AEB IMPROVEMENT THROUGH BIOTECHNOLOGY

SAFETY DATA SHEET

FERMOCEL

Issued on 07/13/2017 - Rel. # 3 on 07/13/2017

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In conformity to Regulation (EU) 2015/830

SECTION 1. Identification of the substance/mixture and of the company/enterprise

1.1. Product identifier

Product name: FERMOCEL

Product code: refer to sales department

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

Bioregulators and nutrients

Sectors of use:

Industrial Manufacturing[SU3], Manufacture of food products[SU4], Public domain (administration, education, entertainment, services, craftsmen)[SU22]

Product category:

Process aid for enological use

Not recommended uses

Do not use for purposes other than those listed

1.3. Details of the supplier of the safety data sheet

AEB SpA - Via Vittorio Arici 104 S.Polo - 25134 Brescia (BS) Italy

Tel. +39.030.2307.1 Fax +39.030.2307281

E-mail: info@aeb-group.com - Internet: www.aeb-group.com E-mail tecnico competente/technical dept.: sds@aeb-group.com

AEB USA 111 N Cluff Avenue

Lodi CA 95240 (USA)

Tel: +1 2096258139 Fax: +1 2092248953

Email: info@aebusa.com - Internet: www.aeb-group.com

AEB AFRICA (PTY) LTD

18 Track Crescent, Cor. Station Road

Montague Gardens 7441 Cape Town (South Africa)

Tel.: +27 215512700 - Fax: +27 (0) 215511919

Email: info@aeb.co.za - Internet: www.aeb-group.com

AEB OCEANIA PTY LTD

113 Hanwood Avenue

Hanwood

NSW 2680 (Australia)

Tel: +61 1300 704 971

Email: aeboceania@aeb-group.com - Internet: www.aeb-group.com

Produced by AEB SpA Via Vittorio Arici 104 S. Polo 25134 Brescia



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1.4. Emergency telephone number

AEB SpA

Centralino/Switchboard: +39.030.2307.1 - (h 8.30-12.00 13.30-18.00 GMT +1; Lingua/Language: Italiano, English)

AEB BIOCHEMICAL USA

Switchboard: +1 2096258139 (GMT -8; Language: English)

AEB AFRICA (PTY) LTD

Switchboard: +27 215512700 (GMT +1; Language: English, Afrikaans)

AEB OCEANIA PTY LTD

Switchboard: +61 1300 704 971 (GMT +9; Language: English)

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No 1272/2008:

This product does not meet the criteria for classification in any hazard class according to Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.

Pictograms:

None

Hazard Class and Category Code(s):

Non hazardous

Hazard statement Code(s):

Non hazardous

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008:

Pictogram, Signal Word Code(s):

None

Hazard statement Code(s):

Non hazardous

Supplemental Hazard statement Code(s):

not applicable

Precautionary statements:

None in particular.

Information concerning the components: cellulose, ammonium sulphate, diammonium phosphate, chemically inert filter aid, thiamine hydrochloride (vitamin B1) 0,1%.

Only for professional use

Limited food use: oenological use



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2.3. Other hazards

The substance / mixture does NOT contain substances PBT/vPvB according to Regulation (EC) No 1907/2006, Annex XIII

No information on other hazards

SECTION 3. Composition/information on ingredients

3.1 Substances

Irrilevant

3.2 Mixtures

No dangerous substance to report.

Substance	Concentration	Classification	Index	CAS	EINECS	REACh
Cellulose substance for which there are Community workplace exposure limits	> 30 <= 50%			9004-34-6	232-674-9	
Perlite substance for which there are Community workplace exposure limits	> 1 <= 5%			93763-70-3	618-970-4	

SECTION 4. First aid measures

4.1. Description of first aid measures

Inhalation:

Ventilate the area. Move immediately the contaminated patient from the area and keep him at rest in a well ventilated area. If you feel unwell seek medical advice.

