

# MATERIAL SAFETY DATA SHEET

**Biolys®**



Material no.		Version	1.23 / US
Specification	140080	Revision date	11/30/2010
Order Number		Print Date	01/03/2011
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## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### Product information

Trade name : Biolys®  
Use of the Substance / : Feed Additive  
Preparation  
Company : Evonik Degussa Corporation  
USA  
379 Interspace Parkway  
Parsippany, NJ 07054  
USA  
Telephone : 973-541-8000  
Telefax : 973-541-8040  
**US: CHEMTREC EMERGENCY NUMBER** : 800-424-9300  
**CANADA: CANUTEC EMERGENCY NUMBER** : 613-996-6666  
Product Regulatory Services : 973-541-8060

## 2. HAZARDS IDENTIFICATION

### \*\*\* EMERGENCY OVERVIEW \*\*\*

*Form*-granular    *Color*-light brown    *Odor*-characteristic

Dusts can form explosive mixtures with air.

### POTENTIAL HEALTH EFFECTS

#### Eye contact

No hazard expected in normal use.

#### Skin Contact

No hazard expected in normal use.

#### Inhalation

No hazard expected in normal use.

#### Ingestion

No hazard expected in normal use.



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Autoignition temperature 450 °C  
Method: VDI Guideline 2263 sheet 1  
(BAM-furnace)  
grain size  
< 63µm

## Suitable extinguishing media

water, mist

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

quenching powder, carbon dioxide (CO<sub>2</sub>)

## 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.

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## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions

Wear personal protective equipment.  
Keep unauthorized persons away.

### Environmental precautions

Obey relevant local, provincial and federal laws and regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil.

### Methods for cleaning up

Use mechanical handling equipment.

### Additional advice

Avoid dust formation.

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## 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."

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## Dust explosion class

St1 (VDI 2263)  
1 m<sup>3</sup> standard container, ignition energy 10 kJ  
mean grain size  
8,9µm  
  
St1  
grain size  
< 63µm

## 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

### Component occupational exposure guidelines

- **exposure limit for dust**

CAS-No.

Control parameters 3 mg/m<sup>3</sup> Time Weighted Average (TWA):(ACGIH)  
Respirable fraction.  
Suitable measuring processes are:  
NIOSH method 0500  
NIOSH method 0600

10 mg/m<sup>3</sup> Time Weighted Average (TWA):(ACGIH)  
Inhalable particulate.

15 mg/m<sup>3</sup> Time Weighted Average (TWA)  
Permissible Exposure Limit (PEL):(OSHA Z1)

Total dust.

5 mg/m<sup>3</sup> Time Weighted Average (TWA)  
Permissible Exposure Limit (PEL):(OSHA Z1)

Respirable fraction.  
Suitable measuring processes are:  
NIOSH method 0500  
NIOSH method 0600

### Other information

none known.

### Engineering measures

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

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## Personal protective equipment

### Respiratory protection

A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.

### Hand protection

Wear protective gloves made of the following materials: rubber or plastics.  
Change protective gloves regularly.

### Eye protection

safety glasses

### 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	granular
Color	light brown
Odor	characteristic

### Safety data

pH	5 - 7 (10 g/l) water	(20 °C)
Melting point/range	not applicable	
Boiling point/range	not applicable	
Flash point	not applicable solid	
Flammability	No data available	
Autoignition temperature:	450 °C Method: VDI Guideline 2263 sheet 1 (BAM-furnace) grain size < 63µm	
glow temperature	> 400 °C Method: VDI 2263	
Autoinflammability	ca. > 200 °C (Autoignition temperature) Method: VDI Guideline 2263 sheet 1	

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(in dm3 wire basket (IMDG code))

Explosiveness	No data available
Lower explosion limit	dust: 60 g/m <sup>3</sup> (8.9 µm)  dust: 60 g/m <sup>3</sup> grain size < 63µm
Upper explosion limit	No data available
Minimum ignition energy	> 5 J (25 °C) Method: VDI Guideline 2263 sheet 1 mean grain size: 1415 µm  300 - < 1000 mJ (25 °C) Method: VDI Guideline 2263 sheet 1 mean grain size: 38 µm with inductance  > 1000 mJ (25 °C) Method: VDI Guideline 2263 sheet 1 mean grain size: 38 µm without inductance
maximum absolute explosive pressure	8.6 bar grain size < 63µm  8.6 bar mean grain size 8,9µm
Vapor pressure	No data available
Relative density	No data available
Bulk density	630 - 770 kg/m <sup>3</sup>
Tapped density	670 - 810 kg/m <sup>3</sup>
Water solubility	min. 360 g/l partly soluble related to substance: Product  min. 215 g/l partly soluble related to substance: L-Lysine
speed of hydrolysis	half-life period: 1 years (25 °C) (pH 7) Method: 92/69/EEC, C.7
Partition coefficient (n-octanol/water)	No data available

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Viscosity, dynamic	not applicable solid
Vapour density	No data available

## 10. STABILITY AND REACTIVITY

Hazardous decomposition products	decomposition products when exposed to heat flammable smouldering gases
Thermal decomposition	No data available
Hazardous reactions	Avoid dust formation.

