EMG1111

Magnetic nano-particles with no surface treatment in aqueous medinm

MAGNETIC NANO-PARTICLES DEVELOPER KIT for Biomedical application

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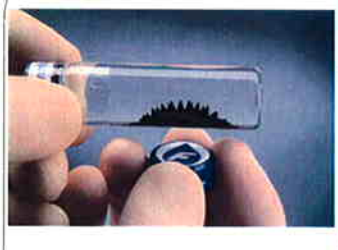
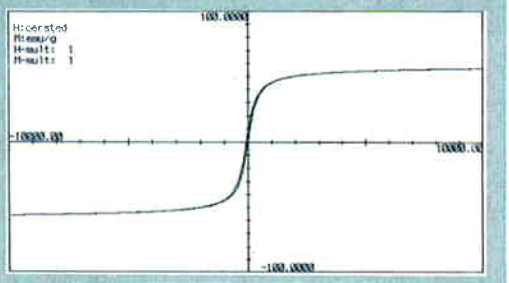


Ferrotec Corporation (JAPAN)
1-4 Midoridaira Yokaichiba
Chiba, 289-2131 JAPAN
TEL 81-479-73-6752
FAX 81-479-73-6602
ffsales@ferrotec.co.jp

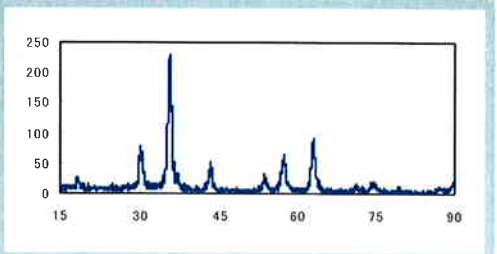
Ferrotec (USA) Corporation
40 Simon Street
Nashua, NH 03060 USA
TEL 1-603-883-9800
FAX 1-603-883-2308
sales@ferrotec.com

EMG1111 is water based slurry containing magnetic nano particles of iron oxide coated with no surfactant. The particles have a nominal diameter of about 10nm having single domain & superparamagnetic property. Therefore no hysterysis on magnetization curve can be seen as a typical data obtained by VSM (Vibrating Sampling Magnetometer). The particles also have magnetic permeability as in table and an initial susceptibility of about 0.6 typically.

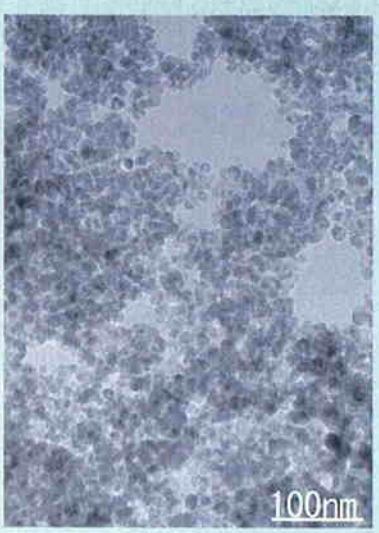


VSM data for typical EMG1111 (iron oxide particles in slurry)

The particles have about 10 nm diameter on average, however some distribution of the size can be seen as a picture of TEM (Transmittance Electron Microscope). A core of the particles are iron oxides and these are well known as compatible with living body.



XRD analysis data for typical EMG1111



TEM picture for typical EMG1111

Physical properties for EMG1111 (specification or typical data)

Appearance	Water based slurry
Saturation magnetization of iron oxide in water based slurry (Typical data)	About 65 emu/g
Average particle size (Typical data)	About 10 nm
Density of water based slurry at 25C	1.13～1.23 g/cm^3

From the X-ray analysis data by using XRD (X-Ray Diffraction spectroscopy), we can see the iron oxides are the mixture of Fe3O4 and gamma-Fe2O3.

EMG1111 allows the researcher to coat the particles with his/her own surfactant. The uncoated particles are also used as reference sample for some researchers.

We recommend an ultra sound treatment (sonication) prior to use of the product.

Please feel free to contact Ferrotec if you need technical assistance for the particles.

CAUTION

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