

MAGNETITE IRON OXIDE NANOPARTICLES

POLYMETHYLSILOXANE

99.9%

(Purity)



Iron oxides are common natural compounds and can also easily be synthesized in the laboratory. There are 16 iron oxides, including oxides, hydroxides, and oxide-hydroxides. These minerals are a result of aqueous reactions under various redox and pH conditions. They have the basic composition of Fe, O, and/or OH, but differ in the valency of iron and overall crystal structure. Some of the important iron oxides are goethite, akaganeite, lepidocrocite, magnetite, and hematite.

Iron oxide (IO) nanoparticles consist of maghemite (γ -Fe₂O₃) and/or magnetite (Fe₃O₄) particles with diameters ranging from 1 and 100 nanometer and find applications in magnetic data storage, biosensing, drug-delivery etc. In nanoparticles (NPs), the surface area to volume ratio increases significantly. This allows a considerably higher binding capacity and excellent dispersibility of NPs in solutions. Magnetic NPs, with sizes between 2 and 20 nm display superparamagnetism, i.e. their magnetization is zero, in the absence of an external magnetic field and they can be magnetized by an external magnetic source. This property provides additional stability for magnetic nanoparticles in solutions.



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Stock no:
NS6130-12-000821

CHEMICAL IDENTIFIERS

Purity	:	99.9%
Chemical name	:	(C ₂ H ₆ OSi) _n Fe ₃ O ₄
APS	:	100nm
CAS	:	1317-61-9
Density	:	3.95 g/cm ³
Melting Point	:	1597 °C

Applications

- ✓ As contrast agents for Magnetic Resonance Imaging (MRI)
- ✓ As drug carriers for target specific drug delivery
- ✓ As gene carriers for gene therapy
- ✓ As therapeutic agents for hyperthermia based cancer treatments

ISO 9001:2015
CERTIFIED COMPANY



20ZICE4589C



19ZAZGO1274G



20ZICE4588M

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