

Ferric Oxide Nanoparticles FNP202

Description:

Hematite ($\alpha\text{-Fe}_2\text{O}_3$) is found to be the most stable and the cheapest iron oxide with n-type semiconductor properties ($E_g=2.1\text{eV}$) under ambient conditions. It exhibits weak ferromagnetism between 260 K and the Néel temperature, nontoxic, and corrosion-resistant. Moreover, it shows strong catalytic activity, widely and easily available, and is extremely environment friendly. It is a candidate for visible-light photocatalysis which can absorb visible light, collect up to 45% of solarspectrum energy.

Characterization	
CAS	1309-37-1
Stock No.	FNP202
Molecular formula	$\alpha\text{-Fe}_2\text{O}_3$
Molecular weight (g/mol)	159.69
Form	Powder
Color	Dark Red
Morphology	Oval
Crystal structure	Rhombohedral
Size range (nm)	D= 50-80 L= 100-300
Total impurity (%)	N/A
Néel temperature ($^{\circ}\text{C}$)	677
Density (g/cm ³)	5.25
Solubility	Insoluble



Image of iron(III) oxide nanopowder (FNP202)

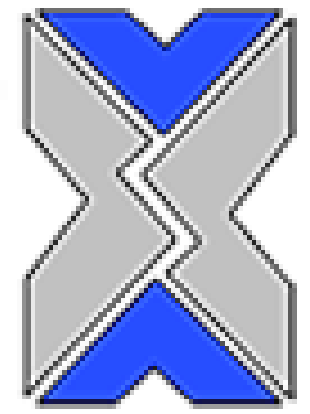
Note: product specifications are subject to amendment and may change over time.

Applications (but not limited to the following):

