

## 1. IDENTIFICATION

<b>Product Identifier</b>	<b>Calcined Alumina</b>	
<b>Synonyms:</b>	Aluminum Oxide, Alpha Alumina, Precision Alumina, E67 Alumina, Micro Alumina, SPA 1 Micro Alumina Powder, PWA, WCA	
<b>CAS Number:</b>	1344-28-1	
<b>Recommended Use:</b>	Abrasives, Refractories, Ceramics	
<b>Manufacturer/Supplier:</b>	<b>GNP Graystar</b> 37 John Glenn Dr. Amherst, NY 14228	<b>GNP Graystar</b> 9 Simmonsville Road Bluffton, SC 29910
<b>Emergency telephone number:</b>	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

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

<b>General Information:</b>	No special measures required
<b>After inhalation:</b>	Supply fresh air, consult doctor in case of complaints. Provide oxygen treatment if affected person has difficulty breathing
<b>After skin contact:</b>	Brush off loose particles from skin Clean with water and soap If skin irritation continues, consult doctor
<b>After eye contact:</b>	Immediately remove contact lenses if possible. Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor
<b>After swallowing:</b>	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.
<b>Information about protection against explosions and fires:</b>	No special measures required
<b>Conditions for safe storage, including incompatibilities:</b>	
<b>Requirements to be met by storerooms and receptacles:</b>	No special requirements
<b>Information about storage in one common storage facility:</b>	Do not store together with acids. Do not store together with alkalis (caustic solutions). Store away from foodstuffs
<b>Further information about storage conditions:</b>	Store in cool, dry conditions in well-sealed receptacles Protect from humidity and water
<b>Specific End Use(s):</b>	No further information available
<b>8. EXPOSURE CONTROLS / PERSONAL PROTECTION</b>	
<b>Control Parameters</b>	Components with limit values that require monitoring at the workplace:
<b><u>Aluminum Oxide (Cas# 1344-28-1):</u></b>	
<b>PEL (USA)</b>	Long-term value: 15* 5** mg/m <sup>3</sup> fibrous dust: *total dust ** respirable fraction
<b>REL (USA)</b>	Long-term value: 10* 5** mg/m <sup>3</sup> *as Al total dust** respirable fraction
<b>TLV (USA)</b>	Long-term value: 1* mg/m <sup>3</sup> as Al; *as respirable fraction.
<b>EL (Canada)</b>	Long-term value: 1 mg/m <sup>3</sup> Respirable, as Al.
<b>EV (Canada)</b>	Long-term value: 10 mg/m <sup>3</sup> Total dust
<b><u>Calcium Oxide (Cas# 1305-78-8):</u></b>	
<b>PEL (USA)</b>	Long-term value: 5 mg/m <sup>3</sup>
<b>REL (USA)</b>	Long-term value: 2 mg/m <sup>3</sup>
<b>TLV (USA)</b>	Long-term value: 2 mg/m <sup>3</sup>
<b>EL (Canada)</b>	Long-term value: 2 mg/m <sup>3</sup>
<b>EV (Canada)</b>	Long-term value: 2 mg/m <sup>3</sup>
<b><u>Diiron Trioxide / Iron (III) Oxide (Cas# 1305-37-1):</u></b>	
<b>PEL (USA)</b>	Long-term value: 10*; 15** 5*** mg/m <sup>3</sup> *Fume; Rouge, **Total dust; *** Respirable fraction
<b>REL (USA)</b>	Long-term value: 5 mg/m <sup>3</sup> Dust & Fume, as Fe.

<b>TLV (USA)</b>	Long-term value: 5* mg/m <sup>3</sup> * as respirable fraction
<b>EL (Canada)</b>	Short-term value: 10* mg/m <sup>3</sup> Long-term value: 5*; 10*** 3**** mg/m <sup>3</sup> *Dust & Fume, ** Fume; Rouge, *** total dust, *** respirable
<b>EV (Canada)</b>	Long-term value: 5*, 10 mg/m <sup>3</sup> * Respirable, including Rouge, **total dust
<b>Additional Information:</b>	The lists that were valid during the creation were used as basis
<b>Exposure Controls:</b>	
<b>General Protective and Hygienic Measures:</b>	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.
<b>Engineering controls:</b>	No further relevant information available
<b>Eye/Face Protection:</b>	Safety glasses or goggles to prevent dust and particles from entering the eye
<b>Skin Protections:</b>	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.
<b>Respiratory Protection:</b>	Use suitable respiratory protective device in case of insufficient ventilation  For spills, respiratory protection may be advisable
<b>Body Protection:</b>	Not required under normal conditions of use.  Protection may be required for spills.
<b>Limitation and Supervision of Exposure into the Environment:</b>	No special requirements
<b>Risk Management Measures:</b>	No special requirements (see section 7 for additional information).

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

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

Upper/Lower flammability explosive limit	Not determined
Vapor Pressure	Not applicable
Density at 20°C (68 °F)	3.9 g/cm <sup>3</sup> (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

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

### 13. DISPOSAL CONSIDERATIONS

<b>Waste Treatment Methods:</b>	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.
<b>Contaminated Packaging:</b>	Disposal must be made according to official regulations

### 14. TRANSPORT INFORMATION

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

### 15. REGULATORY INFORMATION

<b>SARA 313 Components:</b>	All ingredients are listed
<b>SARA 355 Components:</b>	None of the ingredients are listed
<b>TSCA</b>	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 Value
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.