

Safety Data Sheet

Issue Date: 30-Jun-2017

Revision Date: 09-Jan-2018

Version 3

1. IDENTIFICATION

Product Identifier

Product Name MicroSync Plus

Other means of identification

SDS # VLS-221
FFN 05069

Recommended use of the chemical and restrictions on use

Recommended Use Fertilizer.

Details of the supplier of the safety data sheet

Supplier Address

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

Emergency Telephone Number

Company 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 Tannish-brown coarse granule

Physical state Solid

Odor None

Classification

Serious eye damage/eye irritation

Category 1

Signal Word

Danger

Hazard statements

Causes serious eye damage



Precautionary Statements - Prevention

Do not eat, drink or smoke when using this product
Wear eye/face protection
Wash face, hands and any exposed skin thoroughly after handling

Precautionary Statements - Response

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 CENTER or doctor

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other hazards

Toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%
Gypsum	13397-24-5	25-30
Proprietary	Proprietary	Proprietary
Ammonium Sulfate	7783-20-2	5-10
Sodium tetraborate pentahydrate	12179-04-3	5-10
Proprietary	Proprietary	Proprietary
Zinc sulfate	7446-19-7	1-5
Zinc Oxide	1314-13-2	1-5
Proprietary	Proprietary	Proprietary
Maleic-itaconic Copolymer	Proprietary	<1
Proprietary	Proprietary	Proprietary
Proprietary	Proprietary	Proprietary

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First Aid Measures

General Advice	Provide this SDS to medical personnel for treatment.
Eye Contact	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 center or doctor/physician.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes.
Inhalation	Remove to fresh air.
Ingestion	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

Most important symptoms and effects

Symptoms	Causes serious eye damage.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
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5. FIRE-FIGHTING 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

Not determined.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

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 Clean-Up Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wear eye/face protection. Wash face, hands and any exposed skin thoroughly after handling.

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

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Gypsum 13397-24-5	TWA: 10 mg/m ³ inhalable particulate matter	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 15 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust
Proprietary	TWA: 1 mg/m ³ respirable particulate matter	-	-
Sodium tetraborate pentahydrate 12179-04-3	STEL: 6 mg/m ³ inhalable particulate matter TWA: 2 mg/m ³ inhalable particulate matter	(vacated) TWA: 10 mg/m ³	TWA: 1 mg/m ³
Proprietary	TWA: 1 mg/m ³ Fe	(vacated) TWA: 1 mg/m ³ Fe	TWA: 1 mg/m ³ Fe
Proprietary	TWA: 2 mg/m ³ fume	(vacated) TWA: 2 mg/m ³	TWA: 2 mg/m ³ fume
Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Proprietary	-	15 mg / m3 (Total)	-
Proprietary	Ceiling: 2 mg/m ³	TWA: 2 mg/m ³	IDLH: 10 mg/m ³

		(vacated) Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³
Proprietary	TWA: 0.025 mg/m ³ respirable particulate matter	TWA: 50 µg/m ³ TWA: 50 µg/m ³ excludes construction work, agricultural operations, and exposures that result from the processing of sorptive clays (vacated) TWA: 0.1 mg/m ³ respirable dust : (250)/ (%SiO ₂ + 5) mppcf TWA respirable fraction : (10)/ (%SiO ₂ + 2) mg/m ³ TWA respirable fraction	IDLH: 50 mg/m ³ respirable dust TWA: 0.05 mg/m ³ respirable dust

Appropriate engineering controls

Engineering Controls Apply technical measures to comply with the occupational exposure limits. Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear eye/face protection. Refer to 29 CFR 1910.133 for eye and face protection regulations.

Skin and Body Protection Wear suitable protective clothing. Refer to 29 CFR 1910.138 for appropriate skin and body protection.

Respiratory Protection Refer to 29 CFR 1910.134 for respiratory protection requirements.

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	Odor	None
Appearance	Tannish-brown coarse granule	Odor Threshold	Not determined
Color	Tannish-brown		

<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	Not determined	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Not determined	
Flammability Limits in Air		
Upper Flammability Limits	Not determined	
Lower Flammability Limit	Not determined	
Vapor Pressure	Not determined	
Relative Density	Not determined	
Water Solubility	Not determined	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not determined	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	
Bulk Density	67 lb/ft ³	

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to Avoid

Keep out of reach of children.

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 Do not inhale.

