

SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **1.1 Product identifier**

· Trade name: **THERMAL H350**

· Article number: Order-No.(5 L): 8940111

· CAS Number:
53585-53-8

· EC number:
258-649-2

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**

· Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

· **Application of the substance / the mixture**

temperature control liquid
working temperature range: +50°C - +350°C

· **1.3 Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Julabo GmbH
Gerhard-Juchheim-Str. 1
D-77960 Seelbach/Deutschland

· **Further information obtainable from:**

Sales and technical support
+49(0)782351-180

E-Mail: service.de@julabo.com

· **1.4 Emergency telephone number:** +49(0)89-19240 (24h)

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

Repr. 1A H360 May damage fertility or the unborn child.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS09 environment

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

· **2.2 Label elements**

· Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

· **Hazard pictograms**



GHS08 GHS09

· **Signal word Danger**

· **Hazard-determining components of labelling:**

Dibenzylbenzol, ar-Methylderivat

· **Hazard statements**

H360 May damage fertility or the unborn child.

H304 May be fatal if swallowed and enters airways.

H410 Very toxic to aquatic life with long lasting effects.

(Contd. on page 2)

Trade name: THERMAL H350

(Contd. of page 1)

· Precautionary statements

- P101 *If medical advice is needed, have product container or label at hand.*
- P102 *Keep out of reach of children.*
- P103 *Read label before use.*
- P273 *Avoid release to the environment.*
- P280 *Wear protective gloves/protective clothing/eye protection/face protection.*
- P301+P310 *IF SWALLOWED: Immediately call a POISON CENTER/ doctor.*
- P331 *Do NOT induce vomiting.*
- P405 *Store locked up.*
- P501 *Dispose of contents/container in accordance with local/regional/national/international regulations.*

· 2.3 Other hazards**· Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients**· 3.1 Chemical characterisation: Substances****· CAS No. Description**

53585-53-8 Dibenzylbenzol, ar-Methylderivat

· Identification number(s)

· **EC number:** 258-649-2

· **Description:** heat transfer oil

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures**· 4.1 Description of first aid measures**

· **General information:** Take affected persons out into the fresh air.

· After inhalation:

Take affected persons into fresh air and keep quiet.

Supply fresh air; consult doctor in case of complaints.

· **After skin contact:** Immediately rinse with water.

· **After eye contact:** Rinse opened eye for several minutes under running water.

· **After swallowing:** Call for a doctor immediately.

· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

SECTION 5: Firefighting measures**· 5.1 Extinguishing media****· Suitable extinguishing agents:**

Use fire extinguishing methods suitable to surrounding conditions.

CO₂, sand, extinguishing powder. Do not use water.

· **For safety reasons unsuitable extinguishing agents:**

Water with full jet

Water

· **5.2 Special hazards arising from the substance or mixture** Carbon dioxide (CO₂)

· **5.3 Advice for firefighters**

· **Protective equipment:** Wear self-contained respiratory protective device.

(Contd. on page 3)

Trade name: THERMAL H350

(Contd. of page 2)

- **Additional information**
Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Keep receptacles tightly sealed.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Storage class:** Storage group: 10-13
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **DNELs**
employee: Dermal long-term exposition - systemic effects: 0.5 mg/kg
employee: Inhalation long-term exposition - systemic effects: 3.5 mg/kg
end-user: Dermal long-term exposition - systemic effects: 2.5 mg/kg
end-user: Inhalation long-term exposition - systemic effects: 0.87 mg/kg
end-user: Oral long-term exposition - systemic effects: 0.25 mg/kg
- **PNECs**
Estimated values:
Sewage plant: 1 mg/l
Freshwater sediment: 110 mg/kg (relative to dry mass)
Oceanic sediment: 110 mg/kg (relative to dry mass)
Soil: 1 mg/kg (relative to dry mass)
Edible foodstuff: 11,1 mg/kg
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
- **Respiratory protection:**
DGUV 112-190
Filter A/P2

(Contd. on page 4)

Trade name: THERMAL H350

(Contd. of page 3)

Use suitable respiratory protective device when high concentrations are present.

· **Protection of hands:**

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Material of gloves**

DIN EN 374

Butyl rubber, BR

Fluorocarbon rubber (Viton)

Recommended material thickness:

Butylkautschuk: 0,50 mm +/- 0,10 mm

Fluorkautschuk: 0,75 mm +/- 0,10 mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

Permeation (Fluorkautschuk): + Level 6 (> 240 min)

Permeation (Butylkautschuk): + Level 6 (> 480 min)

The determined penetration times according to EN 16523-1:2015 are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:**

Butyl rubber, BR

Fluorocarbon rubber (Viton)

· **For the permanent contact gloves made of the following materials are suitable:**

Butyl rubber, BR

Fluorocarbon rubber (Viton)

· **Not suitable are gloves made of the following materials: Natural rubber, NR**

· **Eye protection: Goggles recommended during refilling**

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Fluid

Colour: Yellowish

· **Odour:** Characteristic

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/freezing point: Undetermined.

