1. IDENTIFICATION

Product Identifier	**Silica Fume**	
Synonyms:	Fumed Silica, Amorphous Silica, Silicon Dioxide, Microsilica	
CAS Number:	69012-64-2	
Recommended Use:	Refractories, ceramics, and cements.	
Restrictions on Use:	Not known	
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:	Does not meet the criteria of the UN Globally Harmonized System (GHS) for hazard classification
Label Elements	
GHS Label Elements:	The product is NOT classified as hazardous according to OSHA Globally Harmonized System (GHS) regulations within the United States.
Hazard Pictograms:	None
Signal Word:	None
Hazard Statements:	Not Applicable
Precautionary Statements:	Not Applicable
Classification System:	
	NFPA Ratings (scale 0-4) Health = 0 Fire = 0 Reactivity = 0
	HMIS Ratings (scale 0-4) Health = 1 Flammability = 0 Reactivity = 0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization: Formula: SiO_2

CAS No.:	EC No.:	Ingredient:	Weight %	Hazard Statement & Pictogram
69012-64-2	273-761-1	Silica Fume	> 99	Silica Fume may contain trace amounts (<0.05%) of crystalline silica (quartz), which has been shown to cause silicosis, and has been identified by IARC and NTP as a possible human carcinogen.

4. FIRST-AID MEASURES

General Information:	No special measures required
After inhalation:	Supply fresh air, consult doctor in case of complaints.

After skin contact:	Wash with soap and water. If skin irritation is experienced, consult a doctor.
After eye contact:	Remove contacts if possible if worn. Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing:	Obtain first aid or medical assistance immediately.
Most important symptoms and effects, both acute and delayed:	Dust may result in irritation.
Indication of any immediate medical attention and special treatment needed:	None
Danger:	None

5. FIRE-FIGHTING MEASURES

	Silica fume is non-combustible and presents no danger of explosion
Extinguishing Media:	N/A, Use extinguishing agents appropriate for surrounding fire.
Special Hazards Arising from the Substance or Mixture:	None
Advice for firefighters:	Wear NIOSH approved self-contained breathing apparatus (SCBA)
Additional Information:	None

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment & Emergency Procedures:	Use 42 CFR 84 NIOSH/MSHA approved respirators when airborne concentrations equal or exceed the Permissible Exposure Limit.
Methods and Material for Containment and Cleaning Up:	Collect using methods that minimize creation of airborne dust. High efficiency vacuum cleaning is recommended to recover spilled material. Place in suitable container for recycling or disposal. Handle with adequate ventilation for dust.

7. HANDLING AND STORAGE

Precautions for Safe Handling:	Avoid generating dust. Handle with adequate ventilation for dust.
Information about protection against explosions and fires:	No possible danger of fire and dust explosion.
Requirements to be met by storerooms and receptacles:	Best in closed containers, ambient air temperature, keep dry.
Further information about storage conditions:	Dry storage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:	No occupational exposure limits have been established for this material

Components:	
69012-64-2 Silica, Amorphous Silica Fume	
OSHA - PEL (USA)	N/A
ACGIH (USA)	TLV Withdrawn due to insufficient data
14808-60-7 Silica, Crystalline α-Quartz	
OSHA - PEL (USA)	0.05 mg/m^3
ACGIH (USA)	0.025 mg/m^3

[R] Measured as respirable fraction of the aerosol.
*Total Dust
**Respirable dust
There is no hazard classification for the amount of respirable crystalline silica in the product because when measured by X-Ray diffraction the level is below 0.1%.

