1. IDENTIFICATION

Product Identifier	**Brown Aluminum Oxide**	
Synonyms:	AO, ALOX, Brown Aluminum Oxide Macrogrits and Microgrits, Brown Fused AO, Alpha Alumina, Blasting Media, Mulgrit	
CAS Number:	1344-28-1	
Recommended Use:	Abrasives, Refractories, Ceramics	
Restrictions on Use:	Contact manufacturer	
Manufacturer/Supplier:	**GNP**Graystar 37 John Glenn Dr. Amherst, NY 14228	**GNP**Graystar 9 Simmonsville Road Bluffton, SC 29910
Emergency telephone number:	716-759-6600	843-815-5600

2. HAZARD(S) IDENTIFICATIONS

Classifications of the substance or mixture:

GHS08 Health Hazard
Carc.2 H351 may cause cancer via inhalation

Additional Information:	There are no other hazards not otherwise classified that have been identified. 0 percent of the mixture consists of ingredient(s) of unknown toxicity.
Label Elements	
GHS Label Elements:	The substance is classified and labeled according to the Globally Harmonized System (GHS).
Hazard Pictograms:	 GHS08
Signal Word:	**WARNING** (Not applicable within the EU; applicable only for North America)
Hazard-determining components of labeling:	Titanium dioxide
Other information:	
Hazard Statements:	H351 Suspected of causing cancer via inhalation
Precautionary Statement:	
P202	Do not handle until all safety precautions have been read and understood
P280	Wear protective gloves/protective clothing/eye protection/face protection

P308+P313	IF exposed or concerned: Get medical advice/attention
P501	Dispose of contents/container in accordance with local/regional/national/international regulations

Hazard Description:

WHMIS- Symbols:
As of 11 February 2015, the current WHMIS system is being replaced by the GHS system. This is the classification under the older system.

D2A – very toxic material causing other toxic effects

Classification System:

NFPA Ratings (scale 0-4)
Health = 1
Fire = 0
Reactivity = 0

HMIS Ratings (scale 0-4)
Health = *1
Fire = 0
Reactivity = 0

***Indicates a long term health hazard from repeated or prolonged exposures**

HMIS Long Term Health Hazard Substances 13463-67-7 Titanium Dioxide

Other Hazards:

Results of PBT and vPvB Assessment

PBT:	Not applicable
vPvB:	Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization: Substances

CAS No.:	EC No.:	Ingredient:	Weight %	Hazard Statement & Pictogram
1344-28-1	215-691-6	Aluminum Oxide	> 90	All Substances with a
13463-67-7	236-675-5	Titanium Dioxide	1 – 5	community workplace
7631-86-9	231-545-4	Silicon Dioxide	0 – 2	exposure limit
1309-37-1	215-168-2	Iron Oxide	0 – 1.5	

Dangerous Component (Alternative Classifications):

13463-67-7	236-675-5	Titanium Dioxide	1 – 5%	 Carc. 2, H351

4. FIRST-AID MEASURES

General Information: No special measures required

After inhalation:	Supply fresh air, consult doctor in case of complaints
After skin contact:	Brush off loose particles from skin. Clean with water and soap If skin irritation is experienced, consult a doctor.
After eye contact:	Immediately remove contact lenses if possible. Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing:	Rinse out mouth and then drink plenty of water. Do not induce vomiting; immediately call for medical help.
Most important symptoms and effects, both acute and delayed:	Coughing Gastric or intestinal disorders Breathing difficulty
Danger:	Danger of impaired breathing. Suspected of causing cancer.
Indication of any immediate medical attention and special treatment needed	No further relevant information available

5. FIRE-FIGHTING MEASURES

FLASH POINT:	Not Applicable
FLAMMABLE LIMITS:	LEL: Not Applicable **UEL:** Not Applicable
AUTO IGNITION TEMPERATURES:	Not Applicable
EXTINGUISHING MEDIA:	Use media appropriate for surrounding fire
FIRE AND EXPLOSION HAZARDS:	Non-flammable, non-combustible. Product will not burn.
HAZARDOUS DECOMPOSITION PRODUCTS:	None
FIRE FIGHTING INSTRUCTIONS:	Wear self-containing respiratory protective device. Wear fully protective suit.
NFPA CLASSIFICATION:	**Health**: 1 **Flammability**: 0 **Reactivity**: 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment & Emergency Procedures:	Avoid formation of dust. Ensure adequate ventilation. For large spills, wear protective clothing. For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.
Environmental Precautions:	No special measures required.
Methods and Material for Containment and Cleaning Up:	Dispose contaminated materials as waste according to item 13. Send for recovery or disposal in suitable receptacles.

