



MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1 – PRODUCT IDENTIFICATION

Product Name: Cenosphere

Product Synonyms:

- Hollow Ceramic Microspheres
- Hollow Aluminosilicate Microspheres
- Ceramic Hollow Spheres
- Fly Ash Cenospheres

Product Type:

Lightweight Inorganic Mineral Filler

Recommended Uses

- Oil & Gas Cementing
- Drilling Fluids
- Composite Materials
- Plastics
- Rubber
- Paints & Coatings
- Refractories
- Construction Materials
- Adhesives
- Sealants
- Aerospace Components
- Automotive Components

Supplier

BASEKIM

Emergency Telephone:

To be provided by manufacturer.



SECTION 2 – HAZARD IDENTIFICATION

GHS Classification

This product is **not classified as hazardous** according to the Globally Harmonized System (GHS) under normal conditions of handling and use.

Signal Word

None

Hazard Pictograms

None

Hazard Statements

Not classified as hazardous.

Precautionary Statements

P261 Avoid breathing dust.

P264 Wash thoroughly after handling.

P271 Use only in well-ventilated areas.

P280 Wear appropriate eye protection when handling bulk powder.

P304+340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes.

Other Hazards

Handling may generate nuisance dust.

Prolonged inhalation of excessive airborne dust may cause temporary respiratory irritation.

Spilled material may create slipping hazards.



SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Nature

Naturally occurring hollow aluminosilicate microspheres recovered from fly ash.

Typical Composition

Component	Typical Content
Silicon Dioxide (SiO ₂)	52–62 %
Aluminum Oxide (Al ₂ O ₃)	32–36 %
Iron Oxide (Fe ₂ O ₃)	1–2 %
Potassium Oxide (K ₂ O)	1.2–3.2 %
Magnesium Oxide (MgO)	1–2.5 %
Titanium Dioxide (TiO ₂)	0.8–1.3 %
Sodium Oxide (Na ₂ O)	0.2–0.6 %
Calcium Oxide (CaO)	0.1–0.5 %

Contains no intentionally added hazardous substances. Typical composition varies slightly between production batches.

SECTION 4 – FIRST AID MEASURES

Eye Contact

Flush eyes with clean water for at least 15 minutes.

Remove contact lenses if present.

Seek medical attention if irritation persists.

Skin Contact

Wash thoroughly with soap and water.

No special treatment normally required.



Inhalation

Move affected person to fresh air.

Keep at rest.

Seek medical advice if coughing or respiratory irritation continues.

Ingestion

Rinse mouth thoroughly.

Drink water.

Do not induce vomiting.

Obtain medical advice if discomfort develops.

Most Important Symptoms

Temporary eye irritation.

Dry throat.

Dust-related coughing.

Temporary respiratory discomfort after prolonged exposure.

SECTION 5 – FIRE FIGHTING MEASURES

Suitable Extinguishing Media

Water spray

Dry chemical

Foam



Carbon dioxide

Specific Hazards

Product is inorganic and non-combustible.

No fire or explosion hazard under normal conditions.

Hazardous Combustion Products

None expected from the mineral itself.

Use standard firefighting procedures for surrounding materials.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions

Avoid creating airborne dust.

Wear appropriate respiratory protection if heavy dust develops.

Environmental Precautions

Prevent unnecessary release into drains and waterways.

Methods of Cleanup

Vacuum using industrial vacuum equipment fitted with HEPA filtration where possible.

Alternatively sweep carefully while minimizing dust generation.

Collect material in suitable containers for reuse or disposal.



SECTION 7 – HANDLING AND STORAGE

Handling

Avoid excessive dust generation.

Do not breathe airborne dust.

Use adequate ventilation.

Wash hands before eating or drinking.

Storage

Store in original packaging.

Keep dry.

Protect from moisture.

Protect from physical damage.

Keep containers tightly closed.

Avoid contamination.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits

No product-specific exposure limit established.

Where airborne dust is generated, comply with applicable occupational exposure limits for nuisance dust and respirable particulate matter.

Engineering Controls

General ventilation.



Local exhaust where dust is generated.

Personal Protective Equipment

Eye Protection

Safety glasses with side shields.

Hand Protection

Protective work gloves.

Respiratory Protection

Dust mask (P2/N95 or equivalent) where airborne dust exceeds occupational exposure limits.

Body Protection

Normal industrial work clothing.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Light grey to light buff free-flowing powder

Odor:

Odorless

Physical State:

Solid powder

Shape:

Hollow spherical particles

pH (Water Suspension):

6–7



Specific Gravity:
0.75–0.85

Bulk Density:
350–450 kg/m³

Moisture:
≤0.5%

Melting Point:
1200–1350°C

Flash Point:
Not applicable

Boiling Point:
Not applicable

Auto-Ignition:
Not applicable

Explosive Properties:
None

Oxidizing Properties:
None

Solubility:
Practically insoluble in water

Thermal Conductivity:
Approximately 0.11 W/m·K

Color:
Light Grey to Light Buff

SECTION 10 – STABILITY AND REACTIVITY

Chemical Stability

Stable under recommended storage conditions.



Reactivity

Not reactive under normal handling.

Conditions to Avoid

Moisture contamination.

Excessive dust formation.

Incompatible Materials

Strong hydrofluoric acid.

Strong oxidizing chemicals under extreme conditions.

Hazardous Decomposition Products

None under normal use.

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute Toxicity

Not expected to present acute toxicity.

Skin Corrosion

Not expected.

Eye Irritation

Dust may cause mechanical irritation.

Respiratory Effects

Repeated inhalation of excessive airborne dust may cause temporary respiratory irritation.

Sensitization



Not expected.

Mutagenicity

No known effects.

Carcinogenicity

No known carcinogenic effects from the product itself.

Reproductive Toxicity

No known effects.

Specific Target Organ Toxicity

Not expected.

Aspiration Hazard

Not applicable.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity

Not expected to be environmentally hazardous.

Persistence

Inorganic mineral.

Not biodegradable.

Bioaccumulation

Not expected.

Mobility



Low mobility in soil.

Environmental Impact

Chemically inert under normal environmental conditions.

Avoid unnecessary discharge into waterways.

SECTION 13 – DISPOSAL CONSIDERATIONS

Unused Material

May be recycled where practical.

Dispose according to national and local regulations.

Contaminated Material

Dispose through licensed waste management contractors.

Packaging

Recycle clean packaging whenever possible.

SECTION 14 – TRANSPORT INFORMATION

UN Number

Not regulated.

UN Proper Shipping Name

Not regulated.

Transport Hazard Class



Not regulated.

Packing Group

Not applicable.

Marine Pollutant

No.

ADR

Not regulated.

IMDG

Not regulated.

IATA

Not regulated.

Protect packages from moisture and mechanical damage during transport.

SECTION 15 – REGULATORY INFORMATION

Prepared according to:

- OSHA Hazard Communication Standard (29 CFR 1910.1200)
- GHS (Globally Harmonized System)
- EU REACH Regulation (EC) No. 1907/2006
- CLP Regulation (EC) No. 1272/2008

The product is generally not classified as hazardous under GHS when supplied as cenospheres. Dust exposure should be controlled according to applicable occupational regulations.

SECTION 16 – OTHER INFORMATION

Issue Date: To be assigned



Revision: 1.0

Prepared For: BASEKIM

Prepared By: Technical Department