1. IDENTIFICATION

Product Identifier	**Calcined Alumina**	
Synonyms:	Aluminum Oxide, Alpha Alumina, Precision Alumina, E67 Alumina, Micro Alumina, SPA 1 Micro Alumina Powder, PWA, WCA	
CAS Number:	1344-28-1	
Recommended Use:	Abrasives, Refractories, Ceramics	
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:

The substance is not classified as hazardous according to the Globally Harmonized System (GHS).

Additional Information:	Not hazardous as delivered. Long term inhalation of product dusts formed during use is harmful. There are no other hazards not otherwise that have been identified. 0 percent of the mixture consists of ingredient(s) of unknown toxicity.
Label Elements	
GHS Label Elements:	The product is NOT classified as hazardous according to OSHA Globally Harmonized System (GHS) regulations within the United States
Signal Word:	Not Regulated
Hazard-determining components of labeling:	None
Hazard Statements:	Not Regulated
Precautionary Statement:	Not Regulated
Hazard Description:	
WHMIS Symbols:	Not hazardous under WHMIS
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 None of the ingredients are listed

Other Hazards:

Results of PBT and vPvB Assessment

PBT: Not applicable
vPvB: Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures:
Description: Mixture of substances listed below with nonhazardous additions

Dangerous Components:

CAS No.:	EC No.:	Ingredient:	Weight %	Hazard Statement & Pictogram
1344-28-1	215-691-6	Aluminum Oxide	> 98.7	Substance with a Community workplace exposure limit.
1305-78-8	215-138-9	Calcium Oxide	< 0.3	Eye Dam. 1, H318 Skin Irritant 2, H315; STOT SE, H335
1309-37-1	215-168-2	Iron Oxide	< 0.2	Substance with a Community workplace exposure limit.

Additional Information:
For the listed ingredients, the identity and exact percentages are being withheld as a trade secret.
For the wording of the listed risk phrases refer to section 16.

4. FIRST-AID MEASURES

General Information: No special measures required

After inhalation:
Supply fresh air, consult doctor in case of complaints.
Provide oxygen treatment if affected person has difficulty breathing

After skin contact:
Brush off loose particles from skin
Clean with water and soap
If skin irritation continues, consult 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 Breathing difficulty Gastric or intestinal disorders
Danger:	Danger of impaired breathing
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; Do not breathe dust. Ensure adequate ventilation. For large spills, wear protective clothing. Use respiratory protective device against the effects of fumes/dust/aerosol.
Environmental Precautions:	Avoid release to the environment
Methods and Material for Containment and Cleaning Up:	Pick up mechanically. 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:	Do not store together with acids. Do not store together with alkalis (caustic solutions). Store away from foodstuffs
Further information about storage conditions:	Store in cool, dry conditions in well-sealed receptacles Protect from humidity and water
Specific End Use(s):.	No further information available

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters	Components with limit values that require monitoring at the workplace:
Aluminum Oxide (Cas# 1344-28-1):	
PEL (USA)	Long-term value: 15* 5** mg/m³ fibrous dust: *total dust ** respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m³ *as Al total dust** respirable fraction
TLV (USA)	Long-term value: 1* mg/m³ as Al; *as respirable fraction.
EL (Canada)	Long-term value: 1 mg/m³ Respirable, as Al.
EV (Canada)	Long-term value: 10 mg/m³ Total dust
Calcium Oxide (Cas# 1305-78-8):	
PEL (USA)	Long-term value: 5 mg/m³
REL (USA)	Long-term value: 2 mg/m³
TLV (USA)	Long-term value: 2 mg/m³
EL (Canada)	Long-term value: 2 mg/m³
EV (Canada)	Long-term value: 2 mg/m³
Diiron Trioxide / Iron (III) Oxide (Cas# 1305-37-1):	
PEL (USA)	Long-term value: 10*; 15** 5*** mg/m³ *Fume; Rouge, **Total dust; *** Respirable fraction
REL (USA)	Long-term value: 5 mg/m³ Dust & Fume, as Fe.

TLV (USA)	Long-term value: 5* mg/m³ * as respirable fraction
EL (Canada)	Short-term value: 10* mg/m³ Long-term value: 5*; 10*** 3**** mg/m³ *Dust & Fume, ** Fume; Rouge, *** total dust, *** respirable
EV (Canada)	Long-term value: 5*, 10 mg/m³ * Respirable, including Rouge, **total dust
Additional Information:	The lists that were valid during the creation were used as basis
Exposure Controls:	
General Protective and Hygienic Measures:	The usual precautionary measures for handling chemicals should be followed. Wash hand 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.
Engineering controls:	No further relevant information available
Eye/Face Protection:	Safety glasses or goggles to prevent dust and particles from entering the eye
Skin Protections:	Wear gloves for the protection against mechanical hazards according to OSHA and NIOSH rules. The glove material must be impermeable and resistant to the product/ the substance/the preparation.
Respiratory Protection:	Use suitable respiratory protective device in case of insufficient ventilation For spills, respiratory protection may be advisable
Body Protection:	Not required under normal conditions of use. Protection may be required for spills.
Limitation and Supervision of Exposure into the Environment:	No special requirements
Risk Management Measures:	No special requirements (see section 7 for additional information).

