

Safety Data Sheet

Issue Date: 04-Feb-2018

Revision Date: 08-Feb-2018

Version 1

1. IDENTIFICATION

Product Identifier

Product Name Micro-Pact

Other means of identification

SDS # VLS-238-CA

Product Code FFN: 5038

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Fertiliser

Uses Advised Against No information available

Details of the supplier of the safety data sheet

Manufacturer Address

Verdesian Life Sciences, U.S., LLC.
1001 Winstead Drive, Suite 480
Cary, NC 27513

Emergency Telephone Number

Initial supplier phone number Business Phone: (800) 868-6446 Fax: (919) 535-3652
Emergency Telephone (24 hr) INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance Gray, solid granular

Physical state Solid

Odour Fertilizer-like

Classification

Acute toxicity - Oral	Category 4
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (STOT) — repeated exposure	Category 2

Label Elements

Signal word

Danger

Hazard statements

Harmful if swallowed
Causes serious eye damage
May cause damage to organs through prolonged or repeated exposure

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Wear eye/face protection
 Do not breathe dust/fume/gas/mist/vapours/spray

Precautionary Statements - Response

Get medical advice/attention if you feel unwell
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Immediately call a POISON CENTRE or doctor
 IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
 Rinse mouth

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other Information

Very toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical Name	CAS No	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Manganese Sulfate Monohydrate	10034-96-5	25.45	-	-
Copper sulfate pentahydrate	7758-99-8	5.1	-	-
Iron (II) Sulfate monohydrate	17375-41-6	4.21	-	-
Magnesium Oxide	1309-48-4	3.98	-	-
Zinc Sulfate, monohydrate	7446-19-7	3.44	-	-
Calcium Hydroxide	1305-62-0	3.41	-	-
Paraffin Emulsion	8002-74-2	2	-	-
Sucrose	57-50-1	1.34	-	-

4. FIRST AID MEASURES

First Aid Measures**General advice**

Get medical advice/attention if you feel unwell.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison centre or doctor/physician.

Skin contact

Wash off immediately with plenty of water for at least 15 minutes.

Inhalation

Remove exposed individual(s) to fresh air for 20 minutes. Consult a physician/poison center if individual's condition declines or if symptoms persist.

Ingestion Rinse mouth. Call a POISON CENTRE/doctor/physician if you feel unwell.

Most important symptoms and effects

Symptoms Harmful if swallowed. Causes serious eye damage. May cause damage to organs through prolonged or repeated exposure.

Indication of any immediate medical attention and special treatment needed

Note to doctors Treat symptomatically.

5. FIREFIGHTING MEASURES

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media Not determined.

Specific hazards arising from the chemical No information available.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labelled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear eye/face protection. Do not breathe dust/fume/gas/mist/vapours/spray.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials None known based on information supplied

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**Exposure Limits**

Chemical Name	Canada - Alberta - Occupational Exposure Limits - Ceilings	Canada - British Columbia - Occupational Exposure Limits - Ceilings	Canada - Ontario - Occupational Exposure Limits - Ceilings	Quebec
Manganese Sulfate Monohydrate 10034-96-5	TWA: 0.2 mg/m ³	TWA: 0.2 mg/m ³ Adverse reproductive effect	TWA: 0.02 mg/m ³ TWA: 0.1 mg/m ³	TWA: 0.2 mg/m ³
Iron (II) Sulfate monohydrate 17375-41-6	TWA: 1 mg/m ³	TWA: 1 mg/m ³ STEL: 2 mg/m ³	TWA: 1 mg/m ³	TWA: 1.0 mg/m ³
Magnesium Oxide 1309-48-4	TWA: 10 mg/m ³	TWA: 10 mg/m ³ TWA: 3 mg/m ³ STEL: 10 mg/m ³	TWA: 10 mg/m ³	TWA: 10 mg/m ³
Calcium Hydroxide 1305-62-0	TWA: 5 mg/m ³	TWA: 5 mg/m ³	TWA: 5 mg/m ³	TWA: 5 mg/m ³
Paraffin Emulsion 8002-74-2	TWA: 2 mg/m ³	TWA: 2 mg/m ³	TWA: 2 mg/m ³	TWA: 2 mg/m ³
Sucrose 57-50-1	TWA: 10 mg/m ³	TWA: 10 mg/m ³ TWA: 3 mg/m ³	TWA: 10 mg/m ³	TWA: 10 mg/m ³

Appropriate engineering controls

Engineering controls Apply technical measures to comply with the occupational exposure limits.

Individual protection measures, such as personal protective equipment

Eye/face protection Use approved safety goggles or safety glasses. If necessary, refer to appropriate regulations & standards.

