

SAFETY DATA SHEET

[SECTION 1]: PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Details

Product Name: **Water-Based Ferrofluid**
Trade Name: **EMG 400 Series Ferrofluid**
Chemical Name: **Proprietary Product**
Chemical Formula: **Mixture**
Chemical Family: **Colloidal Dispersion**
Relevant Identified Use and Uses Advised Against: **Domain Detection, Bio-medical Research; N/A**

1.2 Manufacturer

Manufacturer's Name: **Ferrotec Corporation**
Importers / Distributor's Name and Address: **Ferrotec (USA) Corporation, 33 Constitution Drive, Bedford, NH 03110 USA**
Telephone Number: **(603) 472-6800**
Emergency Telephone Number: **+1 (800)424-9300 (CHEMTREC – US only)**
+1 (703)527-3887 (CHEMTREC – International)

Other product safety information: **+81-479-73-6752 (FERROTEC CORP. – Japan)**
+49-7022-9270-0 (FERROTEC GmbH – Germany)

[SECTION 2]: HAZARD IDENTIFICATION

Classification of the substance/mixture: Not a dangerous substance according to Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Most important hazards (including hazard symbols): **None**

Other hazards: **N/A**

[SECTION 3]: COMPOSITION / INGREDIENT INFORMATION

The precise composition of this mixture is proprietary information.

A more complete disclosure will be provided to a physician or a nurse in the event of a medical emergency. All components are registered in Chemical Abstracts Service (CAS).

Composition		Proportion % (by volume)	Exposure Limit	Toxicity Data
A	Magnetite (Fe ₃ O ₄)	0.4 – 1.1	Not Determined	N/A
B	Water-soluble Dispersant	0.5 – 1.5	Not Determined	N/A
C	DI Water (H ₂ O)	97.4 – 99.1	N/A	N/A

[SECTION 4]: FIRST AID MEASURES

Ingestion: Rinse mouth and give moderate amount of water to drink. This product is pH neutral. Do not induce vomiting unless directed by medical professional. If vomiting does occur, the head should be kept lower than the torso so as to prevent aspiration into the lungs.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting eyelids. Check for and remove contact lenses. Get medical attention.

Skin Contact: Flush contaminated skin with water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Inhalation: Move person to fresh air. If person is not breathing, call for emergency assistance (911 or other emergency number) then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

Notes to physicians: This product is pH neutral (~7). Treatment is symptomatic and supportive.

[SECTION 5]: FIRE FIGHTING MEASURES

Flammable properties

Flash point: **N/A**

Flammable limits: **N/A**

Extinguishing media: **N/A**

Fire fighting instructions: **None**

Specific hazards or hazardous conditions to be avoided: **None**

[SECTION 6]: ACCIDENTAL RELEASE MEASURES

Steps to be taken in case material is released or spilled:

Environmental Precautions: **Remove free liquid. Add absorbent (sand, earth, sawdust) to spill area.**

After removing absorbent, wash surface with soap and water to reduce possible slipping hazard.

Methods and materials for containment and cleanup: **Consult federal, state and local regulations applicable to disposal of wastewater.**

[SECTION 7]: HANDLING AND STORAGE

Precautions for Handling: **Ordinary care in handling of chemicals. Wash hands after handling.**

Precautions for Storage: **Store in a cool, dry area.**

Other precautions: **Avoid contamination of food or tobacco products. Users should be aware that a very small percentage of the population may display unexpected allergic skin reactions to otherwise innocuous industrial chemicals and raw materials.**

[SECTION 8]: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limit: **Not Determined**

Engineering measurement: **Not Determined**

Personal Protection: **Protective Gloves, Safety glasses**

Respiratory protection: **None required unless smoke, mists or vapors are produced.**

Ventilation: **No special ventilation required.**

Hand protection: **Rubber or plastic gloves to prevent prolonged or repeated contact with skin.**

Eye protection: **Safety glasses if splash is possible.**

Other protective equipment: **Not needed.**

[SECTION 9]: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: **Black Fluid**

Odor: **No odor**

Solubility in Water: **Complete**

Boiling point (°C): **100**

Melting point (°C): **0**

Vapor pressure (kPa @ 20°C): **17.5**

Percentage volatiles: **97.4 – 99.1 by volume**

Evaporation rate: **N/A**

Vapor density (Air = 1): **<1**

Density (g/cm³): **1.05 to 1.07**

Flash point: **N/A**

Auto-ignition temperature: **N/A**

Flammable limit (%): **N/A**

Other properties if applicable: **pH ~ 7**

[SECTION 10]: STABILITY AND REACTIVITY

Conditions to avoid: **Pyrolysis**

Stability: **Stable at normal temperatures and pressure.**

Material to avoid: **Strong oxidizing material, heat and flame.**

Hazardous decomposition products: **Burning may produce carbon monoxide and nitrogen oxides.**

Hazardous polymerization/reactions: **Will not occur.**

[SECTION 11]: TOXICOLOGICAL INFORMATION

Toxicity data: **No data**

Carcinogenicity: **No data**

Reproductive effects: **No data**

Effects of overexposure: **No data**

Chronic effects: **No data**

Target organs: **No data**

Medical conditions generally aggravated by exposure: **No data**

[SECTION 12]: ECOLOGICAL INFORMATION

Mobility in soil: **No data**
Bioaccumulation: **No data**
Biodegradability: **No data**
Ecotoxicity (Aquatic and Terrestrial toxicity): **No data**

[SECTION 13]: DISPOSAL CONSIDERATION

Comply with all federal, state and local regulations.
Do not dump this product into sewers, on the ground or into any body of water.

[SECTION 14]: TRANSPORT INFORMATION

Hazard class: **N/A**
UN No: **N/A**
Packing Group: **N/A**
US DOT bulk shipping description: **Not regulated**
US DOT non-bulk shipping description: **Not regulated**
IMDG Code shipping description: **Not regulated**
ICAO shipping description: **Not regulated**
ADR/RID hazard class: **Not regulated**
IATA non-bulk shipping description: **Not regulated**

[SECTION 15]: REGULATORY INFORMATION

Composition	CAS No.	TSCA	EINECS	OSHA
A Iron oxide (magnetite)	1309-38-2	Registered	Registered	Registered
B Water Soluble Dispersant	Proprietary	Registered	Registered	Registered
C DI Water (H ₂ O)	7732-18-5	Registered	Registered	Registered

These components do not contain any chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act (SARA) of 1986 and 40 CFR part 372.

[SECTION 16]: OTHER INFORMATION

We believe the statement, technical information and recommendations contained herein to be reliable, but they are given without warranty or guarantee of any kind, express or implied, and we assume no responsibility for any loss, damage or expense, direct or consequential, arising from their use.

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