## 11. TOXICOLOGICAL INFORMATION

Product Acute oral toxicity	LD50 Rat: > 5110 mg/kg Method: OECD Test Guideline 401 (limit test)
Product Acute inhalation toxicity	LC50 rat(male/female): > 5.3 mg/l / 4 h Method: OECD Test Guideline 403 limit test (maximum concentration attainable in experiments) - No deaths occurred.
Product Acute dermal toxicity	No data available
Product Skin irritation	Rabbit not irritating Method: OECD Test Guideline 404
Product Eye irritation	Rabbit slightly irritating Method: OECD Test Guideline 405
Product Sensitization	Buehler Test guinea pig: not sensitizing to the skin Method: OECD Test Guideline 406
Product Repeated dose toxicity	Oral Rat Testing period: 28 d Subsequent observation period: 42 day NOAEL: > 1870 mg/kg Method: OECD 407
Product Gentoxicity in vitro	Ames test Salmonella typhimurium negative Method: OECD TG 471  chromosomal aberration human lymphocytes negative

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Method: OECD TG 473

Product Carcinogenicity No data available

Product Toxicity to reproduction 1 generation pharyngeal probe Rat: in maternally non-toxic doses  
NOEL (No Observed Effect Level) of parents: > 1000 mg/kg  
NOEL F1: > 1000 mg/kg  
Method: OECD Test Guideline 415

## 12. ECOLOGICAL INFORMATION

### Elimination information (persistence and degradability)

Biodegradability aerobic DOC (Dissolved Organic Carbon)  
inoculum: Activated sludge  
Readily biodegradable.  
100 %  
Exposure time: 28 d  
Method: OECD TG 301 A  
DOC decay

### Ecotoxicity effects

Toxicity to fish LC50 semi-static test *Cyprinus carpio*: > 200 mg/l / 96 h  
Method: OECD TG 203

LC0 semi-static test *Cyprinus carpio*: > 200 mg/l / 96 h  
Method: OECD TG 203

Toxicity to daphnia EC50 static test *Daphnia magna*: > 2000 mg/l / 48 h  
Method: OECD TG 202

EC0 static test *Daphnia magna*: > 700 mg/l / 48 h  
Method: OECD TG 202

Toxicity to algae EC50 static test *Desmodesmus subspicatus*: > 2000 mg/l / 72 h  
End point: growth rate  
Method: OECD TG 201

EC50 static test *Desmodesmus subspicatus*: 450 mg/l / 72 h  
End point: Biomass  
Method: OECD TG 201

## 13. DISPOSAL CONSIDERATIONS

### WASTE DISPOSAL

Advice on disposal Waste must be disposed of in accordance with federal, provincial and local regulations.



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## 14. TRANSPORT INFORMATION

### Transport/further information

Not classified as dangerous in the meaning of transport regulations.

## 15. REGULATORY INFORMATION

### US Federal Regulations

#### OSHA

If listed below, chemical specific standards apply to the product or components:

- None listed

#### Clean Air Act Section (112)

If listed below, components present at or above the de minimus level are hazardous air pollutants:

- None listed

#### CERCLA Reportable Quantities

If listed below, a reportable quantity (RQ) applies to the product based on the percent of the named component:

- None listed

#### SARA Title III Section 311/312 Hazard Categories

The product meets the criteria only for the listed hazard classes:

- No SARA Hazards

#### SARA Title III Section 313 Reportable Substances

If listed below, components are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

- None listed

#### Toxic Substances Control Act (TSCA)

If listed below, non-proprietary substances are subject to export notification under Section 12 (b) of TSCA:

- None listed

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## State Regulations

### California Proposition 65

A warning under the California Drinking Water Act is required only if listed below:

- None listed

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## 16. OTHER INFORMATION

### HMIS Ratings

Health :	0
Flammability :	1
Physical Hazard :	0

### 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.