



Product name THERMERA
Date 17.05.2005 **Previous date** 14.04.2005

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

1.1 Identification of the substance/preparation

Product name

THERMERA

Product code

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1.2 Use of the Substance/Preparation

1.2.1 Expressed in writing

Heat transfer fluid

1.2.2 Standard industrial classification

D Manufacturing

E Electricity, gas and water supply

E 403 Steam and hot water supply

1.2.3 Code for the purpose of use

29 Heat transferring agents

1.3 Company/Undertaking

Identification

1.3.1 Supplier

Neste Oil Oyj

1.3.2 Contact information

Street address

Keilaranta 8

Postcode and post office

Espoo, FINLAND

Post-office box

P.O.B 95

Postcode and post office

FIN-00095 NESTE OIL, FINLAND

Telephone

int.+358- 10 45811

Telefax

int.+358- 10 45 84442

Business ID

1852302-9

1.4 Emergency telephone number

1.4.1 Telephone number, name and address

Poison Information Centre +358-9-471 977, +358-9-4711

Poison Information Centre

P.O.B 340 (Haartmaninkatu 4),

FIN-00029 HUS, HELSINKI,

FINLAND

2. COMPOSITION/INFORMATION ON INGREDIENTS

2.1 Hazardous components

2.1.1 CAS number or other code

2.1.2 Chemical name of the substance

2.1.3 Concentration

2.1.4 Warning symbol, R phrases and other information

590-47-6

Betaine monohydrate

20-60 %

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2.1.7 Further information

Betaine monohydrate aqueous solution.

3. HAZARDS IDENTIFICATION

FIRE AND EXPLOSION HAZARD: The product is not classified as dangerous.

HEALTH HAZARD: The product is not classified as dangerous.

ENVIRONMENTAL HAZARD: The product is not classified as dangerous.

4. FIRST AID MEASURES

4.2 Inhalation

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- 4.3 Skin contact**
Wash the skin with plenty of water and soap.
- 4.4 Eye contact**
Rinse immediately with plenty of water, also under the eyelids.
- 4.5 Ingestion**
Rinse mouth.
- 5. FIRE-FIGHTING MEASURES**
- 5.1 Suitable extinguishing media**
Water spray, foam, dry powder, carbon dioxide.
- 6. ACCIDENTAL RELEASE MEASURES**
- 6.1 Personal precautions**
Sweep-up to prevent slipping hazard.
- 6.2 Environmental precautions**
Try to restrict the release and prevent spread of the product into the environment.
- 6.3 Methods for cleaning up**
Small amounts can be diluted well with water and flushed into sewer. Product waste should be disposed in accordance with item 13.
- 7. HANDLING AND STORAGE**
- 7.1 Handling**
Wear safety shoes while handling containers.
- 7.2 Storage**
Keep tightly closed in a dry and cool place. Protect from sunlight.
- 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**
- 8.1 Exposure Limit Values**
- 8.2 Exposure controls**
- 8.2.1 Occupational exposure controls**
General industrial hygiene practice.
- 8.2.1.1 Respiratory protection**
Usually not needed.
- 8.2.1.2 Hand protection**
Protective gloves.
- 8.2.1.4 Skin and body protection**
Protective clothing when needed.
- 9. PHYSICAL AND CHEMICAL PROPERTIES**
- 9.1 General Information (appearance, odour)** Liquid, yellow, slightly sweet odour.
- 9.2 Important Health Safety and Environmental Information**
- 9.2.1 pH** Approx. 8
- 9.2.2 Boiling point/range** 105 -110°C
- 9.2.3 Flash point** -
- 9.2.5 Explosive properties**
- 9.2.5.1 Lower explosion limit** -
- 9.2.5.2 Upper explosion limit** -
- 9.2.8 Relative density** 1050 - 1100 (25°C)
- 9.2.9 Solubility**
- 9.2.9.1 Water solubility** Soluble in 160 g/100 g H₂O.
- 9.2.10 Partition coefficient (n-octanol/water)** log Kow = -3,1
- 9.3 Further information** Decomposition temperature > 110 °C.
Melting point: -40 °C(50 % solution), -18 °C (35 % solution)
- 10. STABILITY AND REACTIVITY**
- 10.1 Conditions to avoid**
Prolonged heating at temperatures above 110 °C. Decomposes on heating.
- 10.2 Materials to avoid**
Acids.
- 10.3 Hazardous decomposition products**
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- 11. TOXICOLOGICAL INFORMATION**

- 11.1 Acute toxicity**
Very low toxicity when swallowed (LD50/oral/rat > 11 000 mg/kg).
- 11.2 Irritation and corrosion**
No eye irritation (tested 10 % w/v in distilled water) . No skin irritation (tested 50 % w/v in distilled water).
- 11.3 Sensitisation**
No sensitisation responses were observed. Tested (Guinea pig).
- 11.4 Subacute, subchronic and prolonged toxicity**
No data available.
- 12. ECOLOGICAL INFORMATION**
- 12.1 Ecotoxicity effects**
- 12.1.1 Aquatic toxicity**
Very low toxicity (LC50/96h/fish > 1000 mg/l, LC50/96h/daphnid > 1000 mg/l)
- 12.2 Mobility**
Soluble in water.
- 12.3 Persistence and degradability**
- 12.3.1 Biological degradability**
Readily biodegradable, according to appropriate OECD test. 100% betaine: 88%; 37%-solution: 99 % (OECD 301 B).
- 12.4 Bioaccumulative potential**
Not accumulative (estimation).
- 12.5 Other adverse effects**
Chemical oxygen demand (COD) = 15 mg/g (37%-solution), 16,5 mg/g (50%-solution).
Biochemical oxygen demand within 5 days (BOD5) = 422 mg/g (37%-solution), 558 mg/g (50%-solution).
- 13. DISPOSAL CONSIDERATIONS**
Dispose of in accordance with local regulations. Small amounts can be diluted well with water and flushed into sewer.
- 14. TRANSPORT INFORMATION**
- 14.1 UN-No** Not classified.
- 14.3 Land transport**
- 14.4 Sea transport**
- 14.5 Air transport**
- 15. REGULATORY INFORMATION**
- 15.1 Information on the warning label**
- 15.1.1 Letter code of the warning symbol and indications of danger for the preparation**
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- 16. OTHER INFORMATION**
- 16.1 Text of R phrases mentioned in Section 2**
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- 16.4 Further Information**
Neste Oil Oyj, Oil Product Information, tel. int.+358-800 1 9696
- 16.5 Literary reference**
MSDS of raw materials and Technical data sheet of the product.
- 16.6 Additions, Deletions, Revisions**
4, 6, 7, 8, 9, 10, 11, 12, 13, 14