



Safety Data Sheet (SDS)

Hydroxyapatite (nanoform), ~60 nm, rod-shaped

Revision 1.2 | Date: 12-09-2025

1. Identification

Product identifier: Hydroxyapatite (nanoform)

Synonyms: Hydroxylapatite, Calcium phosphate tribasic, HAp

CAS: 1306-06-5 | EC: 215-145-7

Molecular formula: $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$

Nanoform: ~60 nm, rod-shaped, purity $\geq 99.12\%$

Uses: Oral care (toothpaste), biomaterials, ceramics, coatings, R&D;

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2. Hazards Identification

Not classified as hazardous under CLP.

Supplemental: Contains nanomaterial (nanoform). Avoid inhalation of dust.

3. Composition

Substance: Hydroxyapatite (nanoform)

CAS: 1306-06-5 | EC: 215-145-7

Purity: $\geq 99.12\%$

Impurities: Heavy metals <10 ppm

Particle size: 60 nm $\pm$ 15 nm, rod-shaped

Surface area: Not determined

4. First Aid Measures

Inhalation: Fresh air. Seek medical help if symptoms persist.

Skin: Wash with soap and water.

Eyes: Rinse with water. Seek help if irritation continues.

Ingestion: Rinse mouth. Do not induce vomiting.

5. Firefighting

Not flammable. Use media suitable for surrounding fire.

Decomposition: Ca/P oxides possible.

Advice: Wear breathing apparatus.

6. Accidental Release

Avoid dust. Use PPE (P3 respirator, gloves, goggles).

Wet cleaning recommended. Prevent release to drains.

7. Handling & Storage

Handle in closed systems or with local exhaust.

Store tightly sealed, dry, ventilated. Shelf life: 24 months.

8. Exposure Controls / PPE

No OEL established. Apply general dust limits (3–5 mg/m³).

PPE: P3 respirator, safety goggles, nitrile gloves, lab coat.

9. Physical & Chemical Properties

Appearance: White powder

Odor: Odorless/faint

Melting point: ~1500 °C

pH (10 g/L): ~9.5 (typical)

Density: ~3.1 g/cm³ (true), 0.4–0.6 g/cm³ (bulk)

Solubility: Insoluble in water, soluble in acids

Particle size: 60 nm ±15 nm

Morphology: Rod-shaped

10. Stability & Reactivity

Stable. Avoid acids/fluorides. High temp: Ca/P oxides.

11. Toxicology

Low acute toxicity expected. Dust may irritate eyes, skin, lungs.

Nano dust may deposit in lungs.

12. Ecology

Not hazardous. Inorganic, not biodegradable.

Low mobility. Not bioaccumulative.

13. Disposal

Dispose as non-hazardous inorganic waste.

EWC code: 06 03 16.

14. Transport

Not regulated as dangerous goods (ADR/IMDG/IATA).

15. Regulatory

SDS provided under REACH Annex II (EU 2020/878).

Not classified under CLP.

Cosmetic use: INCI 'HYDROXYAPATITE (nano)'.

16. Other Information

Revision: 1.2 (12-09-2025)

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Disclaimer: Provided in good faith; no warranty of properties.