

Magnetic Fluids

Our bureau has been a great competence in the preparation of tailored magnetic fluids (MF) known also as ferrofluids.

We are able to prepare as well as water and organic based MF and nano magnetorheological fluids (nano-MRF). There are exist a lot of contacts to scientists and users in this field to support everybody by know how and licenses. We are able to help at commercialization of innovative ideas in this special field of nano-technology.

We are specialized in the development of tailor made magnetic fluids due to an optimal core/shell design

like to vary the chemical composition and size of the cores,

like to modify the core surface as well as by mono and bilayers and biocompatible shells,

like to choose suitable dispersion media.

Nano-MRF with ferrite core sizes up to 150nm. They are multidomain particles having a more or less own magnetization. The viscosity can be changed up to three orders of magnitude. The particles are agglomerated by magnetic interparticle interaction. Nevertheless, they are sedimentation stable under gravitation and under action of an external magnetic field.

Application	Corresponding laboratory samples
Machinery: Sealing technique towards (high) vacuum pressure and up to about 3 bar, Damper and coupling, clutch ...:	Magnetite-MF based on vacuum oils or diffusion pump oils with J_s-values of 30-60mT, Special: MF bases on perfluorinated polyethers (Fomblin, Krytox oil) of J_s-values of 20-50mT. Hydrocarbon based magnetite-nano-MRF . Perfluorinated polyethers based magnetite MRF
Magnetically to identified inks, Check on rents at magnetizable tools	Water based magnetite//cobalt ferrite-MF with J_s values of 3-15mT
Float-Sink density-separation of nonmagnetic materials suspended in a MF in presence of a magnetic field gradient: Mining (gold or diamond enrichment), electronic scrape and non ferrous metal separation	Water based magnetite-MF, low viscosity, recover, with J_s-values of 10-40mT
Diagnostic and/or therapy	Magnetite/Maghemite/Co-ferrite-water based MF with biocompatible shells, like polyelectrolytes, carboxylated polysaccharides or carboxylated cyclodextrins, poly aspartic acids.
Toy containing a oily based MF suspended in water	Magnetite-oily based MF with a J_s-value up to 70mT

Minimum offer: >100 €

Offers:

Advices in preparation, modification, colloidal stability of magnetic nanoparticles in solvents.

- Preparation of magnetic fluids,
- Chemical/physical properties
- Applications

Support for market and patent analysis.

- For technical or biological use
 - State of the Art,
 - Potential applications,
 - Special compositions,

Physical measurements with your dispersions at own equipment.

Contact

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More information:

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80 mT-oily based MF between two electromagnets under action of an uniform magnetic field

Magnetic Fluids, nano Magneto Rheological Fluids

Development, Licenses, Samples

Dr. Norbert Buske

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