gallon	COD Chemical Oxygen Demand
mg Milligram	Lo Lowest
L Liter	ThOD Theoretical Oxygen Demand
gm Gram	TLm Threshold Limit
mol Mole	IC Inhibitory Concentration
kg Kilogram	DOC Dissolved Organic Carbon
μ Micro	H Hours
mm Millimeter	M Months
p Pico	D Days
Pa Pascals	Y Years
c cent	W Weeks
LC Lethal Concentration	
ACGIH American Conference of Governmental Industrial Hygienist	
CPR Controlled Product's Regulation	
DSL Canadian Domestic Substances List	
NDSL Canadian Non-domestic Substance List	
IARC International Agency for Research for Cancer	
NOEL No Observed Effect Level	
NOAEL No Observed Adverse Effect Level	
OSHA Occupational Safety and Health Administration	
PEL Permissible Exposure Limit	
TLV Threshold Limit Value	

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THIS MATERIAL SAFETY DATA SHEET IS PREPARED IN COMPLIANCE WITH FEDERAL REGULATIONS (29 CFR 1910.1200) OF CHEMICALS AND THE GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING REVISION 5. ANY APPLICABLE STATE AND LOCAL REGULATIONS SHOULD BE CONSULTED. THE ABOVE INFORMATION MAY BE BASED IN PART ON INFORMATION PROVIDED BY COMPONENT SUPPLIERS AND IS BELIEVED TO BE CORRECT AS OF THE DATE HEREOF. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY USE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OF THESE DATA, THE RESULTS TO BE OBTAINED FROM THE USE OF THE MATERIAL, OR THE HAZARDS CONNECTED WITH SUCH USE. SINCE THE INFORMATION CONTAINED HEREIN MAY BE APPLIED UNDER CONDITIONS BEYOND OUR CONTROL AND WITH WHICH WE MAY BE UNFAMILIAR, AND SINCE DATA MADE AVAILABLE SUBSEQUENT TO THE DATE HEREOF MAY SUGGEST MODIFICATION OF THE INFORMATION, WE ASSUME NO RESPONSIBILITY FOR THE RESULT OF ITS USE. THIS INFORMATION AND MATERIAL IS FURNISHED ON THE CONDITION THAT THE PERSON RECEIVING IT SHALL MAKE HIS/HER OWN DETERMINATION AS TO THE SUITABILITY OF THE MATERIAL FOR HIS/HER PARTICULAR PURPOSE AND ON THE CONDITION THAT HE/SHE ASSUME THE RISK OF

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