SAFETY DATA SHEET

Date revised: 16/03/2018

Anilox Research Technologies Sàrl
Route de Divonne 5A, CH-1260 Nyon, Switzerland

1. **Product identification**

Product trade name : Anicheck ferrofluid
Chemical name : Proprietary product
Chemical formula : Mixture
Chemical family : Colloidal dispersion
Relevant uses of the substance: Measurement of magnetic fields

Manufacturer : Ferrotec (USA) Corporation, 33 Constitution Drive, Bedford NH 03110, USA.
Phone : +1 603 472-6444

Emergency telephone : +1 703 527-3887

2. **Hazard identification**

Skin Corrosion / Irritation : Category 2
Severe Eye Damage / Irritation : Category 2
Target Organs : Not Established
Aspiration Toxicant : Category 1
GHS label Elements, including precautionary statements :
Pictogram :

Signal word : Warning

Hazard statements :
H315 Cause skin irritation
H319 Cause serious eye irritation
H400 Very toxic to aquatic life
H4100 Very toxic tp aquatic life with long lasting effects

Prevention :
P264 Wash thoroughly after handling
P273 Avoid release to the environment
P280 Wear protective gloves / protective clothing / eye protection / face protection

Response:

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.
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.

Any hazards not otherwise classified or identified during classification process:
GHS Class 4 Combustible
% of mixture of ingredient(s) of unknown toxicity: N/A

HMIS Classification:
Health hazard: 1
Chronic health hazard: N/A
Flammability: 2
Physical hazards: 0

NPFA rating:
Health hazard: 1
Fire: 2

Reactivity hazard: 0

Potential Health Effects:
Inhalation: Inhalation of oil mists or vapors at elevated temperatures may cause respiratory irritation
Skin: Potential skin irritant
Eyes: Potential eye irritant
Ingestion: No significant health hazard

3. Composition / Ingredient information

The particles in the colloid cause persistent 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.

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).
<table>
<thead>
<tr>
<th>Composition</th>
<th>Proportion % (by volume)</th>
<th>Exposure Limit</th>
<th>Toxicity Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Magnetite ((\text{Fe}_3\text{O}_4))</td>
<td>3 - 15</td>
<td>No Data</td>
<td>No Data</td>
</tr>
<tr>
<td>B Oil Soluble Dispersant</td>
<td>6 - 30</td>
<td>No Data</td>
<td>No Data</td>
</tr>
<tr>
<td>C Light Hydrocarbon Oil</td>
<td>55 - 91</td>
<td>No Data</td>
<td>No Data</td>
</tr>
</tbody>
</table>

4. **First aid measures**

Threshold Limit Value : 5 mg/m³ 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.

Contact with skin : Wash with soap and water

Contact with eye : Check for contact lenses and remove. Flush with water and consult a physician

Inhalation : Move to fresh air and consult a physician

Ingestion : This material has minimal toxicity, but fluid aspirated into lungs during ingestion could cause severe pulmonary injury. Always consult a physician

Most important symptoms / effects : Acute: Not established

Delayed: Not established

Indication of immediate medical attention and special treatment needed, if necessary : This product should not cause any significant health issues. Take appropriate action for signs of allergic or sensitivity reaction

Notes to physicians : This product contains fatty acid dispersant and light paraffinic hydrocarbon oil. If breathing has stopped, try artificial respiration.

5. **Fire fighting measures**

Flash point (°C) : 71°

Method : TCC
Flammable limits: \( \text{uel} : 0.6, \text{lel} : 7.0 \) at 25°C

Suitable extinguishing media: \( \text{CO}_2 \), foams, powders, water

Unsuitable extinguishing media: N/A

Specific hazards arising from chemical combustion products:
Burning may produce carbon monoxide and nitrogen oxides. Vapor mixed with air at temperatures above flash point may be explosive. Vapor is heavier than air.

Special fire fighting procedure: Avoid smoke inhalation. Water spray may cause frothing.

Special protective equipment and precautions for fire fighters:
Respirators, if smoke or vapor is present

Unusual fire and explosion hazard: None

6. Accidental release measures

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

Waste disposal method:
Dispose waste water over an oil separator.
Consult federal, state and local regulations applicable to disposal of waste oils.