Direct contact with skin (of the pure product).:

Wash thoroughly with soap and running water.

Direct contact with eyes (of the pure product).:

Wash immediately and thoroughy with running water for at least 10 minutes.

Ingestion:

Not hazardous. It's possible to give activated charcoal in water or medicinal mineral vaseline oil.

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

Eye contact may cause irritation, including redness and tear. The product is not irritating to the skin; However, repeated and prolonged direct contact may degrade and irritate the skin, causing in some cases dermatitis. The ingested product can cause irritation of the throat and digestive tract mucous, resulting in abnormal digestive symptoms and intestinal disorders. The inhaled product may cause respiratory irritation for repeated exposures.

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

No data available.

SECTION 5. Firefighting measures

5.1. Extinguishing media

Suggested extinguishing media:

Water spray, CO2, foam, dry chemical, depending on the materials involved in the fire.

Extinguishing media to avoid:

Water jets. Use water jets only to cool the surfaces of the containers exposed to fire.

5.2. Special hazards arising from the substance or mixture

No data available.

5.3. Advice for firefighters

Use protection for the breathing apparatus

Safety helmet and full protective clothing.

The water spray can be used to protect the people involved in the extinction.

You may also use self-contained breathing apparatus, especially when working in confined and poorly ventilated areas and if you use halogenated extinguishers (Halon 1211 fluobrene, Solkan 123, NAF, etc...)

Keep containers cool with water spray

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel:

Leave the area surrounding the spill or release. Do not smoke Wear gloves and protective clothing

6.1.2 For emergency responders:

Eliminate all unquarded flames and possible sources of ignition. No smoking.

Privide a sufficient ventilation.

Evacuate the danger area and, in case, consult an expert.

6.2. Environmental precautions

Contain spills

Inform the competent authorities.

Dispose of the waste material in compliance with the regulations

6.3. Methods and material for containment and cleaning up

6.3.1 Containment:

Recover the product for reuse, if possible, or for elimination.

6.3.2 Cleaning up:

After wiping up, wash with water the area and materials involved



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6.3.3 Other information: None in particular.

6.4. Reference to other sections

Refer to paragraphs 8 and 13 for more information

SECTION 7. Handling and storage

7.1. Precautions for safe handling

At work do not eat or drink. See also paragraph 8 below.

7.2. Conditions for safe storage, including any incompatibilities

Keep in original container closed tightly. Do not store in open or unlabelled containers. Keep containers upright and safe by avoiding the possibility of falls or collisions. Store in a cool and dry place, away from heat sources and direct exposure to sunlight.

7.3. Specific end use(s)

Industrial Manufacturing:

Handle with extreme caution.

Store in a well ventilated place away from heat sources.

Manufacture of food products:

Handle with care.

Store in a clean, dry, ventilated area away from heat and direct sunlight.

Keep container tightly closed.

Public domain (administration, education, entertainment, services, craftsmen):

Handle with care. Store in a ventilated area and away from heat, keep the container tightly closed.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Related to contained substances:

Cellulose:

Limit value - Eight hours (ppm)/(mg/m³)

Australia: x/10(1) Belgio: x/10

Canada – Ontario: x/10 Canada - Québec: x/10

France: x/10 inhalable aerosol

Irelend: x/10(1); x/4(2)

Latvia: x/2

New Zealand: x/10(1)

People's Republic of China: x/10

Singapore: x/10 South Korea: x/10



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Spain: x/10 inhalable aerosol Switzerland: x/3 respirable aerosol USA - NIOSH: x/10(1); x/5(2)

USA - OSHA: x/15 total dust; 5 respirable dust

United Kingdom: : x/10 inhalable aerosol; 4 respirable aerosol

Limit value - Short term (ppm)/(mg/m³)

Irelend: x/20 (1)(3)

United Kingdom: x/20 inhalable aerosol

Remarks:

Australia: (1) This value is for inhalable dust containing no asbestos an <1 % crystalline silica.

