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Hydroxyapatite Nanoparticles
HAP1401

Description:

Hydroxyapatite (Ca10(PO4)6(OH)2, HAp) is one of Calcium phosphate (CaP) salts which possesses the most similarity to the mineral part of bone. Particularly, it has a hexagonal structure and a stoichiometric Ca/P ratio of 1.67, which is identical to bone apatite. hydroxyapatite is stable compound under physiological conditions as temperature, pH and composition of the body fluids. Upon oral uptake, HA particles will dissolve in the stomach so can be considered as safe for humans. It has biocompatibility, bioactivity, and osteoconductive properties. However, its poor mechanical properties, e.g. low strength and toughness, restrict monolithic HA applications to those that require little or no load-bearing parts.

Characterization	
CAS	12167-74-7
Stock No.	HAP1401
Molecular formula	Ca10(PO4)6(OH)2
Molecular weight (g/mol)	1004.6
Form	Powder
Color	White
Morphology	Needle
Crystal structure	Hexagonal
Size range (nm)	D= 10-30 nm L= 200 nm
Total impurity (%)	N/A
Density (g/cm3)	3.07
Solubility	Insoluble

Image of hydroxyapatite nanopowder (HAP1401)

Note: product specifications are subject to amendment and may change over time.

Applications (but not limited to the following)**:**

Bone substitutes, drug release control, coatings on metallic substrates in orthopedic and dental applications, reinforcing glass ionomer cement (GIC), remineralizing agent in toothpastes

Safety:

Avoid breathing dust.
Always use protective gloves and safety glasses.
Wash with soap and water after exposure.
Refer to MSDS prior to handling this material.

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A mission for sustainable future

