Safety Data Sheet

Issue Date: 12-Aug-2020 **Revision Date:** 20-Aug-2020 **Version** 1

1. IDENTIFICATION

Product identifier
Product Name PolyAmine Tree Nut Mix

Other means of identification
SDS # VLS-313
Product Code FFN 4146

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

2. HAZARDS IDENTIFICATION

Appearance Clear liquid **Physical state** Liquid

Classification

Serious eye damage/eye irritation	Category 1

Signal Word
Danger

Hazard statements
Causes serious eye damage

Precautionary Statements - Prevention
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
Immediately call a poison center or doctor/physician

Other hazards
Very toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
Zinc Sulfate Monohydrate	7446-19-7	5-10
Copper sulfate pentahydrate	7758-99-8	5-10
Proprietary	Proprietary	1-5
Proprietary	Proprietary	1-5

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

Description of 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 Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms Causes serious eye damage. May be harmful if swallowed.

Indication of any immediate medical attention and special treatment needed

Notes to Physician 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 Not determined.

Specific Hazards Arising from the Chemical
Decomposition can release oxides of sulfur and oxides of zinc.

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. Wear protective gloves/protective clothing and eye/face protection.

Conditions for safe storage, including any incompatibilities

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

Incompatible Materials Strong alkaline materials such as caustic potash (potassium hydroxide) and caustic soda (sodium hydroxide). Mildly corrosive to common metals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Copper sulfate pentahydrate 7758-99-8	TWA: 1 mg/m^3 Cu dust and mist	TWA: 1 mg/m^3 Cu dust and mist	IDLH: 100 mg/m^3 Cu dust and mist TWA: 1 mg/m^3 Cu dust and mist
Proprietary	-	15 mg / m3 (Total)	-
Proprietary	STEL: 6 mg/m^3 inhalable particulate matter TWA: 2 mg/m^3 inhalable particulate matter	-	-

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

Skin and Body Protection 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	Liquid		
Appearance	Clear liquid	**Odor**	Not determined
Color	Clear	**Odor Threshold**	Not determined

Property	Values	Remarks • Method
pH	2.0	
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 Limit in Air		
Upper flammability or explosive limits	Not determined	
Lower flammability or explosive limits	Not determined	
Vapor Pressure	Not determined	
Vapor Density	Not determined	
Relative Density	1.24	
Water Solubility	Not determined	
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	Not determined	
Oxidizing Properties	Not determined	
Bulk density	10.34 lb/gal	

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
Heat, flames and sparks. Keep out of reach of children.

Incompatible materials
Strong alkaline materials such as caustic potash (potassium hydroxide) and caustic soda (sodium hydroxide). Mildly corrosive to common metals.

Hazardous decomposition products
Oxides of sulfur and zinc.

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 May be harmful if swallowed.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Proprietary	= 8471 mg/kg (Rat)	-	-
Copper sulfate pentahydrate 7758-99-8	= 472 mg/kg (Rat)	> 2 g/kg (Rat) > 8 g/kg (Rabbit)	> 2.95 mg/L (Rat)
Proprietary	= 3000 mg/kg (Rat) = 3 g/kg (Rat)	> 2000 mg/kg (Rat)	-
Proprietary	= 7930 mg/kg (Rat)	-	-
Proprietary	= 2660 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 0.16 mg/L (Rat) 4 h

Symptoms related to the physical, chemical and toxicological characteristics

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.

Reproductive toxicity Sodium Borate: Sodium borate and boric acid interfere with sperm production, damage the testes and interfere with male fertility when given to animals by mouth at high doses. Boric acid produces developmental effects, including reduced body weight, malformations and death, in the offspring of pregnant animals given boric acid by mouth.
The above mentioned animal studies were conducted under exposure conditions leading to doses many times in excess of those that could occur through product use or inhalation of dust in occupational settings. Moreover, a human study of occupational exposure to sodium borate and boric acid dusts showed no adverse effect on fertility.

Numerical measures of toxicity

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

Oral LD50 3,066.80 mg/kg
Dermal LD50 12,183.70 mg/kg
ATEmix (inhalation-dust/mist) 5.25 mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects.

Component Information

Chemical name	Algae/aquatic plants	Fish	Crustacea
Proprietary		16200 - 18300: 96 h Poecilia reticulata mg/L LC50	10000: 24 h Daphnia magna Straus mg/L EC50 3910: 48 h Daphnia magna mg/L EC50 Static
Copper sulfate pentahydrate 7758-99-8		0.09 - 0.19: 96 h Oncorhynchus mykiss mg/L LC50 static 0.96 - 1.8: 96 h Lepomis macrochirus mg/L LC50 static 0.1478 - 0.165: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.66 - 1.15: 96 h Lepomis macrochirus mg/L LC50 semi-static 0.6752: 96 h Pimephales promelas mg/L LC50 static	0.147 - 0.227: 48 h Daphnia magna mg/L EC50 Static
Proprietary		1516: 96 h Lepomis macrochirus mg/L LC50	120: 72 h Daphnia magna mg/L EC50
Proprietary		1000: 96 h Oryzias latipes mg/L LC50 static	
Proprietary		1020: 72 h Carassius auratus mg/L LC50 flow-through	115 - 153: 48 h Daphnia magna mg/L EC50

Persistence/Degradability
Not determined.

Bioaccumulation
There is no data for this product.

Mobility

Chemical name	Partition coefficient
Proprietary	-1.72
Proprietary	-0.757

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 Monohydrate 7446-19-7	Toxic
Copper sulfate pentahydrate 7758-99-8	Toxic
Proprietary	Toxic

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 This material may meet the definition of a marine pollutant

15. REGULATORY INFORMATION

International Inventories

Chemical name	TSCA	TSCA Inventory Status	DSL/NDSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Magnesium Sulfate heptahydrate	X		X		X	X		X	X
Proprietary	X	ACTIVE	X	X	X	X	X	X	X
Zinc Sulfate Monohydrate	X		X			X		X	X
Copper sulfate pentahydrate	X				X	X		X	X
Proprietary	X	ACTIVE	X	X	X	X	X	X	X
Proprietary	X	ACTIVE	X	X	X	X	X	X	X
Proprietary	X	ACTIVE	X	X	X	X	X	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)
Copper sulfate pentahydrate 7758-99-8	10 lbs	10 lbs	10 lbs

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 %
Zinc Sulfate Monohydrate - 7446-19-7	7446-19-7	5-10	1.0
Copper sulfate pentahydrate - 7758-99-8	7758-99-8	5-10	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 Monohydrate		X		
Copper sulfate pentahydrate		X		

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
Zinc Sulfate Monohydrate 7446-19-7	X		X
Copper sulfate pentahydrate 7758-99-8	X		X
Proprietary	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

Issue Date: 12-Aug-2020
Revision Date: 20-Aug-2020
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