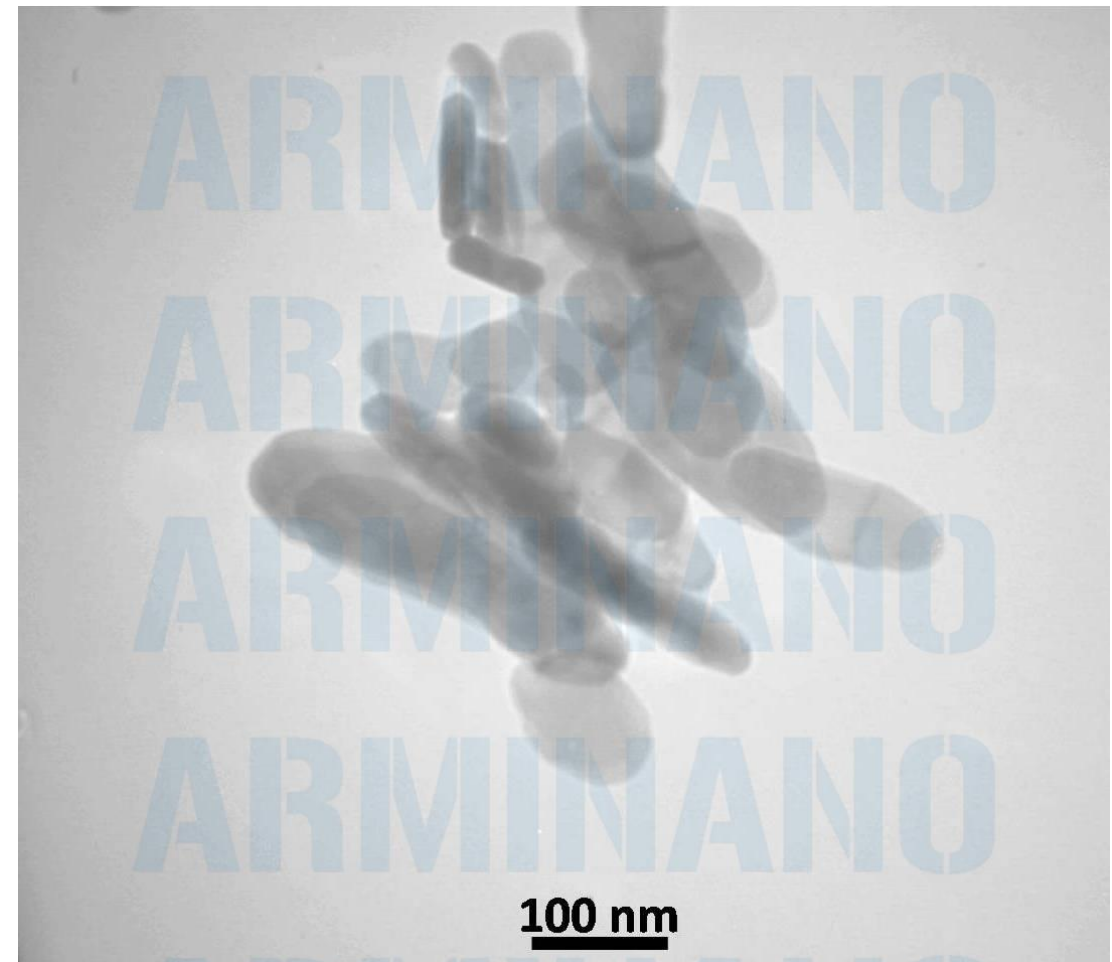
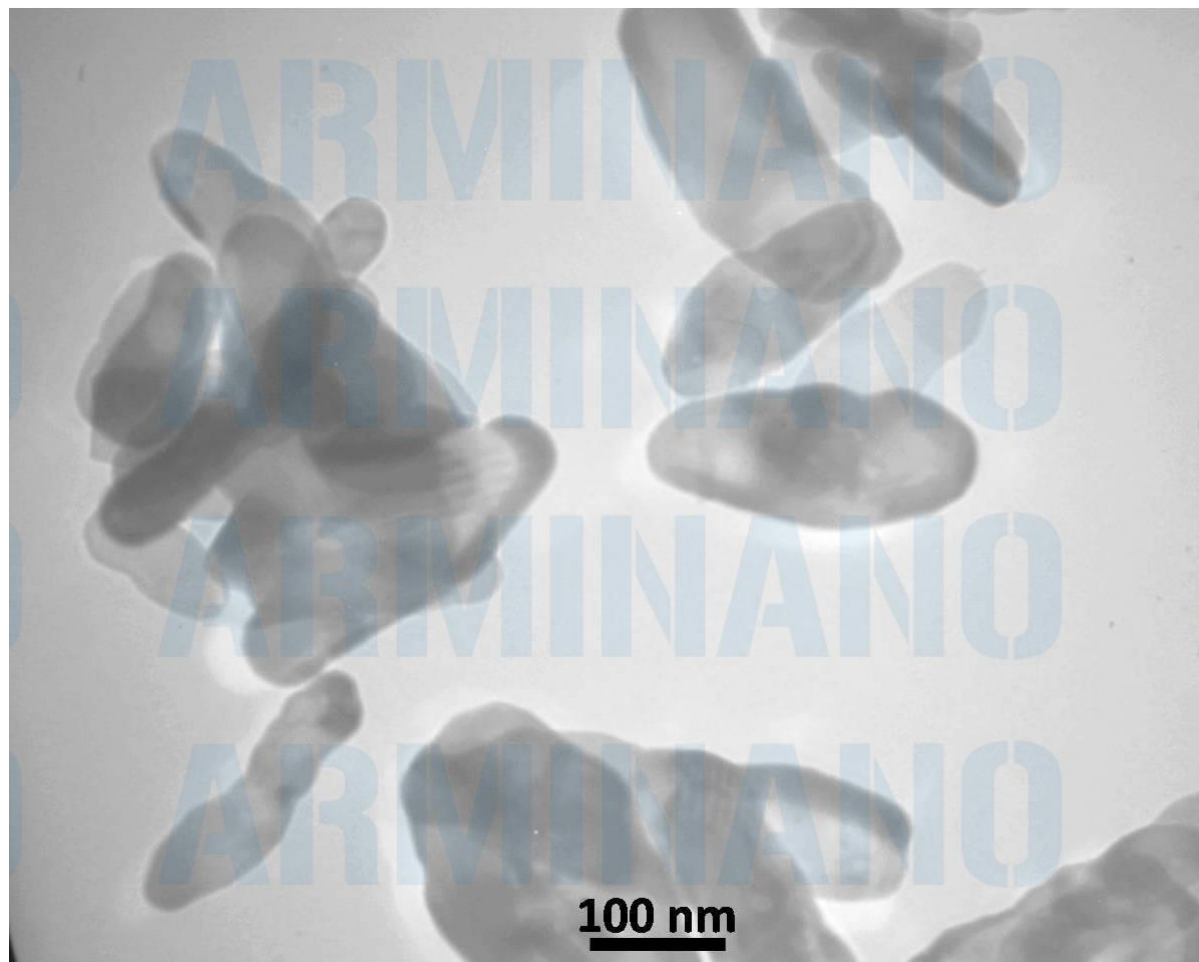
Solar photoelectrochemical (PEC) cell , photocatalytic applications, sensing elements in gas sensors and humidity sensors, lithium ion batteries.