Reference to other sections:	See section 7 for information on safe handling. See section 8 for information on personal protection equipment. See section 13 for disposal information

7. HANDLING AND STORAGE

Precautions for Safe Handling:	Prevent formation of dust. Any deposit of dust which cannot be avoided must be regularly removed. Do not dry clean dust covered objects and floors. Wash thoroughly with plenty of water. Use only in well ventilated areas. Avoid breathing dust.
Information about protection against explosions and fires:	No special measures required

Conditions for safe storage, including incompatibilities:

Requirements to be met by storerooms and receptacles:	No special requirements
Information about storage in one common storage facility:	Store away from oxidizing agents
Further information about storage conditions:	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
Specific End Use(s):.	No further information available

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Additional information about design of technical system: No further data, see item 7

Control Parameters

Components with limit values that require monitoring at the workplace:

1344-28-1 aluminum oxide

PEL (USA)	Long-term value: 15*; 15** mg/m³ *Total dust; ** Respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m³ as Al*Total dust**Respirable/pyro powd./welding f.
TLV (USA)	Long-term value: 1* mg/m³ as Al; *as respirable fraction
EL (Canada)	Long-term value: 1.0 mg/m³ respirable, as Al
EV (Canada)	Long-term value: 10 mg/m³ total dust

13463-67-7 titanium dioxide

PEL (USA)	Long-term value: 15* mg/m³ *total dust
REL (USA)	See Pocket Guide App. A
TLV (USA)	Long-term value: 10 mg/m³ withdrawn from NIC
EL (Canada)	Long-term value: 10* 3** mg/m³ *total dust;**respirable fraction; IARC 2B
EV (Canada)	Long-term value: 10 mg/m³ - Total dust

Additional Information:	The lists that were valid during the creation were used as basis
Exposure Controls:	
Personal Protective Equipment:	
General Protective and Hygienic Measures:	The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Wash hands before breaks and at the end of work. Avoid contact with the eyes. Avoid close or long-term contact with the skin. Do not inhale dust / smoke / mist.
Engineering Controls:	No further relevant information available
Breathing Equipment:	Use suitable respiratory protective device in case of insufficient ventilation. For spills, respiratory protection may be advisable.
Protection of Hands:	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 product/ the substance/ the preparation.
Material of Gloves:	The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
Eye Protection:	Safety Glasses
Body Protection:	Not required under normal conditions of use. Protection may be required for spills
Risk Management Measures:	No special requirements.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Granulate
Color	Light brown Dark brown
Odor	Odorless
Order threshold	Not determined
pH	Slightly alkaline
Melting/Freezing point	2000 °C (3632 °F)
Initial Boiling point/Boiling Range	2900 °C (5252 °F)
Flash point	Not applicable
Evaporation rate	Not applicable
Flammability	Product is not flammable
Upper/Lower flammability explosive limit	Not determined

Vapor Pressure	Not applicable
Vapor density	Not applicable
Relative density	Not determined
Solubility	Insoluble
Partition coefficient	Not determined
Auto-ignition temperature	Not determined
Decomposition temperature	Not determined
Viscosity - Dynamic	Not applicable
Viscosity - Kinematic	Not applicable

10. STABILITY AND REACTIVITY

Thermal Decomposition / Conditions to be Avoided:	No decomposition if used and stored according to specifications
Possibility of Hazardous Reactions:	Reacts with strong acids. Reacts with oxidizing agents. Reacts with strong alkali.
Incompatible Materials:	No further relevant information available
Hazardous Decomposition:	Toxic metal oxide smoke

