Safety Data Sheet

Issue Date: 20-Mar-2015 **Revision Date:** 09-Sep-2015 **Version** 2

1. IDENTIFICATION

Product Identifier

Product Name NutriSphere-N® Quick Dry Orange

Other means of identification

SDS # FFN: 04005

UN/ID No UN2924

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 Phone: (919) 535-3652

Emergency Telephone (24 hr) INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance Dark red as is, very intense orange when diluted **Physical State** Liquid **Odor** Characteristic

Classification

Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Vapors)	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Skin corrosion/irritation	Category 1 Sub-category C
Serious eye damage/eye irritation	Category 1
Reproductive toxicity	Category 1B
Specific target organ toxicity (single exposure)	Category 1
Flammable Liquids	Category 3

Signal Word

Danger

Hazard Statements

Toxic if swallowed
Toxic in contact with skin
Toxic if inhaled
Causes severe skin burns and eye damage
May damage fertility or the unborn child
Causes damage to organs
Flammable liquid and vapor

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep cool

Precautionary Statements - Response
Immediately call a poison center or doctor/physician
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
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
Immediately call a poison center or doctor/physician
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a poison center or doctor/physician
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth
Do not induce vomiting
IN CASE OF FIRE: Use CO_2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Other Hazards
Harmful to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family Carboxylated polymer, alcohol polymer, boric acid, D&C dye mixture.

Chemical Name	CAS No	Weight-%
Methanol	67-56-1	Proprietary
Maleic-itaconic copolymer, partial calcium salt	877469-38-0	Proprietary
Propylene Glycol	57-55-6	Proprietary
Polyvinyl alcohol	9002-89-5	Proprietary
Boric Acid	10043-35-3	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 cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical attention is required.

Skin Contact IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Immediate medical attention is required.

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediate medical attention is required.

Ingestion Do not induce vomiting. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Most important symptoms and effects

Symptoms Prolonged breathing of vapors may cause nausea, headache, weakness and/or dizziness. Causes severe skin burns and eye damage. Will cause gastrointestinal tract irritation. Methanol may cause blindness or be fatal if ingested.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Provide general supportive measures and treat symptomatically. Symptoms may be delayed. Ethanol and fomepizole are effective antidotes for methanol poisoning, although fomepizole is preferred.

5. FIRE-FIGHTING MEASURES

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

Unsuitable Extinguishing Media Water spray may be ineffective. If water is used, fog nozzles are preferable.

Specific Hazards Arising from the Chemical
Flammable liquid and vapor.

Hazardous Combustion Products Carbon oxides.

Sensitivity to Static Discharge Flammable mixtures of this product are readily ignited even by static discharge.

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	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). In case of a spill, clear the affected area and protect people. Wear protective clothing as described in Section 8 of this safety data sheet.
For Emergency Responders	Remove all sources of ignition. Full-body chemical protective clothing is recommended for emergency response procedures.
Environmental Precautions	See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment	For small spills, absorb on polypads or other suitable non-reactive absorbent materials.
Methods for Clean-Up	Use non-sparking hand tools and explosion-proof electrical equipment. Sweep up and shovel into suitable containers for disposal. Discard any product, residue, disposable container or liner in full compliance with federal, state, and local regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling	Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only in well-ventilated areas. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). All equipment used when handling the product must be grounded. Use non-sparking hand tools and explosion-proof electrical equipment. Take precautionary measures against static discharges. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from heat, sparks, flame. Keep out of the reach of children. Store locked up.
Incompatible Materials	Strong oxidizing agents, strong reducing agents, materials incompatible with water, materials incompatible with calcium salts, materials incompatible with ammonium salts, materials incompatible with carboxylates. Can react with metals to give off hydrogen, heat and/or steam. Can react with bases and metal oxides with high evolution of heat and/or steam. Can react with carbonates to give off carbon dioxide, heat and/or steam.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Methanol 67-56-1	STEL: 250 ppm TWA: 200 ppm S*	TWA: 200 ppm TWA: 260 mg/m^3 (vacated) TWA: 200 ppm (vacated) TWA: 260 mg/m^3 (vacated) STEL: 250 ppm (vacated) STEL: 325 mg/m^3 (vacated) S*	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m^3 STEL: 250 ppm STEL: 325 mg/m^3
Boric Acid 10043-35-3	STEL: 6 mg/m^3 inhalable fraction TWA: 2 mg/m^3 inhalable fraction	-	-

Appropriate engineering controls

Engineering Controls Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the SDS. Maintain eye wash fountain and quick-drench facilities in work area.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Splash goggles or safety glasses.

Skin and Body Protection Use body protection appropriate for task. An apron or other impermeable body protection is suggested. Full-body chemical protective clothing is recommended for emergency response procedures. Wear suitable gloves appropriate for the risk of exposure.

Respiratory Protection If respiratory protection is needed, use only protection authorized in the U.S. Federal OSHA Standard (29CFR 1910.134), applicable U.S. State regulations, or the Canadian CSA Standard Z94.4-93 and applicable standards of Canadian Provinces. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard (1910.134-1998).