Ireland: (1) Inhalable fraction (2) Respirable fraction (3) 15 minutes reference period

New Zealand: (1) The value for inhalable dust containing no asbestos and less than 1% free silica.

USA - NIOSH: (1) Total dust (2) Respirable aer

Perlite:

Limit value – Eight hours (ppm)/(mg/m3)

Australia: x/10(1)

Austria: x/5 inhalable aerosol

Belgium: x/10

Canada – Ontario: x/10(1)

Canada – Québec: x/10(total) – 5 (respirable)

Latvia: x/4(1)

People's Republic of China: x/8(1) - 4(2)

Singapore: x/10 South Korea: x/10

USA - NIOSH: x/10 total dust - 5 respirable fraction

Limit value - Short term

Australia: x/x

Austria: x/10 inhalable aerosol

Belgium: x/x

Canada – Ontario: x/x Canada – Québec: x/x

Latvia: x/x

People's Republic of China: x/x

Singapore: x/x South Korea: x/x USA – NIOSH: x/x

Remarks

Australia: (1) This value is for inhalable dust containing no asbestos and <1% cristalline silica.

Canada – Ontario: (1) This value us for particulate matter containing no asbestos and <1% crystalline silica

Latvia: (1) and tuff, pemza

People's Republic of China: (1) Inhalable fraction (2) Respirable fraction

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8.2. Exposure controls









Appropriate engineering controls:

Industrial Manufacturing:

No specific monitoring foreseen (act according to good practice and specific rules for the type of risk associated)

Manufacture of food products:

No specific monitoring foreseen (act according to good practice and specific rules for the type of risk associated)

Public domain (administration, education, entertainment, services, craftsmen):

No specific monitoring foreseen (act according to good practice and specific rules for the type of risk associated)

8.2.2 Individual protection measures:

(a) Eye / face protection

When handling the pure product use safety glasses (EN 166).

- (b) Skin protection
- (i) Hand protection

When handling the pure product use chemical resistant protective gloves (EN 374-1/EN374-2/EN374-3)

When handling the pure product, wear full protective clothing (generic workwear / antacid, safety shoes S3-EN ISO 20345) or other protective equipment, according to the instructions of the RSPP

(c) Respiratory protection

Not needed for normal use.

During manual operations in case of insufficient ventilation, use mask with dust filter - White, P (EN 143) unless otherwise provided by the employer and / or assessments of environmental investigations hygienistic

(d) Thermal hazards

No hazard to report

Environmental exposure controls:

Use according to good working practices and avoid to disperse the product into the environment.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical and chemical properties	Value	Determination method
Appearance	Mixed powder with white granules	
Odour	Not determined as it is considered not relevant to the characterization of the product	
Odour threshold	Not determined as it is considered not relevant to the characterization of the product	
рН	7,5 ± 0,5 (20°C; sol. 5%)	
Melting point/freezing point	Not determined as it is considered not relevant to the characterization of the product	
Initial boiling point and boiling range	Not determined as it is considered not relevant to the characterization of the product	

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Physical and chemical properties	Value	Determination method
Flash point	Not determined as it is considered not relevant to the characterization of the product	ASTM D92
Evaporation rate	Not determined as it is considered not relevant to the characterization of the product	
Flammability (solid, gas)	Not determined as it is considered not relevant to the characterization of the product	
Upper/lower flammability or explosive limits	Not determined as it is considered not relevant to the characterization of the product	
Vapour pressure	Not determined as it is considered not relevant to the characterization of the product	
Vapour density	Not determined as it is considered not relevant to the characterization of the product	
Relative density	0,28 - 0,45 (20°C)	
Solubility	Not determined as it is considered not relevant to the characterization of the product	
Water solubility	dispersible	
Partition coefficient: n-octanol/water	Not determined as it is considered not relevant to the characterization of the product	
Auto-ignition temperature	Not determined as it is considered not relevant to the characterization of the product	
Decomposition temperature	Not determined as it is considered not relevant to the characterization of the product	
Viscosity	Not determined as it is considered not relevant to the characterization of the product	
Explosive properties	Not determined as it is considered not relevant to the characterization of the product	
Oxidising properties	Not determined as it is considered not relevant to the characterization of the product	

9.2. Other information

No data available.

