

Safety Data Sheet (SDS)

LIQUIDS RESEARCH LTD

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1 Product and Company Information

Product: Magnetite particles dispersed in isoparaffin. Ferrofluid.

Synonyms: Magnetic fluid. Magnetic liquid.

Catalogue designation: HY-A –B -C

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2 Hazards Identification

Material can form flammable mixtures. 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. Static discharge can accumulate which can cause incendiary electrical discharge.

3 Composition and Description

Magnetite: <70% by weight.

Carrier: <60% by weight

Additives: <40% by weight

CAS: 64742-47-8 (isoparaffin free form)

EINECS/ELINCS: 292-460-6 (iso-paraffin free form)

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: Avoid water spray directly into storage containers due to danger of boil over.

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 HDPE bottles.

Storage temperature: Ambient

Transport temperature: Ambient

Electrostatic accumulation hazard: Yes, use proper grounding procedure.

8 Exposure Controls / Personal Protection

Engineering Controls

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

Exposure Limits: 300 ppm total hydrocarbon based on composition.

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): >61°C (free form isoparaffin)

Boiling Point range: 170 °C - 290°C (free form isoparaffin)

Specific gravity: 1.0 to 1.3

Autoignition temperature: >200°C (free form isoparaffin extrapolated)

Solubility in water: Largely insoluble. No data

Viscosity at 27°C: <50 cp

Vapour pressure (20°C): < 0.01 kPa (free form isoparaffin)

Volatile content: Isoparaffin

Saturation magnetisation in Gauss: 200 (A), 400 (B) 600 (C)

Mean magnetic particle diameter: 10nm (100Å)

10 Stability and Reactivity

Stability

Stable.

Incompatibility (carrier) : Not known

Hazardous decomposition and by-products

Carbon dioxide, carbon monoxide.

Hazardous Polymerisation

Will not occur.

11 Toxicity data:

Sensitisation

Respiratory: Vapours may cause allergic respiratory reaction.

Skin: May cause allergic skin reaction.

Eye: Irritating.

Routes to exposure

Skin contact: Possible irritant.

Eye contact: Irritation.

Inhalation: Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

Minimal toxicity

Chronic exposure

No data.

LD50 (carrier only): 4000 mg/kg (oral, rat)

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

12 Ecological Data

Not classified to be an ecotoxin.

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 AND/R Class, Item: 9.20 : 94

15 Regulatory Information

This product is not classified according to EU regulations.

16 Other Information

The information provided in this MSDS 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 to individuals or damage to equipment caused as a direct or indirect use of any material supplied by Liquids Research Ltd.

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