11. TOXICOLOGICAL INFORMATION

Information on Taxological Effects	
LD/LC50 values that are relevant for classification:	None
On the skin:	No irritant effect
On the eye:	Slight irritant effect on eyes
Sensitization:	No sensitizing effects known
Subacute to Chronic Toxicity:	Suspected of causing cancer via inhalation
NTP (National Toxicology Program)	Substance not listed
OSHA-Ca (Occupational Safety & Health Administration)	Substance not listed
Probable Routes of Exposure:	Inhalation Eye contact Skin Contact
Acute Effects (acute toxicity, irritation and corrosivity):	From product as supplied: None
Repeated Dose Toxicity:	Suspected of causing cancer. Repeated or long-term inhalation of product dusts may cause pulmonary disease. May cause damage to organs through prolonged or repeated exposure.

12. ECOLOGICAL INFORMATION

Aquatic Toxicity:	Generally, not hazardous for water
Persistence and degradability:	Inorganic product, is not eliminable from water by means of biological cleaning processes.

Other Adverse Effects:	
Bio accumulative Potential:	Does not accumulate in organisms
Mobility in soil:	No further relevant information available.
Other Adverse Effects:	No further relevant information available

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods:	Smaller quantities can be disposed of with household waste. Can be reused after reprocessing. Contact waste processors for recycling information. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.
Contaminated Packaging:	Disposal must be made according to official regulations.

14. TRANSPORT INFORMATION

Note: Not classified as a dangerous according to transport regulations.

DOT (US)	Not regulated
IMDG/IMO	Not regulated
IATA	Not regulated

15. REGULATORY INFORMATION

SARA 355 Components:	Substance is not listed
SARA 313 Components:	134428-1 – aluminum oxide
TSCA	Brown Fused Aluminum Oxide (CAS# 1344-28-1) is 'ACTIVE'
California Proposition 65 Chemicals known to cause cancer:	CAS # 13463-67-7 – Titanium Dioxide WARNING: This product can expose you to chemicals including Titanium dioxide, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov
Chemicals known to cause reproductive toxicity for females:	Substance is not listed
Chemicals known to cause reproductive toxicity for males:	Substance is not listed
Chemicals known to cause developmental toxicity:	Substance is not listed

Carcinogenic Categories	
EPA (Environmental Protection Agency)	Substance is not listed
IARC (International Agency for Research on Cancer:	13463-67-7 – Titanium Dioxide (2B)
TLV (Threshold Limit Value established by ACGIH)	1344-28-1 aluminum oxide (A4) 13463-67-7 titanium dioxide (A4) 1309-37-1 Iron Oxide (A4)
NIOSH (National Institute for Occupational Safety and Health)	13463-67-7 Titanium Dioxide
State to Know Listings	Substance is not listed
Canadian Substance Listings:	
Canadian Domestic Substances List (DSL)	Substance is listed
Canadian Ingredient Disclosure list (limit 0.1%)	Substance is not listed
Canadian Ingredient Disclosure list (limit 1%)	1344-28-1 Aluminum Oxide
Other regulations and limitations and prohibitive regulations	This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

16. FURTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Abbreviation and Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service
DOT	Department of Transportation
HMIS	Hazardous Materials Identification System (USA)
IARC	International Agency for Research on Cancer
IMDG	International Maritime Dangerous Goods
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
SARA	Superfund Amendment and Reauthorization Act
TLV	Threshold Limit Valve
TSCA	Toxic Substance Control Act

NOTICE:
This material safety data sheet complements the technical data sheets but does not replace them. The information it contains is based on our present knowledge of the product on the date indicated. It is given

in good faith. Users should be warned about the risks associated with using the product for a different purpose than that for which it was developed, and particularly for uses for which we are not qualified to give advice.

These regulatory prescriptions are provided with a view to helping users meet their obligations when using this product. This list should not be considered exhaustive and does not exempt users from ensuring that they are not required to comply with any further prescriptions other than those mentioned above concerning product possession and handling for which they are solely responsible.