

**SAFETY DATA SHEET****Mepron®**

Material no. 99082079  
Specification 101614  
Order Number 05359197

Version 2.17 / US  
Revision date 11/30/2016  
Print Date 01/10/2017  
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**1. Identification****1.1. Product identifier**

Trade name Mepron®

**1.2. Recommended use of the chemical and restrictions on use**

Relevant applications identified Feed additive

**1.3. Details of the supplier of the safety data sheet**

Company Evonik Corporation USA  
299 Jefferson Road  
Parsippany, NJ 07054-0677  
USA

Telephone 973-929-8000

Telefax 973-929-8040

Email address Product-Regulatory-Services@Evonik.com

**1.4. 24 HOUR EMERGENCY TELEPHONE NUMBERS:**

**CHEMTREC - US & CANADA:** 800-424-9300

**CHEMTREC MEXICO:** 01-800-681-9531

**CHEMTREC INTERNATIONAL:** +1 703-527-3887 (collect calls accepted)

Product Regulatory Services : 973-929-8060

**2. Hazards identification****2.1. Classification of the substance or mixture**

Classification according to Regulation 29CFR 1910.1200

Remarks Not a hazardous substance or mixture.

**2.2. Label elements**

Statutory basis Classification according to Regulation 29CFR 1910.1200

Remarks Not a hazardous substance or mixture.

Contains Sodium stearate , Residual

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 1.5 %

Contains Residual , Sodium stearate

The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 1.5 %

**2.3. Other hazards**

No hazards resulting from the material as supplied.

Inhalation No hazard expected in normal use.

Skin No hazard expected in normal use.

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Eyes  
IngestionNo hazard expected in normal use.  
No hazard expected in normal use.**3. Composition/information on ingredients****3.1. Substances**  
not applicable**3.2. Mixtures**

<b>• DL-Methionine</b>		<b>&gt;= 85%</b>
CAS-No.	59-51-8	
Remarks	Not a hazardous substance or mixture.	
<b>• Starch</b>		<b>8.5%</b>
CAS-No.	9005-25-8	
Remarks	Not a hazardous substance or mixture.	
<b>• Ethylcellulose</b>		<b>3.6%</b>
CAS-No.	9004-57-3	
Remarks	Not a hazardous substance or mixture.	
<b>• Silicic acid, aluminum sodium salt</b>		<b>1.4%</b>
CAS-No.	1344-00-9	
Remarks	Not a hazardous substance or mixture.	
<b>• Sodium stearate</b>		<b>1%</b>
CAS-No.	822-16-2	
Remarks	Not a hazardous substance or mixture.	

**Other information**

This material is classified as not hazardous under OSHA regulations.  
This product is intended for FDA regulated uses only.

**4. First aid measures****4.1. Description of 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.

**4.2. Most important symptoms and effects, both acute and delayed****Symptoms**

None known

**Hazards**

None known

**4.3. Indication of any immediate medical attention and special treatment needed**

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****5.1. Extinguishing media**

Suitable extinguishing media: Water, Foam, mist

Unsuitable extinguishing media: Carbon dioxide (CO<sub>2</sub>)

**5.2. Special hazards arising from the substance or mixture**

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

**5.3. Advice for firefighters**

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.

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

**6. Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Wear personal protective equipment. Keep unauthorized persons away.

**6.2. Environmental precautions**

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

**6.3. Methods and material for containment and cleaning up**

Absorb mechanically avoiding production of dust.

**7. Handling and storage****7.1. Precautions for safe handling**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities****Advice on protection against fire and explosion**

Take precautionary measures against static charges, keep away from sources of ignition.

Avoid dust formation.

Combustible

**Storage**

Store in a cool and shaded area.

Keep containers dry and tightly closed to avoid moisture absorption and contamination.

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**German storage class**

11 - Combustible Solids

**Dust explosion class**

St1

Method:

VDI Guideline 2263 sheet 1

Maximum rate of pressure rise:

88 bar/s

Standardized max. rate of pressure increase, KSt:

85 bar m/s

Related to substance:

DL-Methionine

**8. Exposure controls/personal protection****8.1. Control parameters**

• exposure limit for dust		
CAS-No.		
Control parameters	3 mg/m <sup>3</sup>	Time Weighted Average (TWA):(ACGIH)
type of exposure	Respirable fraction. Suitable measuring processes are: NIOSH method 0500 NIOSH method 0600	
Control parameters	10 mg/m <sup>3</sup>	Time Weighted Average (TWA):(ACGIH)
type of exposure	Inhalable particulate.	
Control parameters	15 mg/m <sup>3</sup>	Time Weighted Average (TWA) Permissible Exposure Limit (PEL)(OSHA Z1)
type of exposure	Total dust.	
Control parameters	5 mg/m <sup>3</sup>	Time Weighted Average (TWA) Permissible Exposure Limit (PEL)(OSHA Z1)
type of exposure	Respirable fraction. Suitable measuring processes are: NIOSH method 0500 NIOSH method 0600	

**DNEL/DMEL values**

Remarks

No substance-related safety assessment is necessary / has been conducted for this product.

