PALASIL

Safety Data Sheet

Agricultural Precipitated Silica

Product and Company Identification

Product Name: Agricultural Precipitated Silica (Silicon Mineral Fertilizer).
Chemical Name: Silicon Dioxide (Amorphous).
Chemical Formula: SiO^2
CAS Number: 7631-86-9
Intended Use: Agricultural fertilizer, soil amendment, and pest management agent.
Manufacturer: Nano Compound Semnan Dara Company
Factory Address: Semnan, Standard Square, Javan Blvd., Semnan University Science and Technology Park.
Contact Information:

Hazards Identification

Hazard Summary: This product is a white powder, non-flammable, and practically non-toxic. The main hazards are related to dust generation during handling.
Physical Hazards: Non-flammable and non-explosive.
Health Hazards: Dust may cause physical irritation to the respiratory system, eyes, and skin.
Crystalline Silica Risk: This product is amorphous (non-crystalline) silica. Unlike crystalline silica (quartz), it does not pose the risk of chronic lung diseases such as Silicosis.

Composition/Information on Ingredients

Main Ingredient: Silicon Dioxide (Amorphous Precipitated Silica)
Concentration: %98.0 or higher
CAS Number: 7631-86-9
The product is classified as a non-hazardous substance

First Aid Measures

Inhalation: If dust is inhaled, move the person immediately to fresh air. Seek medical attention if breathing difficulties persist.
Skin Contact: Wash the contact area with plenty of soap and water. Remove contaminated clothing.
Eye Contact: Flush eyes with copious amounts of water for 15 minutes. Seek medical attention if irritation persists.
Ingestion: Rinse mouth with water. Small amounts are not expected to be harmful. Consult a physician if large quantities are ingested.

Firefighting Measures

Extinguishing Media: The material is non-combustible. Use any extinguishing agent suitable for the surrounding fire, such as water spray, foam, dry chemical, or carbon dioxide.
Special Hazards: No hazardous decomposition or combustion products are generated during surrounding fires.

Accidental Release Measures

Emergency Procedures: Wear appropriate Personal Protective Equipment (PPE).
Small Spill: Collect the material using a broom or shovel. Avoid creating dust.
Large Spill: Collect spilled material with minimum dust generation and place it in suitable containers for disposal. Prevent entry into drains and waterways.

Handling and Storage

Handling: Avoid the formation and dispersion of airborne dust. Use adequate local exhaust ventilation at dust generation points.
Storage: Store in a dry, cool, well-ventilated area. Keep containers tightly closed. Avoid contact with incompatible materials, such as strong acids and strong bases.

Exposure Controls/Personal Protection

Engineering Controls: Use local exhaust ventilation at transfer and discharge points to control airborne dust levels.
Respiratory Protection: If airborne dust is present, use an air-purifying respirator rated for dust.
Hand Protection: Wear protective gloves to prevent skin dryness.
Eye Protection: Use safety goggles with side shields.

Physical and Chemical Properties

Physical State: Solid powder or granules.
Color: White.
Odor: Odorless.
pH (%5 Suspension): 7.5 - 6.0.
Water Solubility: Negligible.
Melting Point: Approximately 1700 °C.
Bulk Density: 0.05 to 0.20 g/cm3 (depending on powder type).

Stability and Reactivity

Chemical Stability: The material is stable under normal storage and handling conditions.
Reactivity: Inert.
Conditions to Avoid: Contact with strong hydrofluoric acids and strong bases.

Toxicological Information

Acute Toxicity: Not expected to be acutely toxic under normal conditions of use.
Irritation: Dust may cause mechanical irritation to the eyes, skin, and respiratory tract.
Carcinogenicity: Amorphous silica is not classified as a carcinogen.

Ecological Information

Ecotoxicity: The product is chemically inert and stable. It is not expected to pose significant environmental hazards.
Persistence and Degradability: Not biodegradable.

Disposal Considerations

Disposal: Dispose of the material as non-hazardous waste in accordance with local and national regulations. Recycling is recommended where possible.

Transport Information

This product is not classified as dangerous goods for transport under international regulations (e.g., DOT, ADR, IMDG, IATA).