SECTION 10. Stability and reactivity

10.1. Reactivity

No reactivity hazards

10.2. Chemical stability

No hazardous reaction when handled and stored according to provisions.

10.3. Possibility of hazardous reactions

There are no hazardous reactions

10.4. Conditions to avoid

It damps moisture. Avoid exposure to heat sources.

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10.5. Incompatible materials

None in particular.

10.6. Hazardous decomposition products

Does not decompose when used for intended uses.

SECTION 11. Toxicological information

11.1. Information on toxicological effects

ATE(mix) oral = ∞ ATE(mix) dermal = ∞ ATE(mix) inhal = ∞

(a) acute toxicity: Cellulose: Ingestion-rat LD50 (mg/kg/bw 24h): >5000

Skin contact-LC50 rat/coniglio (mg/kg/bw 24h): >2000

Inhalation-rat LD50 (mg/l/4h): >5800

Perlite: Ingestion-rat LD50 (mg/kg/bw 24h): 12960

This product has a low toxicity. May be harmful to health only in large quantities.

High concentrations of dust can cause respiratory irritation.

(b) skin corrosion/irritationCellulose: Non-corrosive

Perlite: Non-corrosive Cellulose: Non-irritating

Perlite: Prolonged contact can cause dry skin.

(c) serious eye damage/irritation: Cellulose: Non-corrosive

Perlite: Non-corrosive Cellulose: Non-irritating

Perlite: The particles in the eyes may cause irritation and smarting. (d) respiratory or skin sensitization: Cellulose: Non-Sensitizing

Perlite: Not available

(e) germ cell mutagenicity: Cellulose: Not available

Perlite: Not available

(f) carcinogenicity: Cellulose: Not available

Perlite: Not available

(g) reproductive toxicity: Cellulose: Not available

Perlite: Not available

(h) specific target organ toxicity (STOT) single exposure: Cellulose: Not available

Perlite: Not available

(i) specific target organ toxicity (STOT) repeated exposureCellulose: Not available

Perlite: Not available

(j) aspiration hazard: Cellulose: Not available

Perlite: Not available

Health Hazards:

Eye contact: Accidental contact of product with eyes may cause irritation.

Skin Contact: Product is not an irritant. Prolonged or repeated contact may defeat and irritate the skin and cause dermatitis in some cases.

Ingestion: The ingested product may cause irritation of the mucous membranes of the throat and digestive system



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leading to digestive symptoms and abnormal bowel disorders.

Inhalation: Prolonged exposure to vapours or mists of product may cause respiratory irritation.

Cellulosa

**** Not translated ****

SECTION 12. Ecological information

12.1. Toxicity

Use according to good working practices and avoid to disperse the product into the environment.

12.2. Persistence and degradability

Cellulose: Not persistent

Perlite:

The product is not biodegradable

12.3. Bioaccumulative potential

Related to contained substances:

Cellulose:

There is no evidence of bioaccumulation potential.

Perlite:

Not bioaccumulative

12.4. Mobility in soil

Related to contained substances:

Cellulose:

Not available

Perlite:

Insoluble in water.

12.5. Results of PBT and vPvB assessment

The substance / mixture does NOT contain substances PBT/vPvB according to Regulation (EC) No 1907/2006, Annex XIII

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12.6. Other adverse effects

No adverse effects

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Do not reuse empty containers. Dispose of them in accordance with the regulations in force. Any remaining product should be disposed of according to applicable regulations by addressing to authorized companies.