**PNEC values**

Remarks

No substance-related safety assessment is necessary / has been conducted for this product.

**8.2. Exposure controls****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**

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.



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**Hand protection**

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

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

**9. Physical and chemical properties****9.1. Information on basic physical and chemical properties**

physical state	solid
Colour	white to light brown
Form	solid
Odour	characteristic
Odour Threshold	not determined
pH	not determined
Melting point/range	281 °C decomposition Related to substance: DL-Methionine
Boiling point/range	n.a.
Flash point	not applicable solid
Evaporation rate	Not relevant solid
Flammability (solid, gas)	> 45 s Method: UN method N.1 Burning Time
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density	No data available

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Water solubility 33.5 g/l (25 °C)  
Related to substance: DL-Methionine

Partition coefficient: n-octanol/water log Pow: -1.87  
Related to substance: DL-Methionine

Thermal decomposition 215 °C  
TG (thermal gravimetric analysis)

Viscosity, dynamic not applicable  
solid

**9.2. Other information**

Explosiveness not to be expected, given the composition employed

Bulk density 600 - 700 kg/m<sup>3</sup>

Minimum ignition energy not determined

Metal corrosion no data available

Burning number BZ 3 - local burning or smouldering with little or no spreading.  
Method: Combustibility test in accordance with VDI 2263

**10. Stability and reactivity****10.1. Reactivity**

No further information available

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

Possibility of hazardous reactions Dust can form an explosive mixture in air.

**10.4. Conditions to avoid**

See chapter  
7.2. Conditions for safe storage, including any incompatibilities

**10.5. Incompatible materials****10.6. Hazardous decomposition products**

No hazardous decomposition products known.

The information given above refers to:  
DL-Methionine

**11. Toxicological information****11.1. Information on toxicological effects**

Acute oral toxicity NOEL Rat: 6600 mg/kg  
Method: GB 15193.3-2003

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Acute inhalation toxicity	NOAEL Rat: 5.25 mg/l / 4 h Method: OECD Test Guideline 403 Test substance: DL-Methionine
Acute dermal toxicity	no data available
Skin irritation	Rabbit No skin irritation Method: OECD Test Guideline 404 Test substance: DL-Methionine
Eye irritation	Rabbit slightly eye irritation Method: OECD Test Guideline 405 Test substance: DL-Methionine
Sensitization	Buehler Test guinea pig: Does not cause skin sensitisation. Method: OECD Test Guideline 406 Test substance: DL-Methionine
Repeated dose toxicity	Oral Rat(male) / 90-day NOAEL: 1474 mg/kg Method: OECD TG 408  Oral Rat(female) / 90-day NOAEL: 1647 mg/kg Method: OECD TG 408
Assessment of STOT single exposure	Assessment: no data available
Assessment of STOT repeat exposure	Assessment: The classification criteria are not met based on the available data.
Risk of aspiration toxicity	no data available
Gentotoxicity in vitro	Microorganisms, cell cultures none mutagenic / genotoxic effects Method: literature Test substance: DL-Methionine  Ames test Salmonella typhimurium negative Method: OECD 471 Test substance: DL-Methionine
Carcinogenicity	no data available
Toxicity to reproduction	Rat NOEL (No Observed Effect Level) of parents: 300 mg/kg Method: OECD Test Guideline 415 Test substance: DL-Methionine No evidence of effects of reproductive / developmental toxicity.
Human experience	Side-effects were observed in the event of higher dosage (10 g)

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tested substance:  
DL-Methionine  
gastro-intestinal symptoms: nausea, vomiting  
tested substance:  
DL-Methionine

**Toxicological information on components****DL-Methionine**

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.

Acute dermal toxicity

Assessment: The substance or mixture has no acute dermal toxicity

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: Does not cause skin sensitisation.  
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 pharyngeal 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)



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**12. Ecological information****12.1. Toxicity**

Toxicity to fish

LC50 (Brachydanio rerio): &gt; 3200 mg/l / 96 h

Test substance: DL-Methionine

Method: OECD 203

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

Test substance: DL-Methionine

Method: OECD 203

Toxicity in aquatic  
invertebrates

NOEC Daphnia magna: 220 mg/l / 48 h

Test substance: DL-Methionine

Method: OECD TG 202

EC50 Daphnia magna: 324 mg/l / 48 h

Test substance: DL-Methionine

Method: OECD TG 202

Toxicity to algae

static test Desmodesmus subspicatus: &gt; 1000 mg/l / 72 h

End point: Biomass

Analytical monitoring: yes

Test substance: DL-Methionine

Method: OECD TG 201

static test Desmodesmus subspicatus: &gt; 1000 mg/l / 72 h

End point: growth rate

Analytical monitoring: yes

Test substance: DL-Methionine

Method: OECD TG 201

Toxicity to bacteria

EC 10 Pseudomonas putida: 2000 mg/l / 18 h

Test substance: DL-Methionine

Method: UBA method

**12.2. Persistence and degradability**

Biodegradability

Result: rapidly biodegradable

Test substance: DL-Methionine

Method: OECD TG 301 A

Biochemical Oxygen Demand  
(BOD)

