

Safety Data Sheet

Issue Date: 02-Jul-2015

Revision Date: 21-Mar-2016

Version: 2

1. IDENTIFICATION

Product Identifier

Product Name Tuxedo® Micronutrient Seed Treatment

Other means of identification

SDS # FFN: 04011

Other Information Chemical Family: Carboxylated polymer mixed salt

Recommended use of the chemical and restrictions on use

Recommended Use Seed Treatment.

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 Phone: (919) 535-3652

Emergency Telephone (24 hr) INFOTRAC: (352) 323-3500 (International)
(800) 535-5053 (North America)

2. HAZARDS IDENTIFICATION

Physical State Liquid

Odor Characteristic light odor

Classification

Skin corrosion/irritation	Category 2
Serious eye damage/ eye irritation	Category 2

Signal Word

Warning

Hazard Statements

Causes skin irritation.
Causes serious eye irritation.



Precautionary Statements - Prevention:

Wash face, hands, and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: get medical advice/attention.

Other Hazards

Very toxic to aquatic life with long lasting effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Please also refer to subsequent sections of this SDS for additional information regarding the components of this product.

Carboxylated polymer

Chemical Name	CAS No	Weight-%
Maleic-itaconic copolymer, mixed sodium, copper, zinc, and manganese salt	1134078-27-5	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	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists: Get medical advice/attention.
Skin Contact	Wash off immediately with plenty of water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation persists, call a physician.
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	Do not induce vomiting. Rinse mouth. Call a physician immediately.

Most important symptoms and effects

Symptoms	May cause eye, skin, and respiratory tract irritation. Will cause gastrointestinal tract irritation.
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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. Water spray, carbon dioxide (CO₂), dry chemical powder, or appropriate foam.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

May emit toxic fumes under fire conditions – contains zinc, manganese and copper in salt form.

Hazardous Combustion Products: May emit toxic fumes under fire conditions – contains zinc, manganese and copper in salt form.

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 Wear respirator, chemical safety goggles, rubber boots, heavy rubber gloves, impervious protective clothing. Material is slippery when wet. Material forms slippery film when dried on surfaces.

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 Absorb liquids by covering with clay or other absorbent material. Vacuum or sweep up material and place in a disposal container. Ensure material does not contaminate groundwater, streams, etc.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Wash thoroughly after handling. Use personal protection recommended in Section 8. Avoid contact with skin, eyes, or clothing. Observe precautions found on the label.

Conditions for safe storage, including any incompatibilities

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

Incompatible Materials Strong oxidizing agents, strong reducing agents, materials incompatible with water, sodium salts, zinc salts, manganese salts, copper salts, and with sulfates.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines No exposure limits noted for ingredient(s). The following information is given as general guidance.

Appropriate engineering controls

Engineering Controls Maintain eye wash fountain and quick-drench facilities in work area. Mechanical exhaust is required if using in confined space or area.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear chemical safety goggles / face shield.

Skin and Body Protection Wear chemical resistant gloves and impervious protective clothing.

Respiratory Protection If vapors/mists/fumes exceed acceptable levels, use an OSHA/NIOSH-approved respirator or mask for protection against pesticide dusts, mists, and vapors.

General Hygiene Considerations Avoid contact with skin, eyes, and clothing. After handling this product, wash hands before eating, drinking, or smoking. If contact occurs, remove contaminated clothing. If needed, take first aid action shown on section 4 of this SDS. Launder contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid	Odor	Characteristic light odor
Appearance	Yellow to brown liquid	Odor Threshold	Not determined
Color	Yellow to brown		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	4.0-5.0	
Melting Point/Freezing Point	Not determined	
Boiling Point/Boiling Range	Not determined	
Flash Point	Not determined	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	n/a-liquid	
Upper Flammability Limits	Not determined	
Lower Flammability Limit	Not determined	
Vapor Pressure	Not determined	
Vapor Density	Not determined	
Specific Gravity	1.3 – 1.4	
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	
Density	Not determined	

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

Incompatible materials.

Incompatible Materials

Strong oxidizing agents, strong reducing agents, materials incompatible with water, sodium salts, zinc salts, manganese salts, copper salts, and with sulfates.

Hazardous Decomposition Products

May emit toxic fumes under fire conditions – contains zinc, manganese and copper in salt form.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	To the best of our knowledge, the chemical, physical and toxicological properties of this material have been thorough investigated. Toxicity data estimates for the product as is:
Eye Contact	Causes eye irritation.
Skin Contact	Causes skin irritation.
Inhalation	May cause irritation to the mucous membranes and upper respiratory tract.
Ingestion	Can cause gastrointestinal disturbance.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Maleic-itaconic copolymer, mixed sodium, copper, zinc, and manganese salt 1134078-27-5	>10,000 mg/kg (Rat-estimated)	---	---
Propylene Glycol 57-55-6	=20,000 mg/kg (Rat)	=20,80 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 Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Numerical measures of toxicity

Not determined.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
Propylene Glycol 57-55-6	19000: 96 h Pseudokirchneriella Subcapitata mg/L EC50	51400: 96 h Pimephales Promelas mg/L LC50 static 710: 96 h Pimephales promelas mg/L LC50 51600: 96 h Oncorhynchus mykiss mg/L LC50 static 41-47: 96 h Oncorhynchus mykiss mL/L LC50 static	---	1000: 48 h Daphnia magna mg/L EC50 Static 10000: 254 h Daphnia magna mg/L EC50

Persistence/Degradability

No data available.

Bioaccumulation

No data available.

Mobility

No data available

Other Adverse Effects

No data available.

13. DISPOSAL CONSIDERATIONS**Waste Treatment Methods****Disposal of Wastes**

Rinse water to be used according to label directions, or poured into any liquid fertilizer tank mix prepared by the dealer for a grower. Do not dispose of product in rivers, lakes, groundwater, etc. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging

Triple rinse empty containers with water. Dispose/recycle of washed containers in accordance with applicable regional, national and local laws and regulations.

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**

None

US Federal Regulations**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Propylene Glycol 57-55-6	X	---	X

16. OTHER INFORMATION

<u>NFPA</u>	Health Hazards	Flammability	Instability	Special Hazards
	1	0	0	Not determined
<u>HMIS</u>	1	Flammability	Physical Hazards	Personal Protection
		0	0	C

Issue Date: 02-Jul-2015
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 Revision Note: New product

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