EXPOSURE CONTROLS	
Personal Protective Equipment:	In accordance with OSHA 29 CFR 1910.132 subpart I, wear appropriate Personal Protective Equipment (PPE) to minimize exposure to this material.
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.
Engineering Controls:	Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposures below PELs or TLVs in processing areas.
Breathing Equipment:	If workplace conditions warrant a respirator OSHA 29CFR 1910.134 must be followed. Refer to NIOSH 42 CFR 84 for approved respirators when airborne concentrations equal or exceed the Permissible Exposure Limits.
Skin Protection:	Choose body protection in relation to the task being performed and the risks involved and should be approved by a specialist. Chemical–resistant gloves should always be worn when handling chemicals.
Eye protection:	Wear tightly fitting safety goggles when a risk assessment indicates this is necessary.
Control of Environment Exposure:	Avoid dust formation

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties	
Physical State:	Amorphous sub-micron powder – dust has a tendency to agglomerate
Color:	Light to Medium Gray
Odor:	Odorless
pH	6.0 – 9.0

Melting Point:	1,200 ºC – 1,300ºC
Initial Boiling point	Not applicable
Flash Point	Not applicable
Specific Gravity / Bulk Density	2.20 – 2.25 / 8 – 48 lb./ft^3 (128 – 769 kg/m^3)
Solubility in Water:	Insoluble
Solubility Solvents:	Insoluble to slightly soluble in organic solvents.
Danger of explosion:	Product does not present an explosion hazard

10. STABILITY AND REACTIVITY

Thermal Decomposition / Conditions to be Avoided:	See Below
Possibility of Hazardous Reactions:	Silica fume is soluble in hydrofluoric acid (HF) and can form toxic gas (SiF_4).
Hazardous Decomposition:	Heating at temperatures above 500ºC (930ºF) for prolonged time periods will convert amorphous silica to crystalline phases.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Inhalation:	Airborne Silica Fume dust generated by the use or handling of this product may result in respiratory tract irritation.
Ingestion:	Silica Fume dust may irritate and dehydrate throat and mouth.
On the skin:	Silica Fume dust may cause exposed skin mechanical irritation.
On the eye:	Silica Fume dust may cause eye mechanical irritation and dryness.

Chronic toxicity:

Silica Fume is generally considered a nuisance dust of low toxicity consequently it is considered to pose minimal risk of pulmonary fibrosis (silicosis). Avoid prolonged exposure to silica fume dust concentrations above the recommended exposure limits unless the protective equipment is used.

It is possible for Silica Fume to contain trace amounts (<0.05%) of crystalline silica, which has been shown to cause silicosis, and has been identified by IARC and NTP as a Positive/Known human carcinogen.

Heating Silica Fume at temperatures above 500ºC (930ºF) for prolonged time periods will convert amorphous silica to the crystalline phases Cristobalite and Tridymite that may cause silicosis. Increased temperatures will increase the formation rate of these phases.

12. ECOLOGICAL INFORMATION

No adverse effects are expected. Silica Fume is not considered dangerous to the environment.

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Recommendation:	Dispose of waste in accordance with applicable Federal, State and Local regulations.
Contaminated Packages:	Disposal must be made according to official regulations

14. TRANSPORT INFORMATION

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

DOT	Not regulated
IATA	Not regulated
IMDG	Not regulated
Special Precautions for user:	None
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:	Not classified

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

United States Federal Regulations

SARA

Section 302/304 (extremely hazardous substances)	Not regulated
Sections 311/312 Hazardous Categories (40 CFR 370.21)	Acute Health: No Chronic Health: No Fire: No Reactive: No Pressure: No
Section 313 (Specific toxic chemical listings): This product contains no chemicals subject to the supplier notification requirements.	Not regulated
TSCA (Toxic Substances Control Act): CAS #69012-64-2 There are no TSCA 12(b) chemicals in this product	 Listed None
California Proposition 65: Chemicals known to cause cancer (present in trace quantities):	This product may contain trace amounts <0.05% of crystalline silica a chemical known to the State of California to cause cancer, birth defects or other reproductive harm
Canadian Domestic Substances List (DSL):	#69012-64-2 is listed on the public Portion of the Domestic Substances List.

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	Permissble Exposure Limit
SARA	Superfund Amendment and Reauthorization Act
TLV	Threshold Limit Value
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.