

EXAMPLE SPEC SHEET

Iron-Iron Oxide Core-shell Nanoparticles (Fe-FeO_x)

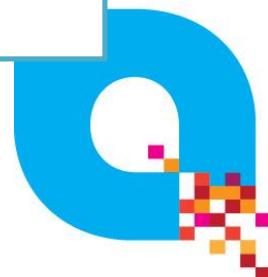
SPECIFICATIONS

- Batch #: XXXXX
- Material: Iron-Iron oxide core-shell nanoparticles. Consists of iron (Fe) core with thin < 1 nm iron oxide spinel shell.
- Solvent: Water
- Concentration: 1-5 mg / mL
- Quantity supplied: 1-5 mL
- Stabiliser (capping-agent): choice of Phos-PEG, DMSA or oleylamine (hydrophobic)
- Size distribution: 14.2 ± 1.6 nm
- Physical Appearance: black solution
- Magnetic characteristic: Saturated magnetisation up to 130 emu/g at 10,000 Oe, near superparamagnetic (coercivities between 10-400 Oe depending on size and coatings.)
- Storage: fridge (4 °C)

CHARACTERISATION SUPPLIED

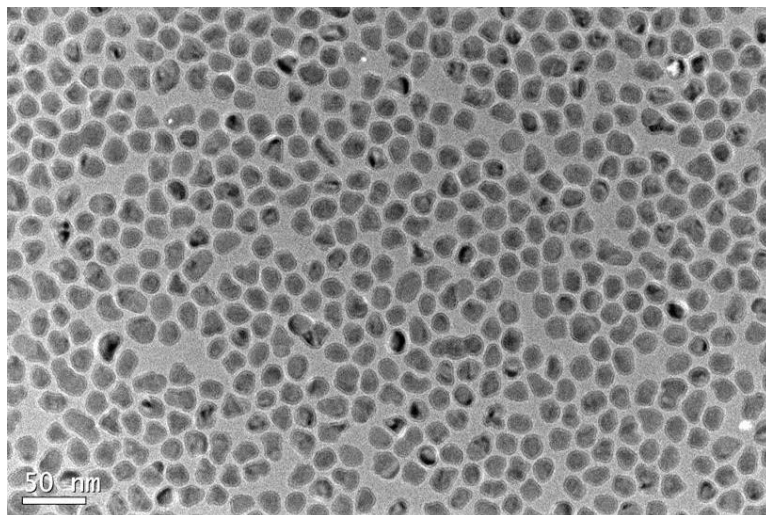
- Transmission electron microscopy (TEM)
- Electron Diffraction (ED)
- X-ray powder diffraction (XRD)

Analysis and specifications may change with material. We will confirm characterisation supplied at time of enquiry.



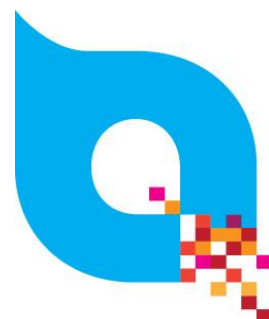
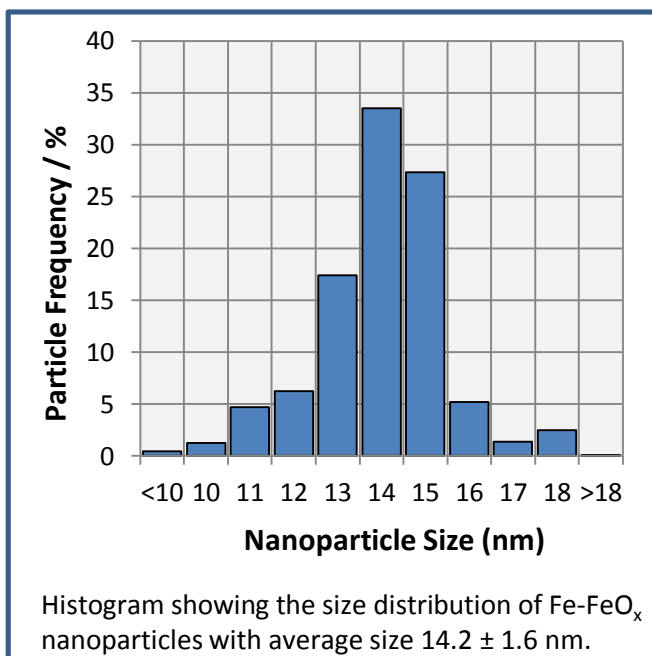
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EXAMPLE TEM IMAGE



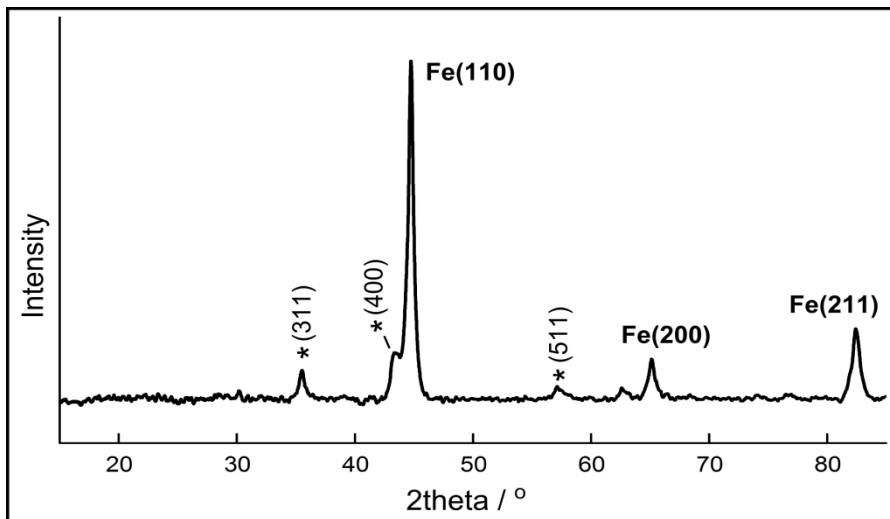
Transmission electron microscopy (TEM) images of the iron-iron oxide core-shell nanoparticles.

EXAMPLE SIZE ANALYSIS



Superparamagnetic Iron-Iron Oxide Core-shell Nanoparticles (Fe-FeO_x)

EXAMPLE XRD SUPPLIED



X-Ray diffraction pattern of the Fe-FeO_x core-shell nanoparticles, with diffraction peaks indexed to α-Fe (in bold) and spinel iron oxide phase (*) originating from thin shell visible by electron microscopy.

TYPICAL MAGNETIC SATURATION OF IRON NANOPARTICLES

