

Issuing Date 16-May-2025

Revision date 16-May-2025

Revision Number 1

1. Identification

Product identifier

Product Name MicroSync Pro

Other means of identification

Recommended use of the chemical and restrictions on use

Recommended use Micronutrient.

Restrictions on use 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
United States
Telephone: 1-800-868-6446

E-mail sds@vlsci.com

Emergency telephone number

Emergency Telephone INFOTRAC 1-800-535-5053 (North America)
INFOTRAC +1-352-323-3500 (International)

2. Hazard(s) identification

Classification

Serious eye damage/eye irritation	Category 1
Reproductive toxicity	Category 1B
Specific target organ toxicity (repeated exposure)	Category 2

Hazards not otherwise classified (HNOC)

Not applicable.

Label elements



Danger

Hazard statements

Causes serious eye damage.
 May damage fertility or the unborn child.
 May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements - Prevention

Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Wear protective gloves/clothing and eye/face protection.
 Do not breathe dust/fume/gas/mist/vapors/spray.

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention.
 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 - Storage

Store locked up.

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

Substance

Not applicable.

Mixture

Chemical name	CAS No.	Weight-%
Gypsum (Ca(SO ₄).2H ₂ O)	13397-24-5	20 - 40
Bentonite	1302-78-9	20 - 40
Zinc sulfate monohydrate	7446-19-7	10 - <20
Disodium tetraborate pentahydrate	12179-04-3	5 - <10
Manganese sulfate monohydrate	10034-96-5	5 - <10
Zinc oxide (ZnO)	1314-13-2	5 - <10
Manganese	7439-96-5	3 - <5
Quartz from Bentonite Clay	14808-60-7	1 - <3

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air. Get medical attention immediately if symptoms occur.
Eye contact	Get immediate medical attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce

vomiting. Call a physician.

Self-protection of the first aider Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation.

Effects of Exposure May cause adverse reproductive effects - such as birth defect, miscarriages, or infertility. May cause damage to organs through prolonged or repeated exposure.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. Fire-fighting measures

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

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the chemical No information available.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Special protective equipment and precautions 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 Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

Other information Refer to protective measures listed in Sections 7 and 8.

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 labeled 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 Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

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

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Gypsum (Ca(SO ₄).2H ₂ O) 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
Bentonite 1302-78-9	TWA: 1 mg/m ³ respirable particulate matter	-	-
Disodium tetraborate pentahydrate 12179-04-3	TWA: 2 mg/m ³ inhalable particulate matter STEL: 6 mg/m ³ inhalable particulate matter	(vacated) TWA: 10 mg/m ³	TWA: 1 mg/m ³
Manganese sulfate monohydrate 10034-96-5	TWA: 0.02 mg/m ³ Mn respirable particulate matter TWA: 0.1 mg/m ³ Mn inhalable particulate matter	(vacated) Ceiling: 5 mg/m ³ Ceiling: 5 mg/m ³ Mn	IDLH: 500 mg/m ³ Mn TWA: 1 mg/m ³ Mn STEL: 3 mg/m ³ Mn
Zinc oxide (ZnO) 1314-13-2	TWA: 2 mg/m ³ respirable particulate matter STEL: 10 mg/m ³ respirable particulate matter	TWA: 5 mg/m ³ fume TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 5 mg/m ³ fume (vacated) TWA: 10 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction (vacated) STEL: 10 mg/m ³ fume	IDLH: 500 mg/m ³ Ceiling: 15 mg/m ³ dust TWA: 5 mg/m ³ dust and fume STEL: 10 mg/m ³ fume
Manganese 7439-96-5	TWA: 0.02 mg/m ³ respirable particulate matter TWA: 0.1 mg/m ³ inhalable particulate matter	(vacated) TWA: 1 mg/m ³ fume (vacated) STEL: 3 mg/m ³ fume (vacated) Ceiling: 5 mg/m ³ Ceiling: 5 mg/m ³ fume	IDLH: 500 mg/m ³ TWA: 1 mg/m ³ fume STEL: 3 mg/m ³
Quartz from Bentonite Clay 14808-60-7	TWA: 0.025 mg/m ³ respirable particulate matter	TWA: 50 µg/m ³ (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**