Initial boiling point and boiling range: 390 °C

Solidification point: -34 °C

· **Flash point:** Not applicable.

· **Flammability (solid, gas):** Not applicable.

· **Ignition temperature:** 450 °C

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

(Contd. on page 5)

Trade name: **THERMAL H350**

(Contd. of page 4)

· Explosive properties:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure:	<0.01 hPa
· Density at 20 °C:	1.04 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient: n-octanol/water:	ca. 6.2
· Viscosity:	
Dynamic:	Not determined.
Kinematic at 20 °C:	48.3 mm ² /s
Solids content:	0.0 %
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** Open fire, hot surfaces, high temperatures
- **10.5 Incompatible materials:** oxidants, acids, bases
- **10.6 Hazardous decomposition products:** Please refer 10.2

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Sensitisation** Buehler-Test (guinea pig), not sensibility, (OECD 406)
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity**
May damage fertility or the unborn child.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard**
May be fatal if swallowed and enters airways.

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(Contd. on page 6)

Trade name: **THERMAL H350**

(Contd. of page 5)

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**
 - (96h) *Danio rerio* (Zebrafisch), semistatischer Test, OECD Prüfrichtlinie 203
Im Bereich der Wasserlöslichkeit unter Testbedingungen nicht löslich
 - (48h) *Daphnia magna* (Grosser Wasserfloh): statischer Test, OECD Prüfrichtlinie 202
Im Bereich der Wasserlöslichkeit unter Testbedingungen nicht toxisch
 - (21h) *Daphnia magna* (Grosser Wasserfloh): statischer Test, OECD Prüfrichtlinie 202
Im Bereich der Wasserlöslichkeit unter Testbedingungen nicht toxisch
 - (72h) *Skeletonema costatum* (Kieselalge) Wachstumshemmung im Bereich der Wasserlöslichkeit unter Testbedingungen nicht löslich
 - EC10 (4,92 h) *Pseudomonas putida*: > 1000 mg/l Sauerstoffverbrauchstest
 - LC50(14 d) *Eisenia fetida* (Regenwürmer); 850 mg/kg ; Mortalität: künstlicher Boden
 - MOEC (28 d) *Folsomia candida*, Bodenarthropden (*Collembola*): 10 mg/Kg, Mortalität: künstlicher Boden
 - Auslaufen: Wachstums EC50(20d) > 100 mg/kg, Auflaufen, Wachstum, *Raphanus sativus*, *Trifolium ornithopodioides*, *Triticum aestivum*, OECD-Prüfrichtlinie 208
 - EC50 *Scenedesmus subspicatus* < 1mg/l, 72 h, OECD 201
- **12.2 Persistence and degradability**
 - < 60 %m 28 dm OECD TG 301 B
 - inherent degradable: 20-70 %, 62 d
 - Not easily biodegradable
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to aquatic organisms, may cause long-term damage to the aquatic environment
- **Additional ecological information:**
- **General notes:**
 - Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
 - Do not allow product to reach ground water, water course or sewage system.
 - Danger to drinking water if even small quantities leak into the ground.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
 - Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.
 - Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **European waste catalogue**

07 01 99	wastes not otherwise specified
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- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- **14.1 UN-Number** --
- **ADR, IMDG, IATA** UN3082

(Contd. on page 7)

Trade name: **THERMAL H350**

(Contd. of page 6)

· **14.2 UN proper shipping name**
· **ADR** 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Dibenzylbenzol, ar-Methylderivat)
· **IMDG, IATA** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Dibenzylbenzol, ar-Methylderivat)

· **14.3 Transport hazard class(es)** Not applicabel
· **ADR, IATA**



· **Class** 9 Miscellaneous dangerous substances and articles.
· **Label** 9

· **IMDG**



· **Class** 9 Miscellaneous dangerous substances and articles.
· **Label** 9

· **14.4 Packing group** Not applicable

· **ADR, IMDG, IATA** --
III

· **14.5 Environmental hazards:**
· **Special marking (ADR):** Symbol (fish and tree)
· **Special marking (IATA):** Symbol (fish and tree)

· **14.6 Special precautions for user** Warning: Miscellaneous dangerous substances and articles.
· **Hazard identification number (Kemler code):** 90
· **EMS Number:** F-A,S-F
· **Stowage Category** A

· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.

· **Transport/Additional information:** Not dangerous according to the above specifications.

· **ADR**
· **Limited quantities (LQ)** 5L
· **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml
· **Transport category** 3
· **Tunnel restriction code** -

· **IMDG**
· **Limited quantities (LQ)** 5L
· **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

(Contd. on page 8)

Trade name: THERMAL H350

(Contd. of page 7)

· **UN "Model Regulation":** UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIBENZYL BENZOL, AR-METHYLDERIVAT), 9, III

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **Seveso category E1** Hazardous to the Aquatic Environment
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This document has been created on: 10.12.2009

EG-SD-Nr. 30

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing SDS:

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· Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Repr. 1A: Reproductive toxicity – Category 1A

Asp. Tox. 1: Aspiration hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

· *** Data compared to the previous version altered.**