

SAFETY DATA SHEET (SDS)

ExPure® Media – Nano-Fe₃O₄ / Al₂O₃ Composite Beads (Dried)

1. Identification

Product Name: ExPure® Media – Nano-Fe₃O₄ / Al₂O₃ Composite Beads (Dried)

Product Form: Solid beads / granules

Recommended Use: Functional filtration and adsorbent media for water and wastewater treatment

Supplier: ExPure

Address: 791 Atlantic Dr. N.W., Atlanta, GA 30318, United States

Phone:

Emergency Phone:

SDS Date: 2026-01-16

Revision: 1.1 (Added Al₂O₃)

2. Hazard(s) Identification

Not classified as hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200) when handled as intact beads.

Potential Hazards:

- Dust generation if mechanically damaged
- Mechanical eye irritation
- Temporary respiratory irritation
- Slip hazard if spilled

Nanomaterial Statement:

Contains nano-scale iron oxide (Fe₃O₄) embedded within a polymer matrix; nanoparticles are not free-flowing under normal use.

3. Composition / Information on Ingredients

Mixture (solid composite beads):

- Polyvinyl alcohol (PVA), CAS 9002-89-5 – polymer binder
- Sodium alginate, CAS 9005-38-3 – biopolymer matrix
- Iron(II,III) oxide (Fe₃O₄), nano, CAS 1317-61-9 – magnetic nanoparticles
- Aluminum oxide (Al₂O₃), CAS 1344-28-1 – inorganic adsorbent

All concentrations are proprietary.

4. First-Aid Measures

Inhalation: Move to fresh air. Seek medical attention if symptoms persist.

Skin Contact: Wash with soap and water.

Eye Contact: Rinse with water for at least 15 minutes.

Ingestion: Rinse mouth. Do not induce vomiting.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Water spray, foam, dry chemical, CO₂.

Hazards: Polymer combustion may generate carbon oxides; inorganic oxides may remain.

Protective Equipment: Self-contained breathing apparatus (SCBA).

6. Accidental Release Measures

Avoid dust formation. Sweep or vacuum beads carefully. Use HEPA vacuum for fines.

Prevent release to drains or waterways.

7. Handling and Storage

Handle gently to minimize abrasion.

Store sealed, dry, at room temperature.

Keep away from strong oxidizers and strong acids/bases.

8. Exposure Controls / Personal Protection

Exposure Limits: None established.

Engineering Controls: General ventilation.

PPE: Safety glasses, gloves. Use N95/P100 respirator if dust is generated.

9. Physical and Chemical Properties

Appearance: Black solid beads or granules

Odor: Odorless

Solubility: Insoluble in water

Dustiness: Low unless mechanically damaged

10. Stability and Reactivity

Stable under normal conditions.

Avoid strong oxidizers.

Decomposition products: carbon oxides, iron oxides, aluminum oxides.

11. Toxicological Information

Not expected to be acutely toxic.

Dust may cause mechanical irritation.

Nano-Fe₃O₄ is embedded and not bioavailable under normal handling conditions.

12. Ecological Information

Low environmental risk as solid composite material.

Avoid uncontrolled release of fine particles.

13. Disposal Considerations

Dispose according to local, state, and federal regulations.

Generally suitable for non-hazardous solid waste disposal.

14. Transport Information

Not regulated for transport.

15. Regulatory Information

Not classified as hazardous under OSHA HCS.

Components listed on TSCA Inventory.

16. Other Information

Prepared by ExPure.

Provided in good faith for industrial and research use.