

**SAFETY DATA SHEET** (EC 1907/2006)**DL-Methionine Feed Grade**

Material no.		Version	2.5 / REG_EU
Specification	101612	Revision date	02.08.2007
VA-Nr		Print Date	18.03.2008
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**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING****Product information**

Trade name	:	DL-Methionine Feed Grade
Company	:	Evonik Degussa GmbH Health & Nutrition Abteilung HN-M-QR Postfach 1345 D-63403 Hanau
Telephone	:	+49 (0)6181/59-2024
Telefax	:	+49 (0)6181/59-72024
Email address	:	FA-MSDS@evonik.com
Emergency telephone number	:	+49 (0)2236/76-2222
Emergency telephone number(Telefax)	:	+49 (0)2236/76-2026
Use of the Substance / Preparation	:	Feed Additive

**2. HAZARDS IDENTIFICATION****Additional safety information for humans and the environment**

Not applicable.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	:	DL-Methionine
Formula	:	C5 H11 N O2 S
CAS-No.	:	59-51-8
EC-No.	:	200-432-1

**4. FIRST AID MEASURES****Inhalation**

In case product dust is released:  
Possible discomfort: cough, sneezing  
Move victims into 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.

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after absorbing large amounts of substance:  
Consult a physician.

### Notes to physician

after absorbing large amounts of substance:  
Possible discomfort: nausea, vomiting  
Treatment of symptoms, administration of activated charcoal, acceleration of the gastro-intestinal tract.

## 5. FIRE-FIGHTING MEASURES

### Suitable extinguishing media

water, foam, mist

### Extinguishing media which must not be used for safety reasons

carbon dioxide (CO<sub>2</sub>)

### Specific hazards during fire fighting

May be released in case of fire: hydrocyanic acid, flammable smouldering gases, NOX.  
sulphur oxides, carbon monoxide, carbon dioxide.

### 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

Combustible

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."

Ensure there are sufficient retaining facilities for water used to extinguish fire.

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**Dust explosion class**

St1 (VDI 2263)  
1 m<sup>3</sup> standard container, ignition energy 10 kJ

**Storage****Requirements for storage areas and containers**

Keep in a dry, cool place.  
Avoid light effect.  
Keep container tightly closed and dry.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION****Components with workplace control parameters****Engineering measures**

Ensure suitable suction/aeration at the work place and with operational machinery.  
Take precautionary measures against static discharges. Earthing of equipment.

**Personal protective equipment****Respiratory protection**

No special protective equipment required.  
If dust occurs: dust mask with P1 particle filter

**Hand protection**

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

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

**Eye protection**

Safety glasses with side-shields  
If dust occurs: basket-shaped 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**

Form crystalline

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Colour colourless - light brown  
Odour characteristic

**Safety data**

pH	5 - 6	(10 g/l)	(20 °C)
	water		
Melting point/range	266 - 267 °C		decomposition
Boiling point/range	not applicable		
carbonisation point	210 °C		
Flammability	Combustible solid.		
	Method: VDI 2263		
Ignition temperature	330 °C		
	Method: VDI Guideline 2263 sheet 1		
	(BAM-furnace)		
	Standard commercial product with characteristic grain size distribution is normally flammable.		
glow temperature	> 400 °C		
	Method: VDI 2263		
Autoinflammability	130 °C		
	Method: VDI Guideline 2263 sheet 1		
	(in dm <sup>3</sup> wire basket (IMDG code))		
Lower explosion limit	dust: 30 g/m <sup>3</sup>		
Minimum ignition energy	> 10 mJ	(25 °C)	
	Method: VDI 2263		
	Normal combustability		
Vapour pressure	< 0,0000001 hPa		
	Method: calculated		
	Modified Grain Method		
Density	1,34 g/cm <sup>3</sup>		
Bulk density	610 - 750 kg/m <sup>3</sup>		
Water solubility	ca. 30 g/l	(20 °C)	
speed of hydrolysis	half-life period: 1 years	(25 °C)	
Partition coefficient (n-octanol/water)	log Pow: -1,28		
	Method: (calculated)		
Burning number	BZ 5 - burns out with flames or shower of sparks.		
	Method: VDI 2263		

**10. STABILITY AND REACTIVITY**

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Hazardous decomposition products sulphides, flammable smouldering gases

Thermal decomposition 215 °C  
TG (thermal gravimetric analysis)

Hazardous reactions Must be rendered inert for grinding.

**11. TOXICOLOGICAL INFORMATION**

Acute oral toxicity	LD50 Rat: > 10000 mg/kg Method: literature No signs of toxicity occurred
Acute inhalation toxicity	LC0 rat(male/female): > 5,25 mg/l / 4 h Method: OECD Test Guideline 403 limit test (maximum concentration attainable in experiments) - No deaths occurred.
Skin irritation	Rabbit: 500 mg / 4 h / No skin irritation Method: OECD Test Guideline 404
Eye irritation	Rabbit: 100 mg / No eye irritation Method: OECD Test Guideline 405
Sensitization	Buehler Test guinea pig: not sensitizing to the skin Method: OECD Test Guideline 406
Repeated dose toxicity	Oral Rat Testing period: 9 month NOAEL: 700 mg/kg Method: literature Reversible effects during the application period on liver, spleen, pancreas,
Gentoxicity in vitro	Microorganisms, cell cultures none mutagenic / genotoxic effects Method: literature  Ames test Salmonella typhimurium negative Method: OECD TG 471
Toxicity to reproduction	1 generation pharyngal probe Rat: in maternally non-toxic doses NOEL (No Observed Effect Level) of parents: 300 mg/kg NOEL F1: 300 mg/kg Method: OECD Test Guideline 415
Human experience	gastro-intestinal symptoms: nausea, vomiting  Side-effects were observed in the event of higher dosage (10 g)

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

Biodegradability aerobic DOC (Dissolved Organic Carbon)

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inoculum: Activated sludge  
Concentration: 17 mg/l  
Exposure time: 28 d  
Result: 97 % Readily biodegradable.  
Method: OECD TG 301 A  
DOC decay

**Behaviour in environmental compartments**

Bioaccumulation low  
log Pow: see chapter 9

**Ecotoxicity effects**

Toxicity to fish LC50 (Brachydanio rerio): > 3200 mg/l / 96 h  
Method: OECD 203

NOEC (Brachydanio rerio): 3200 mg/l / 96 h  
Method: OECD 203

Toxicity to daphnia EC50 static test Daphnia magna: 324 mg/l / 48 h  
Method: OECD TG 202  
Own test result.

Toxicity to algae EC50 static test Desmodesmus subspicatus: > 1000 mg/l / 72 h  
End point: Biomass  
Analytical monitoring: yes  
Method: OECD TG 201

EC50 static test Desmodesmus subspicatus: > 1000 mg/l / 72 h  
End point: growth rate  
Analytical monitoring: yes  
Method: OECD TG 201

Toxicity to bacteria EC 10 Pseudomonas putida: 2000 mg/l / 18 h  
Method: UBA method

**Further information on ecology**

Biochemical Oxygen Demand 480 mg/g  
(BOD) Concentration: (BOD5)

**13. DISPOSAL CONSIDERATIONS****Product**

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

**Waste Key Number**

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., 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.

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

Not classified as dangerous in the meaning of transport regulations.

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**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.

**National legislation**

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**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
Philippines (PICCS)	listed/registered
China	listed/registered
Switzerland	not 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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