

EMG Ferrofluid

Name	carrier liquid	sat. magnetization Js	viscosity @27°C	Ø Particle	beginning susceptibility	density @25°C	flash point	pH value	evaporation rate 1h @50°C	stock point	volume content Fe3O4	surfactant
		mT	mPa s	nm		g/cm³	°C			°C	Vol %	
EMG 304	water	27.5	40	10	4.98	1.24	0	7		0	4.50%	anionic
EMG 308	water	6.6	2	10	0.53	1.06	0	8..9		0	1.20%	anionic
EMG 408	water	6.6	5	10	0.54	1.07	0	7		0	1.20%	anionic
EMG 507	water	11	5	10	1.63	1.12	0	8..9		0	2.00%	anionic
EMG 508	water	6.6	5	10	0.94	1.07	0	8..9		0	1.20%	anionic
EMG 509	water	3.3	5	10	0.45	1.03	0	8..9		0	0.60%	anionic
EMG 605	water	22	5	10	2.96	1.18	0	9..10		0	3.90%	cationic
EMG 607	water	11	5	10	1.7	1.1	0	9..10		0	2.00%	cationic
EMG 700	water	32.5	5	10	12.63	1.29	0	7		0	5.80%	anionic
EMG 705	water	22	5	10	4.1	1.19	0	8..9		0	3.90%	anionic
EMG 707	water	11	5	10	1.5	1.1	0	8..9		0	2.00%	anionic
EMG 708	water	6.6	5	10	0.68	1.08	0	8..9		0	1.20%	anionic
EMG 805	water	22	3	10	2.8	1.19	0	6..7		0	3.57%	anionic
EMG 807	water	11	5	10	1.93	1.1	0	6..7		0	2.00%	anionic
EMG 900	light hydrocarbon	99	60	10	18.6	1.74	89	0	9%	-94	17.70%	anionic
EMG 901	light hydrocarbon	66	10	10	6.83	1.43	89	0	9%	-94	11.80%	anionic
EMG 905	light hydrocarbon	44	9	10	3.47	1.2	89	0	9%	-94	7.80%	
EMG 909	light hydrocarbon	22	6	10	1.38	1.02	89	0	9%	-94	3.90%	anionic
EMG 911	light hydrocarbon	11	4	10	0.56	0.89	89	0	9%	-94	2.00%	anionic
EMG 912	light hydrocarbon	5.5	2	10		0.84	81	0	9%	-94	1.00%	anionic
EMG 1111	water	26	5	10		1.18		5..7			4.70%	none

The particles consist of (Fe₃O₄) and are predominantly spherically. The particle diameter of 10 nm (100Å) with standard types are average values of a log-normal size distribution. This average size can also be provided with 6 nm on request. The half value width is with standard types about 5.6 nm and can be manufactured down to 3 nm on request.

The particles of water based Ferrofluid tend to agglomerate, therefore a shelf life of about 3 months is the limit. Regularly ultrasonic applications may delay agglomerating, but do not fully compensate agglomeration. The shelf life is greatly extended by deep freezing. Dilution leads to increasing colloid instability, therefore only the needed volume of Ferrofluid should be diluted. Deionized or distilled water, as well as alcohol can be used for dilution of water based Ferrofluid.

Ferrofluids with different carriers (like cyclohexan, dodekan, heptan, toluen) can be provided with varying particle concentration.

The dielectric number of all water based Ferrofluid is about 75.

Please note, that the notion "magnetization" in Gauss, named in most US literature (cgs-System) corresponds to the notion "Polarisation" according to DIN 1325 with the formula notion J and the unit Tesla.