

Safety Data Sheet (SDS)

LIQUIDS RESEARCH LTD

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1. Product and Company Information

Product: Magnetorheological fluid. Metal particle dispersion in hydrocarbon carrier oil.

Catalogue designation: MRH Series

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2. Hazards Identification

This product is not classified as dangerous according to Directive 67/548/EEC. 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

Magnetically active: 70% - 80% by weight

Carrier: < 30% by weight

Additives: <30% by weight

CAS:

EINECS/ELINCS:

4. First Aid

Eyes: Irrigate thoroughly with clean water or an eye wash solution for at least 10 minutes.

Inhalation of smoke or mist: Remove from exposure, and seek medical attention.

Skin: Wash with soap and water. In severe cases obtain medical attention.

Ingestion: Do not induce vomiting, keep at rest and seek medical attention.

Effects of overexposure: No experience of overexposure.

5. Fire Fighting Measures

Extinguishing media: Use water spray to cool surfaces exposed to the fire, and to protect personnel. If possible, shut off the source of the fuel to the fire. Use foam, dry chemical, or water spray to extinguish fire.

Unusual fire and explosion hazards: No data

6. Accidental Release Measures

(As appropriate to quantity handled.)

Prevent spreading by diking, ditching, or absorbing on inert materials. Keep out of sewers and waterways.

7. Handling and Storage

Avoid contact with eyes and skin. Store in shatterproof HDPE bottles.

8. Exposure Controls / Personal Protection

Engineering Controls

Local exhaust ventilation is recommended at bulk vessel openings when handling heated materials.

Exposure Limits: Not assigned (Long term, 8 hour TWA).

Personal Protective Equipment

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: Viscous liquid

Colour: Grey

Melting Point: Not determined

Flash Point (carrier): >200°C

Boiling Point : Not determined

Density (+/-5%): 2.22 – 3.00 g/ml

Ignition temperature: Not determined

Solubility in water: Largely insoluble. No data

Solubility in organic solvents: No data

Viscosity at 27°C: Non-Newtonian

Vapour pressure: < 0.1 kPa

Volatile content: No volatile contents at room temperature

10. Stability and Reactivity

Stability

Stable.

Incompatibility (carrier) : Not known

Hazardous decomposition and by-products

Pure carrier: Carbon dioxide, carbon monoxide.

Pure dispersant: No data

Hazardous Polymerisation

Will not occur.

11. Toxicity data

Sensitisation

Respiratory: Vapours may cause allergic respiratory reaction.

Skin: May cause allergic skin reaction.

Routes to exposure

Skin contact: Possible irritant.

Eye contact: Severe irritation.

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

May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

Chronic exposure

No data.

LD50 (carrier only): > 5000 mg/kg (oral, rat)

The components of this product are not known to be a mutagen or carcinogen at levels of >0.1% by the ACGIH.

12. Ecological Data

Not classified as dangerous.

13. Disposal Considerations

Contact a licensed professional waste disposal service. Observe all local environmental regulations.

14. Transport Information

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

15. Regulatory Information

This product is not classified according to EU regulations.

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 the MRH series. 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.