

SECTION 1: Identification

1.1. Product identifier

Product form : Mixture
 Product group : Trade product
 Registration Number : 2013041B Fertilizers Act

1.2. Recommended use and restrictions on use

Recommended uses and restrictions : Fertilizers

1.3. Supplier

Alltech Crop Science
 3031 Catnip Hill Road
 40356 Nicholasville - USA
 T 859-885-9613 - F 859-887-6736
RegulatoryACS@alltech.com

1.4. Emergency telephone number

Emergency number : 1-800-424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-CA)

Specific target organ toxicity — Repeated exposure, Category 2 H373

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-CA labelling

Hazard pictograms (GHS-CA) :



GHS08

Signal word (GHS-CA) : Warning
 Contains : Manganese sulfate, monohydrate
 Hazard statements (GHS-CA) : H373 - May cause damage to organs (brain) through prolonged or repeated exposure (Inhalation)
 Precautionary statements (GHS-CA) : P260 - Do not breathe spray
 P314 - Get medical advice/attention if you feel unwell
 P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-CA)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification (GHS-CA)
LACTOBACILLUS EXTRACT FILTRATE		>= 80	Not classified
Manganese sulfate, monohydrate	(CAS No) 10034-96-5	2.5 - 5	STOT RE 2, H373 Aquatic Chronic 2, H411
Yucca stem extract	(CAS No) 223749-05-1	2.5 - 5	Acute Tox. 4 (Oral), H302
Ferrous sulfate, heptahydrate	(CAS No) 7782-63-0	2.5 - 5	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315

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Name	Product identifier	%	Classification (GHS-CA)
Copper Sulfate	(CAS No) 7758-99-8	0.5 - 1	Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H-statements: see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water.
First-aid measures after eye contact : Rinse eyes with water as a precaution.

4.2. Most important symptoms and effects (acute and delayed)

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

Other medical advice or treatment : Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Unsuitable extinguishing media

No additional information available

5.3. Specific hazards arising from the hazardous product

Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.4. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.2. Methods and materials for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.
Other information : Dispose of materials or solid residues at an authorized site.

6.3. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

8.3. Individual protection measures/Personal protective equipment

Hand protection : Protective gloves.
Eye protection : Safety glasses.
Skin and body protection : Wear suitable protective clothing.
Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.
Environmental exposure controls : Avoid release to the aquatic environment.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: No data available
Colour	: No data available
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
pH solution	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Vapour pressure at 50 °C	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Relative density of saturated gas/air mixture	: No data available
Density	: No data available
Relative gas density	: No data available
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, kinematic (calculated value) (40 °C)	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	: The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use.
Conditions to avoid	: None under recommended storage and handling conditions (see section 7).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

LACTOBACILLUS EXTRACT FILTRATE

LD50 oral rat	> 5000 ml/kg
LD50 dermal rat	> 5000 mg/kg
LC50 inhalation rat (ppm)	2.05 ppm

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Yucca stem extract (223749-05-1)	
LD50 oral rat	1027 mg/kg
LD50 dermal rat	> 5000 mg/kg
LC50 inhalation rat (ppm)	> 2.11 ppmv/4h
Ferrous sulfate, heptahydrate (7782-63-0)	
LD50 oral rat	1480 mg/kg (Rat)
Copper Sulfate (7758-99-8)	
LD50 oral rat	300 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value; 482 mg/kg bodyweight; Rat)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit; Literature study; OECD 402: Acute Dermal Toxicity)
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: May cause damage to organs (brain) through prolonged or repeated exposure (Inhalation).
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life with long lasting effects.

Manganese sulfate, monohydrate (10034-96-5)

LC50 fish 2	33.8 mg/l (LC50; 96 h)
EC50 Daphnia 1	8.28 mg/l (EC50; 48 h)

Ferrous sulfate, heptahydrate (7782-63-0)

LC50 fish 1	925 mg/l (LC50; 96 h; Poecilia reticulata)
EC50 Daphnia 2	152 mg/l (EC50; 48 h)

12.2. Persistence and degradability

Manganese sulfate, monohydrate (10034-96-5)

Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

Ferrous sulfate, heptahydrate (7782-63-0)

Persistence and degradability	Biodegradability in water: no data available. Biodegradability in soil: no data available. Adsorbs into the soil.
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Copper Sulfate (7758-99-8)

Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

12.3. Bioaccumulative potential

Ferrous sulfate, heptahydrate (7782-63-0)

Bioaccumulative potential	Not bioaccumulative.
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Copper Sulfate (7758-99-8)

Bioaccumulative potential	Bioaccumable.
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12.4. Mobility in soil

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Copper Sulfate (7758-99-8)

Ecology - soil

Toxic to flora.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

No additional information available

SECTION 14: Transport information

14.1. Basic shipping description

In accordance with TDG

TDG

Not regulated for transport

DOT

DOT NA no. : UN3082
UN-No.(DOT) : 3082
Packing group (DOT) : III - Minor Danger
DOT Symbols : G - Identifies PSN requiring a technical name

Transport document description : UN3082 Environmentally hazardous substances, liquid, n.o.s. (Contains copper sulfate, manganese sulfate), 9, III

Proper Shipping Name (DOT) : Environmentally hazardous substances, liquid, n.o.s.
(Contains copper sulfate, manganese sulfate)

Contains Statement Field Selection (DOT) :

Class (DOT) : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140
Division (DOT) : 9
Hazard labels (DOT) : 9 - Class 9 (Miscellaneous dangerous materials)



Dangerous for the environment : No

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DOT Special Provisions (49 CFR 172.102)	: 8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies 146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination 173 - An appropriate generic entry may be used for this material 335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as "Environmentally hazardous substances, solid, n.o.s," UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leakproof when used as bulk packaging IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672) T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / (1 + a (tr - tf))$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP
DOT Packaging Exceptions (49 CFR 173.xxx)	: 155
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 241
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: No limit
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: No limit
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel
Emergency Response Guide (ERG) Number	: 171
Other information	: No supplementary information available.

14.3. Air and sea transport

IMDG

UN-No. (IMDG)	: 3082
Proper Shipping Name (IMDG)	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Class (IMDG)	: 9 - Miscellaneous dangerous substances and articles
Packing group (IMDG)	: III - substances presenting low danger
Limited quantities (IMDG)	: Shipping information on Crop-Set. Per the IMDG code: (2.10.2.7) environmentally hazardous substances of 5L or less in a container is shipped as a non-hazardous material and will not be labeled or packaged as hazardous. The transport of marine pollutants is not subject to any other provisions of the IMDG code relevant to marine pollutants (no marking, labelling or documentation required) provided: The net mass or net quantity per single packaging or inner packaging of combination packagings does not exceed 5 kg for solids and 5 L for liquids; The packagings meet the general provisions of paragraphs 4.1.1.1. 4.1.1.2 and 4.1.1.4 to 4.1.1.8 of the IMDG code (strong rigid packaging). In the case of marine pollutants also meeting the criteria for inclusion in another hazard class all provisions of the IMDG code relevant to any additional hazards continue to apply. This means that: UN 3077 Environmentally hazardous substances solid n.o.s .. in quantities of less than 5 kg per single packaging or inner packaging of combination packaging; and • UN 3082 Environmentally hazardous substances liquid. n.o.s .. in quantities of less than 5 L per single packaging or inner packaging of combination packaging can be shipped as not subject to the provisions of the IMDG code. For marine pollutants, which also have other hazards, no marine pollutant mark is required on the packages or on the container in which they are packed . but all other provisions of the IMDG code continue to apply. Because of this change, containers with dangerous goods in limited quantities which are also marine pollutants do not need to bear the Marine Pollutant mark.

IATA

UN-No. (IATA)	: 3082
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Proper Shipping Name (IATA) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Class (IATA) : 9 - Miscellaneous Dangerous Goods
Packing group (IATA) : III - Minor Danger

SECTION 15: Regulatory information

15.1. National regulations

No additional information available

15.2. International regulations

LACTOBACILLUS EXTRACT FILTRATE

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

Manganese sulfate, monohydrate (10034-96-5)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

Yucca stem extract (223749-05-1)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

Ferrous sulfate, heptahydrate (7782-63-0)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

Copper Sulfate (7758-99-8)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

SECTION 16: Other information

SDS Major/Minor : None
Date of issue : 22/04/2016
Revision date : 22/04/2016
Supersedes : 22/04/2016

Full text of H-statements:

H301	Toxic if swallowed
H302	Harmful if swallowed
H315	Causes skin irritation
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects

SDS Canada (GHS)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product