Showers
Eyewash stations

Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection	Tight sealing safety goggles.
Hand protection	Wear suitable gloves.
Skin and body protection	Wear suitable protective clothing.
Respiratory protection	Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
General hygiene considerations	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Solid
Appearance	Dark gray to black
Color	Dark gray to black
Odor	Characteristic
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
pH (as aqueous solution)		None known
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	No data available	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Relative vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information

Explosive properties	No information available
Oxidizing properties	No information available
Softening point	No information available
Molecular weight	No information available
VOC content	No information available
Liquid Density	No information available
Bulk density	No information available

10. Stability and reactivity

Reactivity	No information available.
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	Strong acids. Strong bases. Strong oxidizing agents.
Hazardous decomposition products	None known based on information supplied.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available. Causes serious eye damage. May cause irreversible damage to eyes.
Skin contact	Specific test data for the substance or mixture is not available. May cause irritation.
Ingestion	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	Redness. Burning. May cause blindness.
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Acute toxicity

Numerical measures of toxicity

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

ATEmix (oral)	6,342.20 mg/kg
ATEmix (dermal)	99,999.00 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-vapor)	99,999.00 mg/l
ATEmix (inhalation-dust/mist)	37.50 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Gypsum (Ca(SO ₄),2H ₂ O) 13397-24-5	> 3000 mg/kg (Rat)	-	> 3.26 mg/L (Rat) 4 h
Bentonite 1302-78-9	> 5000 mg/kg (Rat)	-	-
Zinc sulfate monohydrate 7446-19-7	= 1710 mg/kg (Rat)	-	-
Disodium tetraborate pentahydrate 12179-04-3	= 2403 mg/kg (Rat)	-	-
Manganese sulfate monohydrate 10034-96-5	= 2150 mg/kg (Rat)	-	> 4.45 mg/L (Rat) 4 h
Zinc oxide (ZnO) 1314-13-2	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 5700 mg/m ³ (Rat) 4 h
Manganese	= 9 g/kg (Rat)	-	> 5.14 mg/L (Rat) 4 h

7439-96-5			
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Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	May cause skin irritation.
Serious eye damage/eye irritation	Classification based on data available for ingredients. Causes burns. Causes serious eye damage.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.

Carcinogenicity No information available.

Chemical name	ACGIH	IARC	NTP	OSHA
Quartz from Bentonite Clay 14808-60-7	A2	Group 1	Known	X

Reproductive toxicity Classification based on data available for ingredients. May damage fertility or the unborn child.

STOT - single exposure No information available.

STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure.

Target organ effects Kidney, Respiratory system, Eyes, Skin, Central nervous system, Blood, Lungs.

Aspiration hazard No information available.

Other adverse effects No information available.

Interactive effects No information available.

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Gypsum (Ca(SO ₄).2H ₂ O) 13397-24-5	-	LC50: =2980mg/L (96h, Lepomis macrochirus) LC50: >1970mg/L (96h, Pimephales promelas)	-	-
Bentonite 1302-78-9	-	LC50: =19000mg/L (96h, Oncorhynchus mykiss)	-	-
Zinc sulfate monohydrate 7446-19-7	EC50: =0.056mg/L (72h, Pseudokirchneriella subcapitata)	LC50: =0.162mg/L (96h, Oncorhynchus mykiss) LC50: 0.03 - 0.05mg/L (96h, Oncorhynchus mykiss)	-	EC50: =0.75mg/L (48h, Daphnia magna) EC50: 0.538 - 0.908mg/L (48h, Daphnia magna)

		LC50: 0.34 - 0.93mg/L (96h, Oncorhynchus mykiss) LC50: 0.218 - 0.42mg/L (96h, Pimephales promelas) LC50: =0.06mg/L (96h, Pimephales promelas) LC50: 0.23 - 0.48mg/L (96h, Pimephales promelas) LC50: 0.168 - 0.25mg/L (96h, Pimephales promelas) LC50: =0.15mg/L (96h, Cyprinus carpio) LC50: 16.85 - 27.18mg/L (96h, Cyprinus carpio) LC50: 3 - 4.6mg/L (96h, Lepomis macrochirus) LC50: 3.55 - 6.32mg/L (96h, Lepomis macrochirus) LC50: =0.63mg/L (96h, Poecilia reticulata) LC50: 49.23 - 64.16mg/L (96h, Poecilia reticulata) LC50: 0.48 - 1.72mg/L (96h, Poecilia reticulata)		
Disodium tetraborate pentahydrate 12179-04-3	EC50: =158mg/L (96h, Desmodesmus subspicatus) EC50: 2.6 - 21.8mg/L (96h, Pseudokirchneriella subcapitata)	LC50: =340mg/L (96h, Limanda limanda)	-	LC50: 1085 - 1402mg/L (48h, Daphnia magna)
Zinc oxide (ZnO) 1314-13-2	-	LC50: =1.55mg/L (96h, Danio rerio)	-	-
Manganese 7439-96-5	-	LC50: >3.6mg/L (96h, Oncorhynchus mykiss)	-	-