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		
Appearance	Dark red as is, very intense orange when diluted	**Odor**	Characteristic
Color	Dark red as is, very intense orange when diluted	**Odor Threshold**	Not determined

Property	Note: These physical properties are typical values for this product and not specifications	Remarks • Method
pH	1.0-2.0	
Melting Point/Freezing Point	Not determined	
Boiling Point/Boiling Range	65 °C / 149 °F	
Flash Point	> 23 °C / > 73 °F	
Evaporation Rate	Not determined	

Flammability (Solid, Gas)	Not determined
Upper Flammability Limits	36.0%
Lower Flammability Limit	6.0%
Vapor Pressure	Not determined
Vapor Density	Not determined
Specific Gravity	1.0-1.1
Water Solubility	Soluble in water
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	<50 cSt
Explosive Properties	Not determined
Oxidizing Properties	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.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to Avoid
Excessive heat, sparks and flames.

Incompatible Materials
Strong oxidizing agents, strong reducing agents, materials incompatible with water, materials incompatible with calcium salts, materials incompatible with ammonium salts, materials incompatible with carboxylates. Can react with metals to give off hydrogen, heat and/or steam. Can react with bases and metal oxides with high evolution of heat and/or steam. Can react with carbonates to give off carbon dioxide, heat and/or steam.

Hazardous Decomposition Products
Thermal decomposition may produce oxides of carbon.

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 not been thoroughly investigated The product should be treated like methanol during use; however, hazards related to methanol content do not persist after application to granular fertilizer.

Eye Contact Causes severe eye damage.

Skin Contact Toxic in contact with skin. Causes severe skin burns.

Inhalation Toxic if inhaled.

Ingestion Toxic if swallowed. May cause discomfort if swallowed. May cause drowsiness or dizziness.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Methanol 67-56-1	= 6200 mg/kg (Rat)	= 15800 mg/kg (Rabbit)	= 22500 ppm (Rat) 8 h = 64000 ppm (Rat) 4 h
Propylene Glycol 57-55-6	= 20000 mg/kg (Rat)	= 20800 mg/kg (Rabbit)	-
Boric Acid 10043-35-3	= 2660 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 0.16 mg/L (Rat) 4 h
Polyvinyl alcohol 9002-89-5	> 20 g/kg (Rat)	-	-

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 The table below indicates whether each agency has listed any ingredient as a carcinogen. However, the product as a whole has not been tested.

Chemical Name	ACGIH	IARC	NTP	OSHA
Polyvinyl alcohol 9002-89-5		Group 3		

Legend

IARC (International Agency for Research on Cancer)

Group 3 IARC components are "not classifiable as human carcinogens"

Reproductive toxicity May damage fertility or the unborn child.

STOT - single exposure Causes damage to organs.

Target organ effects Central nervous system (CNS), Skin, Eyes, Digestive system.

Numerical measures of toxicity

Not determined

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Methanol 67-56-1		28200: 96 h Pimephales promelas mg/L LC50 flow-through 18 - 20: 96 h Oncorhynchus mykiss mL/L LC50 static 19500 - 20700: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 13500 - 17600: 96 h Lepomis macrochirus mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 static		

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: 24 h Daphnia magna mg/L EC50
Boric Acid 10043-35-3		1020: 72 h Carassius auratus mg/L LC50 flow-through		115 - 153: 48 h Daphnia magna mg/L EC50

Persistence/Degradability
Not determined.

Bioaccumulation
Not determined.

Mobility

Chemical Name	Partition Coefficient
Methanol 67-56-1	-0.77
Boric Acid 10043-35-3	-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.

US EPA Waste Number

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Methanol 67-56-1		Included in waste stream: F039		U154

California Hazardous Waste Status

Chemical Name	California Hazardous Waste Status
Methanol 67-56-1	Toxic Ignitable
Boric Acid 10043-35-3	Toxic

14. TRANSPORT INFORMATION

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

DOT

UN/ID No	UN2924
Proper Shipping Name	Flammable liquid, corrosive, n.o.s. (Methanol, Maleic-itaconic acid)
Hazard Class	3
Subsidiary Hazard Class	8
Packing Group	III
Reportable Quantity (RQ)	5000 lbs for Methanol

IATA

UN/ID No	UN3286
Proper Shipping Name	Flammable liquid, toxic, corrosive, n.o.s. (Methanol, Maleic-itaconic acid)
Hazard Class	3
Subsidiary Hazard Class	6.1, 8
Packing Group	III

IMDG

UN/ID No	UN3286
Proper Shipping Name	Flammable liquid, toxic, corrosive, n.o.s. (Methanol, Maleic-itaconic acid)
Hazard Class	3
Subsidiary Hazard Class	6.1, 8
Packing Group	III

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Methanol	Present	X		Present		Present	X	Present	X	X
Maleic-itaconic copolymer, partial calcium salt	Present		X							
Propylene Glycol	Present	X		Present		Present	X	Present	X	X
Polyvinyl alcohol	Present	X				Present	X	Present	X	X
Boric Acid	Present	X		Present		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)
Methanol 67-56-1	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

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 %
Methanol - 67-56-1	67-56-1	Proprietary	1.0

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 contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
Methanol - 67-56-1	Developmental

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Methanol 67-56-1	X	X	X
Propylene Glycol 57-55-6	X		X

16. OTHER INFORMATION

NFPA	**Health Hazards**	**Flammability**	**Instability**	**Special Hazards**
	2	3	0	Not determined
HMIS	**Health Hazards**	**Flammability**	**Physical Hazards**	**Personal Protection**
	2	3	0	B

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Revision Note: GHS Compliant

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