

Safety Data Sheet (SDS)

LIQUIDS RESEARCH LTD

Date Issued: 22 May 2019

1 Product and Company Information

Product: Perfluoropolyether (PFPE) oil based ferrofluid for rotary vacuum sealing applications.

Catalogue designation: Covers VacMAG-F9, VacMAG-F11, VacMAG-F13, VacMAG-F16

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2 Hazards Identification

This product is not classified as dangerous according to NIOSH, IARC, NTP. This product does not require any hazard warning on the label under established regulatory criteria. May be harmful if ingested in quantity. May be irritating to eyes and may irritate skin. Repeated or prolonged skin contact may result in severe irritation.

3 Composition and Description

Magnetite: <70% by weight.

PFPE: <60% by weight

CAS: Not assigned

EINECS/ELINCS: Not assigned

4 First Aid

Eyes: Irrigate thoroughly with clean water or an eye wash solution for at least 15 minutes and seek medical attention.

Inhalation of smoke or mist: Remove patient to fresh air. Obtain medical attention

Skin: Wash with soap and water. Remove contaminated clothing.

Ingestion: Do not induce vomiting. Wash out mouth with water. Never give anything by mouth to a unconscious person. Obtain medical attention.

5 Fire Fighting Measures

Low fire hazard. Thermal decomposition will evolve irritant vapours.

Extinguishing media: CO₂, foam, dry chemical, water spray with care to avoid possible violent production of steam. Avoid smoke inhalation.

Unusual fire and explosion hazards: If the product is involved in a fire with the subsequent possibility of decomposition and release of toxic compounds, supply the emergency services with self-breathing apparatus.

6 Accidental Release Measures

(As appropriate to quantity handled.)

Avoid release into waterways or sewers. Spills should be taken up with absorbents.

7 Handling and Storage

No special measures required for handling. Avoid contact with eyes and skin. Store in HDPE bottles.

Avoid contamination with tobacco products. Do not eat or drink in handling area.

8 Exposure Controls / Personal Protection

Engineering Controls

No extraction required at room temperature.

Exposure Limits: No data

Personal Protective Equipment

Avoid breathing vapour. If heated and ventilation is inadequate, use NIOSH certified respirator, which will protect against organic vapour.

Hand: Gloves

Eye: Safety goggles.

Wash thoroughly after handling.

9 Physical Data

Appearance: Black liquid

Melting Point: Not determined

Flash Point (carrier): >100°C (free form carrier)

Boiling Point : No data

Density: 2.21 g/ml

Ignition temperature: No data

Solubility in water: Largely insoluble.

Viscosity at 27°C (+/- 15%): ~5,000 to ~20,000 depending on grade.

Vapour pressure of carrier order of magnitude (20°C):

Volatile content (20°C): Non volatile

Saturation magnetisation Gauss (+/- 5%): 400 to 450 depending on grade

Mean magnetic particle diameter: 10nm

10 Stability and Reactivity

Stability:

The VacuMAG-F series are stable under normal conditions of use and storage.

Incompatibility:

Avoid strong oxidising agents.

Hazardous decomposition and by-products

Heating >180°C may cause the production of fluorine compounds. Depolymerisation may occur in the presence of some metal oxides at temperatures >180°C. The exact temperature at which fluorine based compounds are liberated is not known.

Hazardous Polymerisation

Will not occur.

11 Toxicity data:

Sensitisation

Respiratory: Vapours may cause allergic respiratory reaction at high temperatures.

Skin: May cause allergic skin reaction.

Eye: May cause irritation.

Routes to exposure

Skin contact: Possible irritant.

Eye contact: Irritation.

Inhalation: Material is irritating to mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

Chronic exposure

No data.

The components of this product are not known to be a mutagen or carcinogen.

12 Ecological Data

No data.

13 Disposal Considerations

Contact a licensed professional waste disposal service. Observe all local environmental regulations. Not suitable for disposal by either landfill or via municipal sewers, drains, natural stream or rivers.

14 Transport Information

Not classed as hazardous for transport by RID/ADR, IATA

15 Regulatory Information

Substance not tested.

16 Other Information

The information provided in this SDS is to the best of our knowledge, accurate at the date of publication. Nothing herein is to be construed as a warranty, express or otherwise. In all cases, it is the responsibility of the user to determine the applicability of such information or the suitability of any products for their own particular purpose. No liability written or implied is accepted by Liquids Research Ltd for any losses or damage or death to individuals or damage to equipment caused as the direct or indirect use of any material supplied by Liquids Research Ltd.

The information in this SDS applies only to fluids VacMAG-F9, VacMAG-F11, VacMAG-F13, VacMAG-F16. Individual SDS sheets apply to other products in our catalogue.

For further information please contact our technical department at the address given on page 1.