"Suppliers of Ferrofluids for Research and Industry"

Ferrofluids for Inkjet Printing

Ferrofluids

Ferrofluids are stable colloidal dispersions of single domain magnetic particles, typically 10nm in diameter. The particles are usually Fe_3O_4 (magnetite) or in the case of magnetic inks cobalt ferrite. The particles are held in suspension by the use of dispersing agents, which are compatible with both the carrier fluid and the magnetic particles. The carrier fluid is usually synthetic oil, or in the case of magnetic inks for printing, usually a highly volatile alcohol or alcohol/water.

Role of ferrofluid in inkjet printing

Traditional inks used in inkjet printers are non magnetic, i.e. there is no remnant magnetic signal that can be detected once the ink has been jetted onto a surface. By incorporating Angstrom sized magnetic particles (typically 10% by weight) into the formulation, an ink is produced which is capable of retaining a magnetic signal and can subsequently be read by very simple and inexpensive magnetic recording technology. This class of magnetic inks has applications where low resolution characters need to be read quickly and with minimum error. Applications include bar coding and address dot codes for use in document sorting.

Fluid No.	Ms (Gauss)	Carrier	Magnetic remanence	Viscosity (cp)
MJ200	200	Water	0.2 – 0.3	< 10 cp
MJ300	300	Water	0.2 – 0.3	< 10 cp

Fluid specifications

Fluids with saturation magnetisation (Ms) of up to 300 Gauss can be produced, with viscosities below 10 cp (measured at 27°C). The particles used can be detected inductively or via a remanence measurement.

Health and Safety

Ferrofluids are not classed as hazardous materials. Normal industrial health and safety procedures should be practised when handling any ferrofluid. Rubber or latex gloves and goggles should be worn. In case of contact with skin the affected area should be washed with mild soap and water. In case of eye contact, the eyes should be flushed with plenty of clean water for 15 minutes. All our ferrofluids are supplied with a safety sheet.

For further information please contact our technical department at the address below.

LIQUIDS RESEARCH LIMITED
UNIT 3B MENTEC DEINIOL ROAD BANGOR GWYNEDD LL57 2UP UK
TEL: +44(0)1248 352204 / 354103 FAX: +44(0)1248 352204 / 352497
Email: mail@liquidsresearch.co.uk Web:http://www.liquidsresearch.com