

SAFETY DATA SHEET (91/155/EWG)**L-Threonine Feed Grade**

degussa.

Material no.		Version	3.19 / GB
Specification	101690	Revision date	02.02.2005
VA-Nr		Print Date	03.02.2005
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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**Product information**

Trade name	:	L-Threonine Feed Grade
Company	:	Degussa AG, GB Futtermitteladditive Abteilung FA-PT-PS Postfach 1345 D-63403 Hanau
Telephone	:	+49 (0)6181/59-2024
Telefax	:	+49 (0)6181/59-6246
Emergency telephone number	:	+49 (0)89/45560-273
Use of the Substance / Preparation	:	Feed Additive

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	:	L-Threonine
Formula	:	C4 H9 N O3
CAS-No.	:	72-19-5
EC-No.	:	200-774-1

3. HAZARDS IDENTIFICATION

Not applicable.

4. FIRST AID MEASURES**Inhalation**

In case product dust is released:
Possible discomfort: cough, sneezing
Take affected persons out into the fresh air.

Skin contact

No hazards which require special first aid measures.

Eye contact

Possible discomfort is due to foreign substance effect.
Rinse thoroughly with plenty of water keeping eyelid open.
In case of persistent discomfort: Consult an ophthalmologist.

Ingestion

Have the mouth rinsed with water.
After absorbing larger amounts of substance
Consult a physician.

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Notes to physician

after absorbing larger amounts of substance:
acceleration of the gastro-intestinal tract

5. FIRE-FIGHTING MEASURES**Suitable extinguishing media**

water, mist, foam

Extinguishing media which must not be used for safety reasons

quenching powder, carbon dioxide (CO₂)

Specific hazards during fire fighting

In the case of fire, the following hazardous smoke fumes may be produced: carbon monoxide, carbon dioxide, nitric oxides, hydrocyanic acid.

In the event of fire and/or explosion do not breathe fumes.

Special protective equipment for fire-fighters

In the event of fire, wear self-contained breathing apparatus.

Further information

Contaminated fire-extinguishing water must be disposed of in accordance with the regulations issued by the appropriate local authorities.

Fire residues should be disposed of in accordance with the regulations.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions**

Wear personal protective equipment.

Keep unauthorised persons away.

Environmental precautions

Do not allow the product into the following compartments:
groundwater

Methods for cleaning up

Absorb mechanically avoiding production of dust.

7. HANDLING AND STORAGE**Handling****Safe handling advice**

Handle in accordance with good industrial hygiene and safety practices.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking.

Avoid dust formation.

Must be rendered inert for grinding.

VDI 2263 "Dust fires and dust explosions; dangers, evaluation, preventive measures."

Storage**Requirements for storage areas and containers**

Keep in a dry, cool place.

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Avoid light effect.
Keep container tightly closed and dry.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Components with workplace control parameters**• **exposure limit for dust**

CAS-No.

Control parameters 4 mg/m³ (EH40 (UK))

type of exposition Respirable dust.

Suitable measuring processes are:

DIN EN 481

NIOSH method 0500

NIOSH method 0600

Engineering measures

Ensure suitable suction/aeration at the work place and with operational machinery.

Earthing of equipment.

Take precautionary measures against static discharges.

Personal protective equipment**Respiratory protection**

If dust occurs: dust mask with P1 particle filter

Hand protection

Glove material Natural rubber (NR), for example, Cama Clean 708, Kächele-Cama Latex GmbH (KCL), Germany

Material thickness 0.5 mm

Break through time 8 h

Method DIN EN 374

Glove material Nitrile, for example, Dermatril 740, Kächele-Cama Latex GmbH (KCL), Germany

Material thickness 0.11 mm

Break through time 8 h

Method DIN EN 374

Eye protection

safety glasses

Skin and body protection

No special protective equipment required.

Hygiene measures

Wash face and/or hands before break and end of work.

Cleanse and apply cream to skin after work.

Protective measures

Handle in accordance with good industrial hygiene and safety practices.