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties	
Physical state	Granulate / Crystalline Powder
Color	Whitish
Odor	Odorless
Odor threshold	Not determined
pH	8.0 – 9.5
Melting/Freezing point	> 2500°C (3632°F)
Initial Boiling point/Boiling Range	> 2900°C (5252°F)
Flash point	Not applicable
Flammability	Product is not flammable

Upper/Lower flammability explosive limit	Not determined
Vapor Pressure	Not applicable
Density at 20°C (68 °F)	3.9 g/cm³ (32.546 lbs./gal)
Relative density	Not determined
Solubility	Insoluble
Partition coefficient	Not determined
Auto-ignition temperature	Not determined
Decomposition temperature	Not determined
Viscosity	Not applicable
Explosive Properties	Not determined

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:	Oxidizers, strong bases, strong acids
Hazardous Decomposition:	Toxic metal compounds
Conditions to Avoid:	No further relevant information available

11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

LD/LC50 values that are relevant for classification:	None
On the skin:	Slight irritant effect on skin and mucous membranes
On the eye:	Slight irritant effect on eyes
Sensitization:	No sensitizing effects known
Subacute to chronic toxicity:	No further relevant information available

Additional Toxicological Information:

The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for the Preparations as issued in the latest version.
When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

Acute Effects (acute toxicity, irritation and corrosivity):	From product as supplied: None
Repeated Dose Toxicity:	No further relevant information available

12. ECOLOGICAL INFORMATION

Aquatic Toxicity:	No further relevant information available
Persistence and degradability:	No further relevant information available
Other Adverse Effects:	No further relevant information available
Bio accumulative Potential:	Does not accumulate in organisms
Mobility in soil:	No further relevant information available
General notes:	Generally not hazardous for water.

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods:	Smaller quantities can be disposed of with household waste. 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.
Contaminated Packaging:	Disposal must be made according to official regulations

14. TRANSPORT INFORMATION

DOT, ADR, ADN, IMDG, IATA: UN proper shipping name	Not regulated
DOT, ADR, ADN, IMDG, IATA: Transport hazard class(s)	Not regulated
DOT, ADR, ADN, IMDG, IATA: Class	Not regulated
Packing group **DOT, ADR, IMDG, IATA**	Not regulated
Environmental Hazards:	
Marine pollutant:	No
Special precautions for User	Not applicable
Transport in Bulk According to Annex II of MARPOL73/78 and the IBC Code	Not applicable
UN "Model Regulation"	---

15. REGULATORY INFORMATION

SARA 313 Components:	All ingredients are listed
SARA 355 Components:	None of the ingredients are listed
TSCA	All ingredients are listed

California Proposition 65: Chemicals known to cause cancer (present in trace quantities):	CAS# 13463-67-7 Titanium dioxide
Chemicals known to cause reproductive toxicity to females:	None of the ingredients are listed
Chemicals known to cause reproductive toxicity in males:	None of the ingredients are listed
Chemicals known to cause developmental toxicity:	None of the ingredients are listed
Carcinogenic Categories:	
EPA (Environmental Protection Agency):	None of the ingredients are listed
IARC (International Agency for Research on Cancer):	CAS# 1309-37-1 diiron trioxide / iron (III) oxide
TLV (Threshold Limit Value established by ACGIH):	1344-28-1 aluminum oxide (A4) 1309-37-1 diiron trioxide dioxide (A4)
NIOSH-Ca (National Institute for Occupational Safety and Health):	None of the ingredients are listed
Canadian Substance Listings:	
Canadian Domestic Substances List (DSL):	None of the ingredients are listed
Canadian Ingredient Disclosure list (limit (0.1%)	None of the ingredients are listed
Canadian Ingredient Disclosure list (limit 1%)	All ingredients are listed
Other regulations, 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
Chemical Safety assessment:	A Chemical Safety Assessment has not been carried out

16 **OTHER 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
IARC	International Agency for Research on Cancer
IMDG	International Maritime Dangerous Goods

MSHA	Mine Safety and Health Administration
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

Relevant Phrases:

H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
R37/38	Irritation to respiratory system and skin.
R41	Risk of serious damage to eyes

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.