Safety:

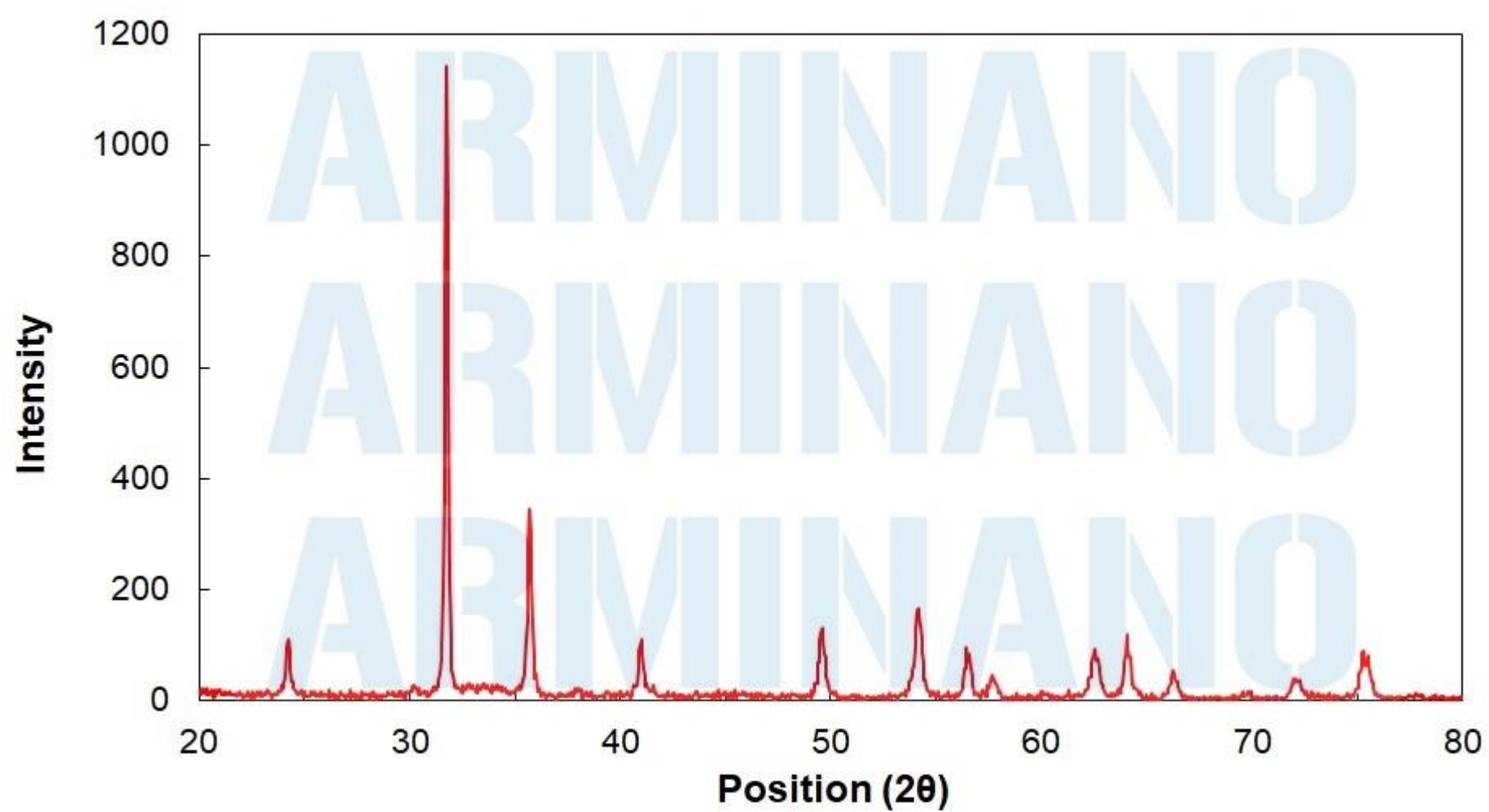
Avoid breathing dust.
Always use protective gloves and safety glasses.
Wash with soap and water after exposure.
Refer to MSDS prior to handling this material.



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TEM image of FNP202



XRD pattern of FNP202

Storage:

Keep it in cool dry place.
Avoid direct sunlight.
Do not freeze.
To disperse powder use sonication.

Shelf life:

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