

Material Safety Data Sheet saccording to 93/112/EWG

date: 2004-12-21

1 Product identification

1.1 Product name:

Ferrofluid, type: **EMG 9xx**

(optional xx are typical numbers)

1.2 Manufacturer

Ferrotec GmbH
Seerosenstr. 1, 72669 Unterensingen, Germany
phone: +49 7022 9270-0
represented by the managing director M. Andreas Quendt

1.3 Emergency telephone:

+1 703 527-3887

2. Components

| | |
|-------------------------|---------------|
| Magnetite: | 3..15% (Vol) |
| oil soluble dispersant: | 6..30% (Vol) |
| hydrocarbon carrier: | 55..91% (Vol) |

3. Hazards

The particles in the colloid cause persistant stains on textiles, on the skin etc. The particles are very small and get into pores. Stains on the skin are harmless, but may derogate in the eye.

4. First aid

| | |
|--------------------|--|
| contact with skin: | wash with soap and water. |
| contact with eye: | flush with water and consult a physician. |
| inhalation: | move to fresh air and consult a physician. |
| ingestion: | always consult a physician. |

5. Fire hazard

| | |
|--------------------------------|--------------------------|
| extinguishing material: | CO ₂ , foams, |
| powders, water | |
| dangerous reactions: | pyrolyse may |
| produce CO and NO _x | |
| water may cause frothing. | |

6. Spill or lead procedures

Avoid extensive contact with skin, if necessary use protective gloves.
Remove free liquid with absorber material (sand, sawdust) and wash the surface with soap and water.
Dispose waste water over an oil separator.

7. Handling and storage

7.1 Handling:

Avoid prolonged or repeated skin contact. Use protective gloves if necessary.

7.2 Storage:

Store the container in an upright position, keep closed.

8. Personal protection

Use safety glasses if splash is possible.

9. Physical properties

| | |
|----------------------|------------------------------|
| Appearance: | black liquid, mild odor |
| boiling point: | >204..255°C |
| flash point: | >71°C, method: TCC |
| density: | 920..1470 Kg m ⁻³ |
| solubility in water: | negligible |
| evaporation rate | <0,1 (n-Butyl Acetat = 1) |

10. Reactivity data

Avoid pyrolysis and strong oxidizing materials.

11 Toxicological properties

Threshold limit value for oil mist in air: 5 mg/m³ (OSHA, 29 CFR 910-1000)

This material is not sold for use in products for which prolonged contact with human body is intended.

This product does not contain any chemical considered cancerogenic by any recognized sources.

12 Environmental data

No environmental data available.

13 Disposal

14 Transportation

Transport by land ADR/RID and GGVS/GGVE (transborder/national):

ADR/RID-GGVS/E class: -

Seeschifftransport IMDG/GGVSee:

IMDG/GGVSee-class: -

Marine pollutant: No

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA-class: -

Transport/further notes:

According to danger goods-/Transport regulations not classified dangerous.

15 Regulations

16 Other information, comments

Users should be aware that a small percentage of the population may display unexpected allergic skin reactions to otherwise innocuous industrial chemicals and raw material.

PM = Method for determination for the flash point according to Pensky-Martens. The flash point is a temperature limit above which vapors in flammable concentration escape.

OSHA = Occupational Safety & Health Administration (in the US)

All components are listed in European Lists and are allowed to be imported to the EU. All data are based on best today's knowledge. They should specify the product in terms of security, and are not meant to be application related attributes, and therefore are not contracting. This is an MSDS according to European regulations and §14 GefStoffV (Germany). For not classified products this is on voluntarily basis.