Persistence and degradability No information available.

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Disodium tetraborate pentahydrate 12179-04-3	-1.53

Other adverse effects No information available.

13. Disposal considerations

Disposal 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.

California Hazardous Waste Status This product contains one or more substances that are listed with the State of California as a hazardous waste.

14. Transport information

DOT

UN number or ID number	UN3077
Proper shipping name	Environmentally hazardous substance, solid, n.o.s.
Transport hazard class(es)	9
Packing group	III
Reportable quantity (lbs)	Zinc sulfate monohydrate: RQ (lb)= 1000.00
Special Provisions	8, 146, 335, 384, 441, A112, B54, B120, IB8, IP3, N20, N91, T1, TP33
Marine pollutant	Zinc sulfate monohydrate
Description	UN3077, Environmentally hazardous substance, solid, n.o.s.(Zinc sulfate monohydrate), 9, III
Emergency Response Guide Number	171
Notes	Only regulated for DOT when RQ limit is exceeded. RQ will not be exceeded in packages less than 9,000 pounds.

IATA

UN number or ID number	UN3077
UN proper shipping name	Environmentally hazardous substance, solid, n.o.s.
Transport hazard class(es)	9
Packing group	III
Technical Name	Zinc sulfate monohydrate, Zinc oxide (ZnO)
Description	UN3077, Environmentally hazardous substance, solid, n.o.s.(Zinc sulfate monohydrate, Zinc oxide (ZnO)), 9, III
Special Provisions	A97, A158, A179, A197, A215
ERG Code	9L
Notes	May be shipped as not regulated in quantities not more than 5 L / 5 kg in accordance with IATA SP A197.

IMDG

UN number or ID number	UN3077
UN proper shipping name	Environmentally hazardous substance, solid, n.o.s.
Transport hazard class(es)	9
Packing group	III
EmS-No.	F-A, S-F
Special Provisions	274, 335, 375, 966, 967, 969
Marine pollutant	P
Marine pollutant	Zinc sulfate monohydrate, Zinc oxide (ZnO)
Description	UN3077, Environmentally hazardous substance, solid, n.o.s.(Zinc sulfate monohydrate, Zinc oxide (ZnO)), 9, III, Marine pollutant
Notes	May be shipped as not regulated in quantities not more than 5 L / 5 kg in accordance with IMDG Special Provision 375.

15. Regulatory information

Contact supplier for inventory compliance status

16. Other information

NFPA	Health hazards 3	Flammability 0	Instability 0	Special hazards -
HMIS	Health hazards 3 *	Flammability 0	Physical hazards 0	Personal protection X

Chronic Hazard Star Legend

* = Chronic Health Hazard

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend**

SVHC: Substances of Very High Concern for Authorization:
 PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
 vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances
 STOT: Specific Target Organ Toxicity
 ATE: Acute Toxicity Estimate
 LC50: 50% Lethal Concentration
 LD50: 50% Lethal Dose

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	Sk*	Skin designation
+	Sensitizers		

Key literature references and sources for data used to compile the SDS

U.S. Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 U.S. Environmental Protection Agency
 Acute Exposure Guideline Level(s) (AEGl(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan National Institute of Technology and Evaluation (NITE)
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 U.S. National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 International Organization for Economic Co-operation and Development (OECD) Environment, Health, and Safety Publications
 International Organization for Economic Co-operation and Development (OECD) High Production Volume Chemicals Program
 International Organization for Economic Co-operation and Development (OECD) Screening Information Data Set
 United Nations World Health Organization (WHO)

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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