480 mg/g

Concentration: (BOD5)

Test substance: DL-Methionine

**12.3. Bioaccumulative potential**

Bioaccumulation

Test substance: DL-Methionine

low

log Pow: see chapter 9

**12.4. Mobility in soil**

Mobility

No data available

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**12.5. Other adverse effects**

Further Information

No further information available

**Ecotoxicology Assessment****• Ethylcellulose**

Acute aquatic toxicity no data available

**• Sodium stearate**

Acute aquatic toxicity no data available

**13. Disposal considerations****13.1. Waste treatment methods****Product**

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

Offer rinsed packaging material to local recycling facilities.

**Uncleaned packaging**

Packaging material should be recycled or disposed of in accordance with federal, state and local regulations.

**14. Transport information****Not dangerous according to transport regulations.**

- 14.1. UN number: --  
14.2. UN proper shipping name: --  
14.3. Transport hazard class(es): --  
14.4. Packing group: --  
14.5. Environmental hazards (Marine pollutant): --  
14.6. Special precautions for user: Yes  
Not dangerous according to 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

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**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

**State Regulations****California Proposition 65**

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

An employer using HMIS/NFPA labeling must through training ensure that its employees are fully aware of the hazards of the chemicals used.

**HMIS Ratings**

Health :	0
Flammability :	1
Physical Hazard :	0

**16. Other information****Further information**

Revision date 11/30/2016

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

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**Legend**

ACC	American Chemistry Council
ACGIH	American Conference of Governmental Industrial Hygienists
ACS	Advisory Committee on Sustainability
ADI	Acceptable Daily Intake
ASTM	American Society for Testing and Materials
ATP	Adaptation to Technical Progress
BCF	Bioconcentration factor
BOD	Biochemical oxygen demand
c.c.	closed cup
CAO	Cargo Aircraft Only
Carc	Carcinogen
CAS	Chemical Abstract Services
CDN	Canada
CEPA	Canadian Environmental Protection Act
CERCLA	Comprehensive Environmental Response – Compensation and Liability Act
CFR	Code of Federal Regulations
CMR	carcinogenic-mutagenic-toxic for reproduction
COD	Chemical oxygen demand
DIN	German Institute for Standardization
DMEL	Derived minimum effect level
DNEL	Derived no effect level
DOT	Department of Transportation
EC50	half maximal effective concentration
EPA	Environmental Protection Agency
ErC50	Reduction of Growth Rate
ERG	Emergency Response Guide Book
FDA	Food and Drug Administration
GHS	Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
GLP	Good Laboratory Practice
GMO	Genetic Modified Organism
HCS	Hazard Communication Standard
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
ICAO-TI	International Civil Aviation Organization- Technical Instructions
ICCA	International Council of Chemical Association
ID	Identification number
IMDG	International Maritime Dangerous Goods
IUPAC	International Union of Pure and Applied Chemistry
ISO	International Organization For Standardization
LC50	50 % Lethal Concentration
LD50	50 % Lethal Dose
L(E)C50	LC50 or EC50
LOAEL	Lowest observed adverse effect level
LOEL	Lowest observed effect level
MARPOL	International Convention for the Prevention of Pollution from Ships
NFPA	National Fire Protection Association

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<b>NOAEL</b>	No observed adverse effect level
<b>NOEC</b>	no observed effect concentration
<b>NOEL</b>	no observed effect level
<b>O. C.</b>	open cup
<b>OECD</b>	Organisation for Economic Cooperation and Development
<b>OEL</b>	Occupational Exposure Limit
<b>OSHA</b>	Occupational Safety and Health Administration
<b>PBT</b>	Persistent, bioaccumulative, toxic
<b>PEC</b>	Predicted effect concentration
<b>PNEC</b>	Predicted no effect concentration
<b>RQ</b>	Reportable Quantify
<b>SDS</b>	Safety Data Sheet
<b>STOT</b>	Specific Target Organ Toxicity
<b>UN</b>	United Nations
<b>vPvB</b>	very persistent, very bioaccumulative
<b>voc</b>	volatile organic compounds
<b>WHMIS</b>	Workplace Hazardous Materials Information System
<b>WHO</b>	World Health Organization



