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

1.1 Product identifier

Trade name: Ergosterol hydrate, 96% (dry wt.), cont. up to ca 6% water

Stock number: B23840

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

Identified use: SU24 - Scientific research and development

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: Thermo Fisher (Kandel) GmbH
Zeilbilderstr. 7b
76185 Karlsruhe / Germany
Tel: +49 (0) 721 84007 280
Fax: +49 (0) 721 84007 300
Email: tech@alfa.com
www.alfa.com
Informing department: Product safety Tel +049 (0) 7275 988687-0

1.4 Emergency telephone number:

Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)
Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

GHS06 skull and crossbones
Acute Tox. 2 H300 Fatal if swallowed.
Other hazards that do not result in classification: No information known.

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

GHS06

Signal word: Danger

Hazard-determining components of labelling:
Ergosterol

Hazard statements:
H300 Fatal if swallowed.

Precautionary statements:
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P321 Specific treatment (see on this label).
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

3.2 Mixtures

Dangerous components:
57-87-4 Ergosterol Acute Tox. 2 H300 94.0%

Additional information: None known.

Non-Hazardous Ingredients

CAS: 7732-18-5 Water 6.0%
EINECS: 231-791-2

SECTION 4: First aid measures

4.1 Description of first aid measures

General information
Instantly remove any clothing soiled by the product.
In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
Seek immediate medical advice.

After skin contact
Instantly wash with water and soap and rinse thoroughly.
Seek immediate medical advice.

After eye contact
Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing
Do not induce vomiting; instantly call for medical help.

4.2 Most important symptoms and effects, both acute and delayed
Fatal if swallowed.

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: CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

5.2 Special hazards arising from the substance or mixture
If this product is involved in a fire, the following can be released:
Carbon monoxide and carbon dioxide

5.3 Advice for firefighters
Protective equipment:
Wear self-contained breathing apparatus.

(Contd. on page 2)
Safety data sheet
according to 1907/2006/EC, Article 31

Trade name Ergosterol hydrate, 96% (dry wt.), cont. up to ca 6% water

SECTION 6: Accidental release measures
6.1 Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions: Do not allow product to reach sewage system or water bodies.

6.3 Method and material for containment and cleaning up: Dispose of contaminated material as waste according to section 13.

Prevention of secondary hazards: No special measures required.

SECTION 7: Handling and storage
7.1 Precautions for safe handling
Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires: No information known.

7.2 Conditions for safe storage, including any incompatibilities

Storage
Requirements to be met by storerooms and containers: No special requirements.
Information about storage in one common storage facility: Store away from oxidising agents.

Further information about storage conditions:
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Store in a locked cabinet or with access restricted to technical experts or their assistants.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection
8.1 Control parameters
Components with critical 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.

Additional information: No data

8.2 Exposure controls
Personal protective equipment

General protective and hygienic measures
The usual precautionary measures should be adhered to in handling the chemicals.
Keep away from foodstuffs, beverages and food.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Maintain an ergonomically appropriate working environment.

Breathing equipment: Use breathing protection with high concentrations.
Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.

Protection of hands:
Check protective gloves prior to each use for their proper condition.
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.

Eye protection: Safety glasses with side shields / NIOSH (US) or EN 166(EU)

Body protection: Protective work clothing.

SECTION 9: Physical and chemical properties
9.1 Information on basic physical and chemical properties
General Information
Appearance: Powder
Odour: Not determined
Odour threshold: Not determined
pH-value: Not applicable.

Change in condition
Melting point/freezing point: Not determined
Initial boiling point and boiling range: Not determined
Sublimation temperature / start: Not determined
Inflammability (solid, gaseous) Not determined
Ignition temperature: Not determined
Decomposition temperature: Not determined
Self-ignamability: Product is not selfigniting.

Explosive properties: Not determined.
Critical values for explosion:
Lower: Not determined
Upper: Not determined
Steam pressure: Not applicable.
Density: Not determined
Relative density: Not determined
Vapour density: Not applicable.
Evaporation rate:
Solubility in / Miscibility with
Water: Insoluble
Solvent content: 0,0 %
Organic solvents: 94,0 %

(Contd. on page 3)
SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity
Fatal if swallowed.
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.
Fatal if swallowed.
LD/LC50 values that are relevant for classification: No data
Skin irritation or corrosion: May cause irritation
Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.
Germ cell mutagenicity: No effects known.
Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity: No effects known.

SECTION 12: Ecological information

12.1 Toxicity
Aquatic toxicity: No further relevant information available.
12.2 Persistence and degradability: No further relevant information available.
12.3 Bioaccumulative potential: No further relevant information available.
12.4 Mobility in soil: No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Recommendation
Hand over to disposers of hazardous waste.
Must be specially treated under adherence to official regulations.
Consult state, local or national regulations for proper disposal.
Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

UN-Number
ADR, IMDG, IATA UN2811

14.2 UN proper shipping name
ADR
IMDG, IATA 2811 TOXIC SOLID, ORGANIC, N.O.S. (Ergosterol)

14.3 Transport hazard class(es)
ADR

Class 6.1 (T2) Toxic substances.
Label 6.1

IMDG, IATA

Class 6.1 Toxic substances.
Label 6.1

Packing group ADR, IMDG, IATA II

14.5 Environmental hazards: Not applicable.

14.6 Special precautions for user
Kemister Number: Warning: Toxic substances.
EMS Number: 60
Stowage Category B

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.
Transport/Additional information:

<table>
<thead>
<tr>
<th>ADR</th>
<th>500 g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exempted quantities (EQ)</td>
<td>Maximum net quantity per inner packaging: 1 g, Maximum net quantity per outer packaging: 500 g</td>
</tr>
</tbody>
</table>

Transport category

| Tunnel restriction code | D/E |

UN "Model Regulation": UN 2811 TOXIC SOLID, ORGANIC, N.O.S. (ERGOSTEROL), 6.1, II

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Australian Inventory of Chemical Substances

7732-18-5 | Water

Standard for the Uniform Scheduling of Medicines and Poisons

None of the ingredients is listed.

Directive 2012/18/EU

Named dangerous substances - ANNEX I None of the ingredients is listed.

Seveso category H2 ACUTE TOXIC

Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t

Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t

National regulations

Information about limitation of use:

For use only by technically qualified individuals.

Employment restrictions concerning young persons must be observed.

Classification according to VbF: Not applicable

Water hazard class: Water hazard class 2 (Self-assessment): hazardous for water.

Other regulations, limitations and prohibitive regulations

ELINCS (European List of Notified Chemical Substances)

None of the ingredients is listed.

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.

None of the ingredients is listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

None of the ingredients is listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use)

None of the ingredients is listed.

SECTION 16: Other information

A Chemical Safety Assessment has not been carried out.

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Relevant phrases

H300 Fatal if swallowed.

Department issuing SDS: Global Marketing Department

Abbreviations and acronyms:

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

ATA: 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)

VbF: Verordnung über brennbare Flüssigkeiten, Österreich (Ordinance on the storage of combustible liquids, Austria)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety and Health Administration (USA)

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Acute Tox. 2: Acute toxicity – Category 2