

# SAFETY DATA SHEET

Date Printed: 05/05/2024

Date Revised: 01/15/2022

## SECTION 1. IDENTIFICATION

**Product Identifier:** Ferrofluid

**Product Code:** FER-FLUID-01-LIQ

**CAS Number:** N/A

**Relevant identified uses of the substance:** Scientific research and development

Supplier details:

American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351  
Emergency telephone number:  
+1 800-424-9300

## SECTION 2. HAZARDS IDENTIFICATION

Skin Corrosion/Irritation: Category2

Severe Eye Damage/Irritation:

Category 2

Target Organs: Not Established

Aspiration Toxicant: Category 1

GHS Label Elements, including precautionary statements ?

Pictogram:



Signal word: Warning, Danger

Hazard statement(s):

H315 Cause skin irritation

H319 Cause serious eye irritation

H304 May be fatal if swallowed and enters airways

Precautionary statement(s):?

Prevention

P264 Wash thoroughly after handling

P273 Avoid release to the environment

P280 Wear protective gloves/protective clothing/eye protection/face protection.

?Response

P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

P302+P352 If on skin: Wash with plenty of soap and water

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes.

Remove contact lenses, if possible and easy to do. Continue rinsing.

P331: Do NOT induce vomiting

P332+P313: IF skin irritation occurs: Get medical advice/attention.

P337+P313: If eye irritation persists: Get medical advice/attention.

P362 Take off contaminated clothing and wash before reuse.

P391 Collect spillage

P501: Dispose of contents and container in accordance with local regulations

Contains: DISTILLATES (PETROLEUM), HYDROTREATED LIGHT

Any hazards not otherwise classified or identified during classification process:

GHS Class 4 Combustible

% of mixture consisting of ingredient(s) of unknown toxicity: Not Applicable (to be indicated henceforth as N/A)

HMIS Classification

Health hazard: 1

Chronic Health Hazard: N/A

Flammability: 1

Physical hazards: 0

NFPA Rating

Health hazard: 1

Fire: 1

Reactivity Hazard: 0

Potential Health Effects

Inhalation: Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation.

Skin: Potential skin irritant

Eyes: Potential eye irritant

Ingestion: No significant health hazard, however aspiration during ingestion can cause severe respiratory effects, including death.

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## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this mixture is proprietary information. A more complete disclosure will be provided to a physician or nurse in the event of a medical emergency.

Magnetite:

3-15 % by volume

Oil Soluble Dispersant:

6-30 % by volume

Carrier Liquid:

55-91 % by volume

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## SECTION 4. FIRST AID MEASURES

Threshold Limit Value:

5mg/m<sup>3</sup> for oil mist in air (OSHA Regulations 29 CFR 1910-1000)

Effects of Overexposure:

No experience with overexposure. Prolonged or repeated contact with skin or eye contact may cause irritation. Inhalation of mist or vapor at high temperature may irritate respiratory passages.

#### Emergency and First Aid Procedures:

##### Skin Contact:

Wash with soap and water.

##### Eyes:

Flush with water and consult a physician for treatment.

##### Inhalation of Smoke or Mist:

Move to fresh air and refer to physician for treatment.

##### Ingestion:

The material has minimal toxicity, but fluid aspirated into the lungs during ingestion could cause severe pulmonary injury.

You should not induce vomiting and should seek medical attention if the material is ingested.

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## SECTION 5. FIREFIGHTING MEASURES

Flash Point (°F): 160°

Method: TCC

Flammable Limits:

UEL: 0.6

LEL : 7.0 at 77°F

Extinguishing Media:

CO<sub>2</sub>, Foam, dry chemical, water spray.

Special Fire Fighting Procedure:

Avoid smoke inhalation. Water spray may cause frothing.

Unusual Fire and Explosion Hazard:

None

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

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

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.

Waste Disposal Method:

Consult federal, state and local regulations applicable to disposal of waste oils.

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## SECTION 7. HANDLING AND STORAGE

Precautions to be taken in handling and storing:

Ordinary care in handling chemicals. Wash hands after handling.

Other Precautions:

Avoid contamination of 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 material.

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection (Specify Type):

None required unless smoke, mists, or vapors are produced.

Ventilation:

No special ventilation required.

Protective Gloves:

If required to prevent prolonged or repeated skin contact.

Eye Protection:

Safety glasses, if splash is possible.

Other Protective Equipment:

Not needed.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Black/brown fluid

Lower/Upper Explosion Limits: Not established

Odor: Mild, faint

Vapor Pressure (kPa@20°C): 0.1

Odor Threshold: Not established

Vapor Density(Air=1): 6.4

pH: N/A

Density: 1.21–1.42 g/cc

Melting/Freezing Point(°C): Not established

Water Solubility: Insoluble

Boiling Point(°C): 223

Partition Coefficient:n?octanol/water: No data

Flash Point(°C): 95

Auto?ignition Temperature: 215°C

Evaporation Rate:<0.01

Decomposition Temp.: No data

Flammability(solid/gas): No data

Viscosity: 6 ? <12 cP

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## SECTION 10. STABILITY AND REACTIVITY

Stability:

Unstable [ ] Conditions to Avoid: Pyrolysis

Stable [x]

Incompatibility (materials to avoid):

Strong oxidizing materials, heat, and flame.

Hazardous Decomposition Products:

Burning may produce carbon monoxide and nitrogen oxides.

Hazardous Polymerization:

May Occur [ ] Will Not Occur [x]

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## SECTION 11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Oral LD50

LD50 Oral–No data

Inhalation LC50

LC50 Inhalation–No data

Dermal LD50  
LD50 Dermal—No data  
Potential health effects  
Inhalation: Slight irritation  
Ingestion: May cause death if aspirated during swallowing  
Skin: Slight irritation  
Eyes: Slight irritation  
Signs and Symptoms of Exposure:  
Symptoms, if present, vary with individual. Watch for signs of allergic reaction, rash or respiratory distress.  
Synergistic effects: No data  
Additional Information: N/A

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## **SECTION 12. ECOLOGICAL INFORMATION**

Ecotoxicity(Aquatic and Terrestrial toxicity): Variable data, not expected to be harmful to aquatic organisms  
Persistence and biodegradability: Expected to be inherently biodegradable  
Bioaccumulative potential: No data  
Mobility in soil: No data  
Other adverse effects: No data

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

Product: Comply with all federal, state and local regulations for disposal of waste oils.  
High temperature incineration.  
Do not dump this product into sewers, on the ground or into any body of water.  
Contaminated packaging: Dispose of as unused product, high temperature incineration.

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## **SECTION 14. TRANSPORT INFORMATION**

U.S. DOT Bulk  
Shipping Description:  
Not regulated  
U.S. DOT Non-Bulk  
Shipping Description:  
Not regulated  
IMDG Code  
Shipping Description:  
Not regulated  
ICAO Shipping Description:  
Not regulated  
ADR/RID Hazard Class:  
Not regulated

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## **SECTION 15. REGULATORY INFORMATION**

OSHA Hazards: N/A

DSL Status: N/A

SARA 302 Components: N/A

SARA 313 Components: N/A

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.

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## **16. OTHER INFORMATION**

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.