Ingestion Harmful if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Proprietary	> 5000 mg/kg (Rat)	-	-
Ammonium Sulfate 7783-20-2	= 2840 mg/kg (Rat)	-	-
Sodium tetraborate pentahydrate 12179-04-3	= 2403 mg/kg (Rat)	-	-
Proprietary	> 5000 mg/kg (Rat)	> 3600 mg/kg (Rabbit)	-
Proprietary	= 3 g/kg (Rat) = 3000 mg/kg (Rat)	-	-
Proprietary	-	= 1350 mg/kg (Rabbit)	-

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

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

Carcinogenicity Crystalline Silica is considered to be a human carcinogen when in respirable form (dust / powder).

STOT - repeated exposure Respirable crystalline silica causes damage to organs (lung effects, immune system effects,

and kidney effects) through prolonged or repeated exposure.

Numerical measures of toxicity

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

ATEmix (oral)	2,329.00 mg/kg
ATEmix (dermal)	6,774.80 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Proprietary		8.0 - 19.0: 96 h Salmo gairdneri g/L LC50 19000: 96 h Oncorhynchus mykiss mg/L LC50 static	
Ammonium Sulfate 7783-20-2		18: 96 h Cyprinus carpio mg/L LC50 32.2 - 41.9: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 123 - 128: 96 h Poecilia reticulata mg/L LC50 semi-static 420: 96 h Brachydanio rerio mg/L LC50 semi-static 480: 96 h Brachydanio rerio mg/L LC50 flow-through 250: 96 h Brachydanio rerio mg/L LC50 460 - 1000: 96 h Leuciscus idus mg/L LC50 static 100: 96 h Pimephales promelas mg/L LC50 126: 96 h Poecilia reticulata mg/L LC50 5.2 - 8.2: 96 h Oncorhynchus mykiss mg/L LC50 static	14: 48 h Daphnia magna mg/L LC50 423: 24 h Daphnia magna mg/L EC50
Proprietary		1516: 96 h Lepomis macrochirus mg/L LC50 static	120: 72 h Daphnia magna mg/L EC50
Proprietary		45.4: 96 h Oncorhynchus mykiss mg/L LC50 static	

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Chemical Name	Partition Coefficient
Ammonium Sulfate 7783-20-2	-5.1
Proprietary	-1.72

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Disposal should be in accordance with applicable regional, national and local laws and regulations.

California Hazardous Waste Status

Chemical Name	California Hazardous Waste Status
Zinc sulfate 7446-19-7	Toxic
Zinc Oxide 1314-13-2	Toxic
Proprietary	Toxic Corrosive

14. TRANSPORT INFORMATION

Note Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT Not regulated

IATA Not regulated

IMDG
Marine Pollutant This material may meet the definition of a marine pollutant

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL/NDSL	EINECS/E LINCS	ENCS	IECSC	KECL	PICCS	AICS
Gypsum	X	X			X			
Proprietary	X	X						
Proprietary	X	X	X		X	Present	X	X
Ammonium Sulfate	X	X	X	Present	X	Present	X	X
Sodium tetraborate pentahydrate	X			Present	X		X	
Proprietary	X							X
Zinc sulfate	X	X			X		X	X
Calcium Sulfate Anhydrite					X			
Zinc Oxide	X	X	X	Present	X	Present	X	X
Proprietary	X	X	X	Present	X	Present	X	X
Proprietary	X	X	X	Present	X	Present	X	X
Proprietary	X	X	X	Present	X	Present	X	X
Proprietary	X	X	X	Present	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

US Federal Regulations

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Proprietary	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No.	Weight-%	SARA 313 - Threshold Values %
Ammonium Sulfate - 7783-20-2	7783-20-2	5-10	1.0
Zinc sulfate - 7446-19-7	7446-19-7	1-5	1.0
Zinc Oxide 1314-13-2	1314-13-2	1-5	1.0

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Zinc sulfate		X		
Zinc Oxide		X		
Proprietary	1000 lb			X

US State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
Proprietary -	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Gypsum 13397-24-5	X		X
Sodium tetraborate pentahydrate 12179-04-3	X	X	
Proprietary			X
Zinc sulfate 7446-19-7	X		X
Zinc Oxide 1314-13-2	X	X	X
Proprietary	X	X	X
Proprietary	X	X	X
Proprietary	X	X	X

16. OTHER INFORMATION**NFPA****Health Hazards****Flammability****Instability****Special Hazards**

Not determined

Not determined

Not determined

Not determined

HMIS**Health Hazards****Flammability****Physical hazards****Personal Protection**

Not determined

Not determined

Not determined

Not determined

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Revision Note: Section 3 update

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