Skin and body protection If necessary, refer to appropriate regulations and standards.

Respiratory protection If necessary, wear a MSHA/NIOSH-approved respirator. If necessary, refer to appropriate regulations and standards.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid
Appearance	Gray, solid granular
Colour	Grey
Odour	Fertilizer-like
Odour Threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	Not determined	
Melting point / freezing point	Not determined	
Boiling Point / Boiling Range	Not determined	
Flash Point	No data available	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Not determined	
Flammability Limit in Air		
Upper Flammability Limit	Not determined	
Lower Flammability Limit	Not determined	
Vapour Pressure	Not determined	
Vapour Density	Not determined	
Relative Density	Not determined	
Water Solubility	Slightly soluble	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Autoignition temperature	Not determined	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive properties	No information available.	
Oxidising properties	No information available.	
<u>Other Information</u>		
Softening Point	No information available	
Molecular weight	No information available	
VOC Content (%)	No information available	
Density	No information available	
Bulk Density	72 lbs/cu ft	

10. STABILITY AND REACTIVITY

Reactivity	Not reactive under normal conditions.
Chemical Stability	Stable under normal conditions.
Possibility of Hazardous Reactions	None under normal processing.
Conditions to Avoid	None known based on information supplied.
Incompatible Materials	None known based on information supplied.
Hazardous Decomposition Products	None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye contact	Causes serious eye damage.
Skin contact	Avoid contact with skin.
Inhalation	May cause irritation if inhaled.
Ingestion	Harmful if swallowed.

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

Numerical measures of toxicity**Acute Toxicity**

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 1,806.00
mg/kg

Unknown acute toxicity No information available

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Copper sulfate pentahydrate 7758-99-8	= 472 mg/kg (Rat)	> 2 g/kg (Rat) > 8 g/kg (Rabbit)	> 2.95 mg/L (Rat)
Magnesium Oxide 1309-48-4	= 3990 mg/kg (Rat) = 3870 mg/kg (Rat)	-	-
Calcium Hydroxide 1305-62-0	= 7340 mg/kg (Rat)	-	-
Paraffin Emulsion 8002-74-2	> 5000 mg/kg (Rat)	> 3600 mg/kg (Rabbit)	-
Sucrose 57-50-1	= 29700 mg/kg (Rat)	-	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

12. ECOLOGICAL INFORMATION

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Copper sulfate pentahydrate 7758-99-8	-	0.96 - 1.8: 96 h Lepomis macrochirus mg/L LC50 static 0.66 - 1.15: 96 h Lepomis macrochirus mg/L LC50 semi-static 0.6752: 96 h Pimephales promelas mg/L LC50 static 0.1478 - 0.165: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.09 - 0.19: 96 h Oncorhynchus mykiss mg/L LC50 static	-	0.147 - 0.227: 48 h Daphnia magna mg/L EC50 Static
Calcium Hydroxide 1305-62-0	-	160: 96 h Gambusia affinis mg/L LC50 static	-	-

Persistence/Degradability No information available.

Bioaccumulation No information available.

Other Adverse Effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.

14. TRANSPORT INFORMATION

Note	Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances
DOT	Not regulated
TDG	Not regulated
IATA	Not regulated
IMDG Marine Pollutant	This material may meet the definition of a marine pollutant

15. REGULATORY INFORMATION

REGULATORY INFORMATION

International Regulations

Ozone-depleting substances (ODS)	Not applicable
Persistent Organic Pollutants	Not applicable
Export Notification requirements	Not applicable

International Inventories

Chemical Name	TSCA	DSL/NDSL	EINECS/ELI NCS	ENCS	IECSC	KECL	PICCS	AICS
Manganese Sulfate Monohydrate				Present	X		X	X
Copper sulfate pentahydrate	X				X		X	X
Iron (II) Sulfate monohydrate	X							X
Magnesium Oxide	X	X	X	Present	X	Present	X	X
Zinc Sulfate, monohydrate	X	X			X		X	X
Calcium Hydroxide	X	X	X	Present	X	Present	X	X
Paraffin Emulsion	X	X	X	Present	X	Present	X	X
Sucrose	X	X	X		X	Present	X	X

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	Health Hazards 3	Flammability Not determined	Instability Not determined	Special Hazards Not determined
HMIS	Health Hazards 3 *	Flammability Not determined	Physical hazards Not determined	Personal Protection Not determined

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)
STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value
*	Skin designation
Issue Date:	04-Feb-2018

Revision Date: 08-Feb-2018

Revision Note: New format.

Disclaimer

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.

End of Safety Data Sheet