Recover if possible. Operate according to local or national regulations

SECTION 14. Transport information

14.1. UN number

Not included in the field of application of regulations concerning the transport of dangerous goods: by road (ADR); by rail (RID); by air (ICAO / IATA); by sea (IMDG).

14.2. UN proper shipping name

None

14.3. Transport hazard class(es)

None

14.4. Packing group

None

14.5. Environmental hazards

None

14.6. Special precautions for user

No data available.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and IBC Code

Transport in bulk is not foreseen

SECTION 15. Regulatory information

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

Restrictions relating to the product or contained substances (All. XVII Reg. EC 1907/2006): not applicable Substances in Candidate List (art. 59 Reg. EC 1907/2006): the product does not contain SVHC



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Substances subject to authorisation (Ann. XIV Reg. CEC 1907/2006): the product does not contain SVHC

Reg. EC 648/04: see 2.2

Reg. (EU) n. 1169/2011: see 2.2

15.2. Chemical safety assessment

No chemical safety assessment was carried out by the supplier

SECTION 16. Other information

16.1. Other information

Classification based on data of all mixture components

Main normative references:

Reg. (CE) n. 1907 del 18/12/06 REACH (Registration, Evaluation and Authorisation of CHemicals) et seq.

Reg. (CE) 1272/2008 CLP (Classification Labelling and Packaging) et seg.

Regulation (EC) n. 648 of 31/03/04 (on detergents) et seg.

Regulation (UE) n. 1169/2011 (on the provision of food information to consumers)

Directive 2012/18/EU (on the control of major-accident hazards involving dangerous substances) et seq.

Procedure used to classify under CLP mixture (Reg . EC 1272/2008): not applicable

Training required: This document must be submitted to the employer to determine the possible need for appropriate training for workers to ensure protection of human health and the environment.

n.a.: not applicable n.d.: not available

ADR: Accord europèen relative au transport International des merchandises dangereuses par route (European

Agreement concerning the International Carriage of Dangerous Goods by Road)

ATE: Acute Toxicity Estimat BFC: BioconCentration Factor

BOD: Biochemical Oxigen Demand

CAS: Chemical Abstract Service number

CAP: Centre AntiPoison

CE/EC number EINECS (European Inventory of existing Commercial Substances) e ELINCS (European List of notified

Chemical Substances)

CL50/LC50: Lethal Concentration 50

DL50/LD50: Lethal Dose 50 COD: Chemical Oxygen Demand DNEL: Derived No Effect Level

EC50: half maximal Effective Concentration

ERC: Enviroment Release Classes

EU/UE: European Union

IATA: International Air Transport Association ICAO: International Civil Aviation Organization IMDG: International Maritime Dangerous Goods code

Kow: Octanol water partition coefficient

NOEC: No Observed Effect Concentration

OEL: Occupational Exposure Limit

PBT: Persistent Bioaccumulative and Toxic

PC: Product Categories

PNEC: Predicted No Effect Concentration

PROC: Process Categories

RID: Règlement concernent le transport International ferroviaire des merchandises dangereuses (Regulations

concerning International rail transport of dangerous goods)



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STOT: Target Organ Systemic Toxicity STOT (RE): Repeated Exposure STOT (SE): Single Exposure STP: Sewage Treatment Plants

SU: Sector of Use

SVCH: Substance of Very High Concern

TLV: Threshold Limit Value

vPvB: Very Persistent Very Bioaccumulative

References and Sources:

- ECHA Registered Substances:
- https://echa.europa.eu/web/guest/information-on-chemicals/registered-substances
- SDS supplier
- GESTIS DNEL Database: http://www.dguv.de/ifa/gestis/gestis-dnel-datenbank/index-2.jsp
- GESTIS International Limit Value: http://limitvalue.ifa.dguv.de

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*** this tab annuls and replaces any previous edition. (IIXX)

Changes to the previous edition: Labeling variation