

**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
- **Registration number** 01-2119488667-17-0000
- **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](mailto: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

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

Aquatic Chronic 4 H413 May cause long lasting harmful effects to aquatic life.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
 The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS08

- **Signal word** *Danger*
- **Hazard-determining components of labelling:**  
*dibenzyltoluene*
- **Hazard statements**  
*H304 May be fatal if swallowed and enters airways.*  
*H413 May cause long lasting harmful effects to aquatic life.*
- **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.*  
*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.*

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- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**
- **Description:** heat transfer oil

· **Dangerous components:**

CAS: 26898-17-9 EINECS: 248-097-0	dibenzyltoluene	 Asp. Tox. 1, H304; Aquatic Chronic 4, H413	10-25%
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- **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.  
CO<sub>2</sub>, 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 (CO<sub>2</sub>)
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **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.

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See Section 13 for disposal information.

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**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 class: 10
- **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:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **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  
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)

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*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 374 part III 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:** neutral

**· Change in condition**

**Melting point/freezing point:** Undetermined.

**Initial boiling point and boiling range:** 390°C

**Solidification point:** -34°C

**· Flash point:** 200°C (DIN EN 2592 (c.o.c.))

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

**· Ignition temperature:** 450°C

**· Decomposition temperature:** Not determined.

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

**· Explosive properties:** Product does not present an explosion hazard.

**· Explosion limits:**

**Lower:** Not determined.

**Upper:** Not determined.

**· Vapour pressure at 20°C:** >0.01 hPa

**· Density at 20°C:** 1.04 g/cm<sup>3</sup>

**· Relative density** Not determined.

**· Vapour density** Not determined.

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· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient: n-octanol/water at 20°C:</b>	6.2 log POW
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic at 20°C:</b>	48.3 mm <sup>2</sup> /s
· <b>Solvent content:</b>	
<b>Solids content:</b>	0.0 %
· <b>9.2 Other information</b>	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 (carcinogenicity, 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** Based on available data, the classification criteria are not met.
- **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.

**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

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MOEC (28 d) *Folsamia candida*, *Bodenarthropden (Collembola)*: 10 mg/Kg, Mortalität: künstlicher Boden Auslaufen: Wachstrum 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

- |  |                 |
|--|-----------------|
| · <b>14.1 UN-Number</b>                    | --              |
| · <b>ADR, IMDG, IATA</b>                   | Void            |
| · <b>14.2 UN proper shipping name</b>      |                 |
| · <b>ADR, IMDG, IATA</b>                   | Void            |
| · <b>14.3 Transport hazard class(es)</b>   | Not applicabel  |
| · <b>ADR</b>                               |                 |
| · <b>Class</b>                             | --              |
| -----                                      |                 |
| · <b>IMDG, IATA</b>                        |                 |
| · <b>Class</b>                             | Void            |
| · <b>14.4 Packing group</b>                | Not applicable  |
|  | --              |
| · <b>ADR, IMDG, IATA</b>                   | Void            |
| · <b>14.5 Environmental hazards:</b>       | Not applicable. |
| · <b>14.6 Special precautions for user</b> | Not applicable. |

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|--|---|
| · <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b> | <i>Not applicable.</i>                                      |
| · <b>Transport/Additional information:</b>                                       | <i>Not dangerous according to the above specifications.</i> |
| · <b>UN "Model Regulation":</b>  | <i>Void</i>   |

### 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** None of the ingredients is listed.
- **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.*

- **Relevant phrases**  
H304 *May be fatal if swallowed and enters airways.*  
H413 *May cause long lasting harmful effects to aquatic life.*
- **Department issuing SDS:**  
LOGAR Günther Hasel e.K.  
Baden-Airpark, Airport Boulevard B 210  
D-77836 Rheinmünster  
Tel: +49(0)7229-1868-163  
Fax: +49(0)7229-1868-165
- **Contact:** [info@logar.de](mailto:info@logar.de)
- **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*  
ELINCS: *European List of Notified 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*  
Asp. Tox. 1: *Aspiration hazard – Category 1*  
*Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4*
- **\* Data compared to the previous version altered.**