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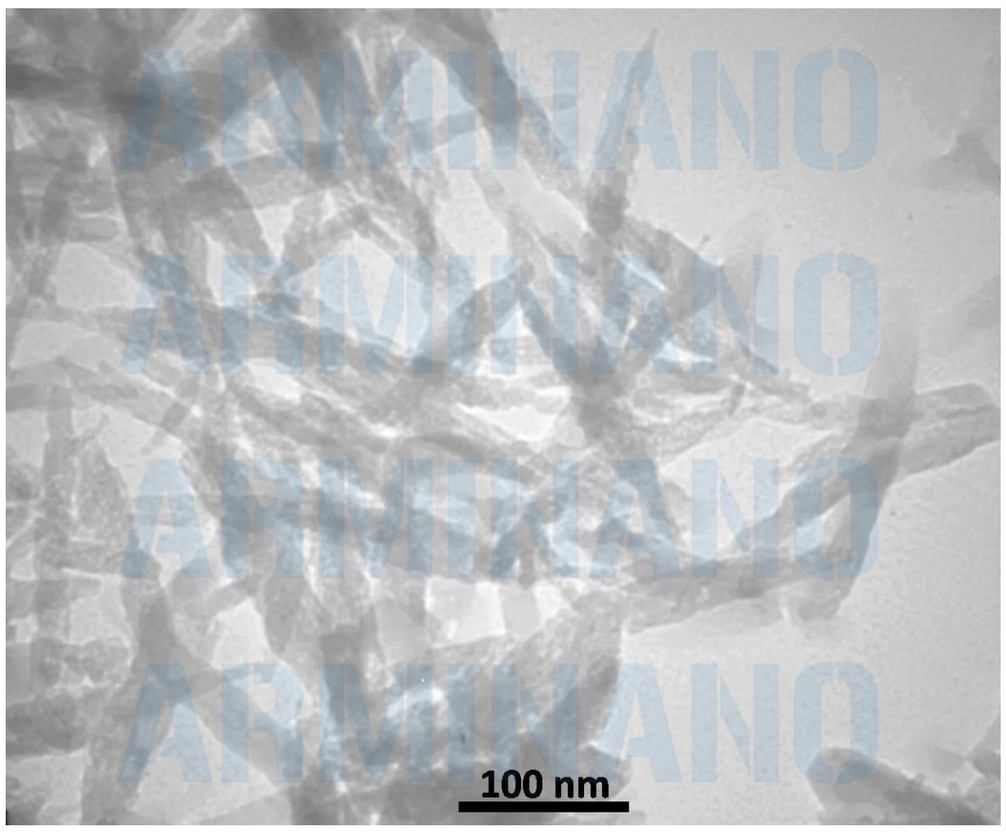
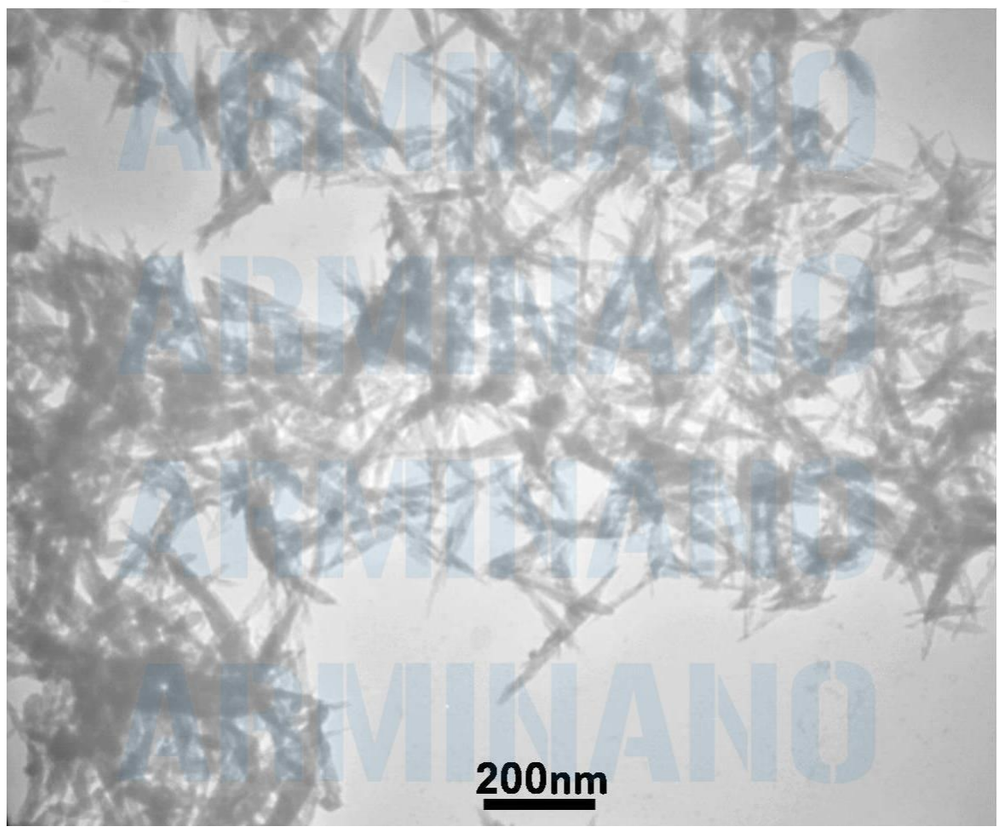
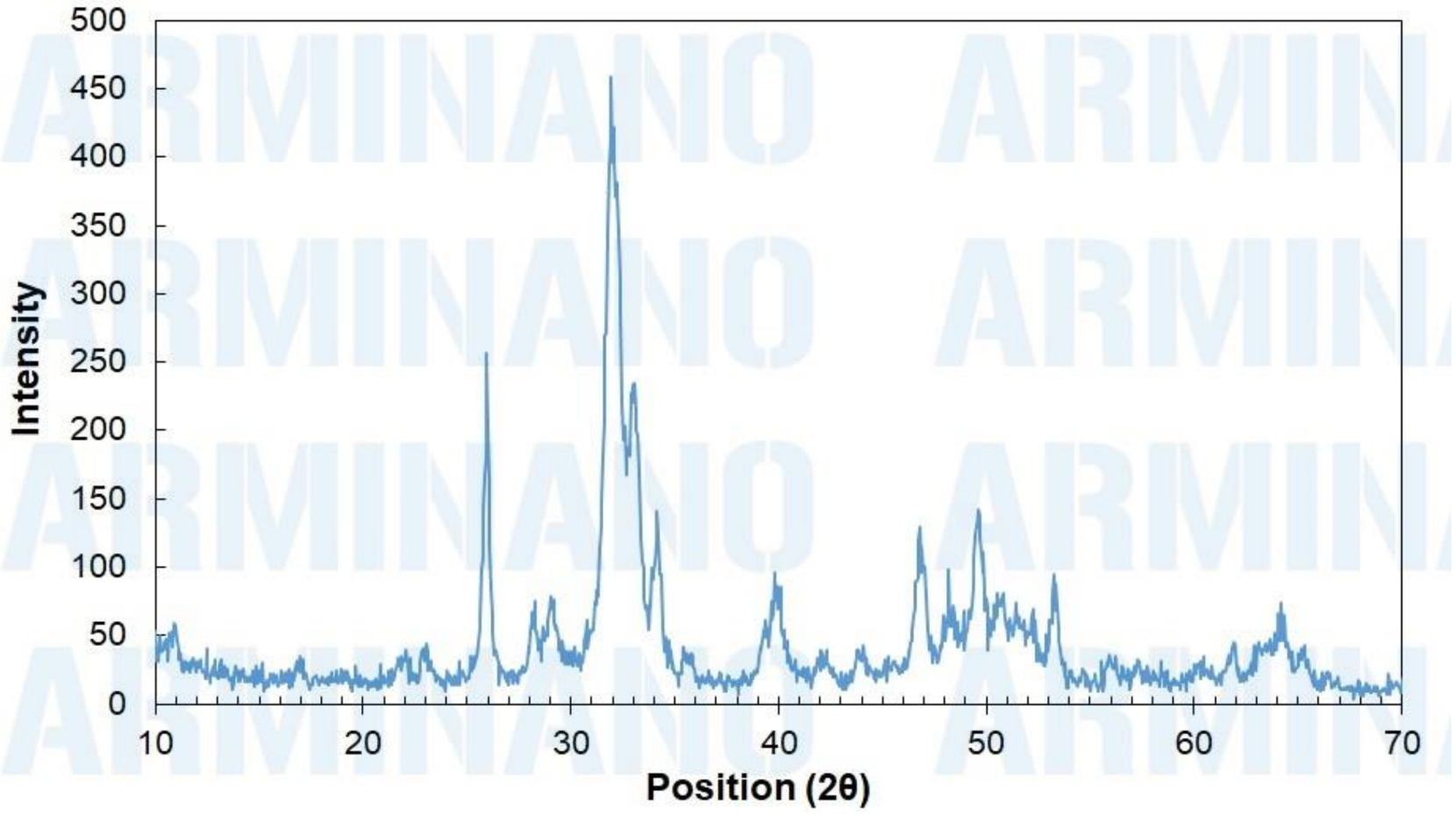




TEM images of HAP1401



XRD pattern of HAP1401

Storage:

Keep it in cool dry place.
Avoid direct sunlight.
Do not freeze.
To disperse nanoparticles sonication could be used.

Shelf life:

When stored as specified the product is stable for at least 6 months.

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