7. Handling and storage

Handling:
Avoid prolonged or repeated skin contact.
Use protective gloves if necessary.
Ordinary care in handling chemicals. Wash hands after handling.

Storage:
Store the container in an upright position, keep closed.

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.

8. Exposure controls / Personal protection

Permissible exposure limit (PEL):
Not established

Threshold limit value (TLV):
Not established
Any other exposure limit : No data
Appropriate engineering controls : Supply adequate ventilation
Personal protective measures / equipment :
- Respiratory protection : not 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 recommended if splash is possible
- Other protective equipment : Apron recommended but not required

9. Physical and chemical properties

Appearance : Black liquid, mild odor
Boiling point : >204..255°C
Flash point : >71°C, method: TCC
Solubility in water : negligible
Evaporation rate : <0.1 (n-Butyl Acetat = 1)
Lower/upper explosion limits : Not established
Vapor pressure : 0.1 kPa @ 20°C
Vapor density (air=1) : 6.4
pH : N/A
Melting/freezing point : Not established
Partition coefficient : n-octanol/water : no data
Auto-ignition temperature : 215 °C
Odor threshold : Not established
Density : 1.21 – 1.42 g/cm³
Flammability (solid/gas) : No data
10. **Stability and reactivity**

   **Reactivity:** No data

   **Chemical stability:** Stable under recommended storage conditions

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

   **Hazardous polymerization:** Will not occur

   **Conditions to avoid:** Will evaporate if left in open air. Avoid flame, spark and other ignition sources. Keep away from sewers and bodies of water.

   **Incompatible materials:** Strong oxidizing agents

11. **Toxicological properties**

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

    **Acute toxicity:**
    - Oral LD50: no data
    - Inhalation LC50: no data
    - Dermal LD50: 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

12. **Ecological information**

    **Ecotoxicity:** Variable data
Persistence and biodegradability: Possibility of bio-concentration because of non-resolvability

Bioaccumulative potential: Non resolvability: high possibility of bioaccumulation due to hard resolvability

Mobility in soil: Possibility of adsorption into soil

Other adverse effects: No data

### 13. Disposal consideration

Product: Comply with all European, 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.

### 14. Transport information

**DOT (US)**
- **Hazard class**: Combustible liquid
- **UN No**: N/A
- **Packing group**: III
- **Proper bulk shipping description**: Hydrocarbons, Liquid, N.O.S.
- **Proper non-bulk shipping description**: Not restricted
- **Reportable quantity**: None
- **Marine pollutant**: No reference
- **Poison inhalation hazard**: N/A

**IMDG**
- **Hazard class**: Combustible liquid
- **UN No**: N/A
- **Packing group**: III
- **Proper bulk shipping description**: Not restricted
- **Proper non-bulk shipping description**: Not restricted
- **ICAO shipping description**: Not restricted
- **ADR/RID hazard class**: Not restricted

**IATA**
- **Hazard class**: GHS Class 4 Combustible
- **UN No**: N/A
- **Packing group**: III
- **Proper bulk shipping description**: Not restricted
- **Proper non-bulk shipping description**: Not restricted

**ICAO**
- **Not regulated**
15. **Regulations**

OSHA Hazards : N/A

DSL Status : N/A

SARA 302 Components : N/A

SARA 313 Components : N/A

<table>
<thead>
<tr>
<th>Composition</th>
<th>CAS No.</th>
<th>TSCA</th>
<th>EINECS</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Magnetite (Fe₃O₄)</td>
<td>1309-38-2</td>
<td>Registered</td>
<td>Registered</td>
<td>Registered</td>
</tr>
<tr>
<td>B Oil Soluble Dispersant</td>
<td>Proprietary</td>
<td>Registered</td>
<td>Registered</td>
<td>Registered</td>
</tr>
<tr>
<td>C Light Hydrocarbon Oil</td>
<td>Proprietary</td>
<td>Registered</td>
<td>Registered</td>
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</tbody>
</table>

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.

16. **Other information**

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH).

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.

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

RoHS compliance statement : This material is believed to comply with RoHS standards.

REACH 2 compliance statement : This material is believed to comply with REACH standards.

PM = Method for determination of the flash point according to Persky-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. For not classified products this is on voluntarily basis.