If there is the possibility of skin/eye contact, the indicated hand/eye/body protection should be used.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

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Form crystalline
Colour white until light grey
Odour almost odourless distinct

Safety data

pH 5 - 6 (50 g/l) (20 °C)
water

Melting point/range 253 - 257 °C
decomposition

Boiling point/range not applicable

Sublimation point 200 °C

Ignition temperature 400 °C
Method: DIN 51 794
for dust whirled up

glow temperature > 400 °C
Method: VDI 2263

Autoinflammability 156 °C
Method: VDI 2263
(in dm³ wire basket (IMDG code))

Explosiveness The product is susceptible to dust explosion.

Lower explosion limit dust: 60 g/m³
Method: VDI 3 673

Minimum ignition energy 60 - 110 mJ (25 °C)
Method: VDI 2263
mean grain size: 60 µm
Normal combustability

maximum absolute explosive pressure 9.6 bar
(with 1000 g/m³)

Vapour pressure not applicable

Density not applicable

Bulk density 585 - 715 kg/m³

Water solubility 90 g/l (20 °C)
(literature)

85.7 g/l (20 °C)
Method: EEC method 92/69/EEC, A 6

Partition coefficient (n-octanol/water) log Pow: -2.94
Method: (measured)

Burning number BZ 5 - burns out with flames or shower of sparks.
Method: Combustibility test in accordance with VDI 2263

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10. STABILITY AND REACTIVITY

Hazardous decomposition products	Hazardous decomposition products not known decomposition products when exposed to heat flammable smouldering gases
Thermal decomposition	253 °C TG (thermal gravimetric analysis)
Hazardous reactions	Avoid dust formation. Stable at room temperature.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	LD50 Rat: > 2150 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	LC0 Rat(male/female): > 5.15 mg/l / 4 h Method: OECD Test Guideline 403 limit test (maximum concentration attainable in experiments) - No deaths occurred.
Skin irritation	Rabbit not irritating Method: OECD Test Guideline 404
Eye irritation	Rabbit not irritating Method: OECD Test Guideline 405
Sensitization	Magnusson & Kligman guinea pig: not sensitizing to the skin Method: OECD Test Guideline 406
Repeated dose toxicity	Oral Rat(male/female) Testing period: 28 d Subsequent observation period: 42 day NOAEL: > 1000 mg/kg target organ/effect: no pathological changes Method: OECD 407
Genotoxicity in vitro	Chromosome aberration test in vitro human lymphocytes 625 - 5000 µg/ml negative Method: OECD TG 473

12. ECOLOGICAL INFORMATION**Elimination information (persistence and degradability)**

Biodegradability	Exposure time: 16 day
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Result: 91 % Readily biodegradable.

Method: literature

Behaviour in environmental compartments**Ecotoxicity effects**

Toxicity to daphnia	EC50 static test Daphnia magna: > 1000 mg/l / 48 h Method: OECD TG 202
	EC50 static test Daphnia magna: > 1000 mg/l / 24 h Method: OECD TG 202
Toxicity to algae	EC50 static test scenedesmus subspicatus: > 1000 mg/l / 72 h
Toxicity to bacteria	EC 80 nitrobacteria: 119 mg/l / 69 h Method: literature
Toxicity in terrestrial plants	EC 40 Hordeum spec.: ca. 119 mg/l / 144 h Method: literature

13. DISPOSAL CONSIDERATIONS**Product**

Disposal according to local authority regulations.
Offer rinsed packaging material to local recycling facilities.

Waste Key Number

No waste key number as per the European Waste Types List can be assigned to this product, since such classification is based on the (as yet undetermined) use to which the product is put by the consumer., The waste key number must be determined as per the European Waste Types List (decision on EU Waste Types List 2000/532/EC) in cooperation with the disposal firm / producing firm / official authority.

14. TRANSPORT INFORMATION**Transport/further information**

Not classified as dangerous in the meaning of transport regulations.

15. REGULATORY INFORMATION**Labelling according to EC Directives**

Other data	On the basis of our data the product is not a hazardous substance as defined by the Chemicals Act or Hazardous Substance Ordinance in the currently valid versions.
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National legislation

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Swiss poisons list

BAGT no.:
listed

611500

16. OTHER INFORMATION**registration**

Europe (EINECS/ELINCS)	listed/registered
USA (TSCA)	listed/registered
Canada (DSL)	listed/registered
Australia (AICS)	listed/registered
Japan (MITI)	listed/registered
Korea (TCCL)	listed/registered
Philippines (PICCS)	listed/registered
China	listed/registered
Switzerland	listed/registered

Further information

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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