Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) revised in 2012 and GHS Rev 03.

Issue date 09/08/2022 Reviewed on 09/08/2022

*

1 Identification

· **Product Identifier**

· **Trade Name: Glass Tube Thermometer - Red**
· **Relevant identified uses of the substance or mixture and uses advised against:**
· **Product Description:** Glass Tube Thermometer

· **Details of the Supplier of the Safety Data Sheet:**
· **Manufacturer/Supplier:**
EchoTherm
2755 Columbus Ave.
Springfield, OH 45503
937-322-4972
· **Emergency telephone number:** 937-322-4972

2 Hazard(s) Identification

· **Classification of the substance or mixture:**

Health hazard

Toxic to Reproduction 2 H361 Suspected of damaging fertility or the unborn child.
Aspiration Hazard 1 H304 May be fatal if swallowed and enters airways.
· **Additional information:**
Hazards exempt when enclosed in glass tube or when it cannot be released due to cutting, grinding, heating, etc.

· **Label elements:**
· **Hazard pictograms:**

· **Signal word:** Danger

· **Hazard-determining components of labeling:**
Solvent naphta (petroleum) heavy aliph.
Toluene
· **Hazard statements:**
H361 Suspected of damaging fertility or the unborn child.
H304 May be fatal if swallowed and enters airways.
· **Precautionary statements:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 If swallowed: Immediately call a poison center/doctor.
P331 Do NOT induce vomiting.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Unknown acute toxicity:**
This value refers to knowledge of known, established toxicological or ecotoxicological values.
0 % of the mixture consists of component(s) of unknown toxicity.
· **Classification system:** NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

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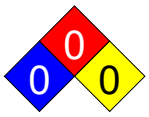
Trade Name: Glass Tube Thermometer - Red

· **NFPA ratings (scale 0 - 4)**



Health = 0
Fire = 0
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 0
Fire = 0
Physical Hazard = 0

· **Hazard(s) not otherwise classified (HNOC):** None known

3 Composition/Information on Ingredients

· **Chemical characterization: Substance**
· **Description:** Mixture of substances listed below with non-hazardous additions.

· **Dangerous Components:**

CAS: 64742-96-7	Solvent naphta (petroleum) heavy aliph. Aspiration Hazard 1, H304	97-99%
CAS: 108-88-3 RTECS: XS 5250000	Toluene Flammable Liquids 2, H225; Toxic to Reproduction 2, H361; Specific Target Organ Toxicity - Repeated Exposure 2, H373; Aspiration Hazard 1, H304; Acute Toxicity - Inhalation 4, H332; Skin Irritation 2, H315; Specific Target Organ Toxicity - Single Exposure 3, H336	<0.25%

· **Additional information:**
The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets.

4 First-Aid Measures

· **Description of first aid measures**
· **General information:** If symptoms persist, call a physician.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Generally, the product does not irritate the skin.
If skin irritation occurs, consult a doctor.
· **After eye contact:**
If eye irritation occurs, consult a doctor.
Rinse opened eye for several minutes under running water.
· **After swallowing:** If swallowed and symptoms occur, consult a doctor.
· **Information for doctor**
· **Most important symptoms and effects, both acute and delayed:** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed:** Treat symptomatically.

5 Fire-Fighting Measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
· **For safety reasons unsuitable extinguishing agents:** No further relevant information.
· **Special hazards arising from the substance or mixture:** No further relevant information available.

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· ***Advice for firefighters***
· ***Special protective equipment for firefighters:***
As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

6 Accidental Release Measures

· ***Personal precautions, protective equipment and emergency procedures:*** Not required.
· ***Environmental precautions:*** No special measures required.
· ***Methods and material for containment and cleaning up:***
Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).
Dispose of contaminated material as waste according to section 13.
Ensure adequate ventilation.
Dispose of the collected material according to regulations.
· ***Reference to other sections:***
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

· ***PAC-1:***		
67-63-0	Isopropyl alcohol	400 ppm
108-88-3	Toluene	67 ppm

· ***PAC-2:***		
67-63-0	Isopropyl alcohol	2000* ppm
108-88-3	Toluene	560 ppm

· ***PAC-3:***		
67-63-0	Isopropyl alcohol	12000** ppm
108-88-3	Toluene	3700* ppm

7 Handling and Storage

· ***Handling***
· ***Precautions for safe handling:***
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· ***Information about protection against explosions and fires:*** No special measures required.

· ***Conditions for safe storage, including any incompatibilities***
· ***Storage***
· ***Requirements to be met by storerooms and receptacles:*** No special requirements.
· ***Information about storage in one common storage facility:*** Not required.
· ***Further information about storage conditions:*** None.
· ***Specific end use(s):*** No further relevant information available.

8 Exposure Controls/Personal Protection

· ***Additional information about design of technical systems:*** No further data; see section 7.

· ***Control parameters:***
· ***Components with occupational exposure limits:***
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituents have no known exposure limits.

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108-88-3 Toluene	
PEL	Long-term value: 200 ppm Ceiling limit value: 300; 500* ppm *10-min peak per 8-hr shift
REL	Short-term value: 560 mg/m³, 150 ppm Long-term value: 375 mg/m³, 100 ppm
TLV	Long-term value: 20 ppm BEI, OTO, A4

· **Ingredients with biological limit values:**

108-88-3 Toluene	
BEI	0.02 mg/L blood prior to last shift of workweek Toluene 0.03 mg/L urine end of shift Toluene 0.3 mg/g creatinine urine end of shift o-Cresol with hydrolysis (background)

· **Additional information:** The lists that were valid during the creation of this SDS were used as basis.

· **Exposure controls:**
· **Personal protective equipment**
· **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
· **Breathing equipment:** Not required.
· **Protection of hands:** Not required.
· **Material of gloves:** Not applicable.
· **Penetration time of glove material:** Not applicable.
· **Eye protection:**

Goggles recommended during refilling.

· **Limitation and supervision of exposure into the environment:** None

* 9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**
· **General Information**
· **Appearance:**
Form: Glass Thermometer with Red liquid filling
Color: Red
· **Odor:** Odorless

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Trade Name: Glass Tube Thermometer - Red

· **Odor threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/Melting range:	Not determined.
· **Flash point:**	None
· **Flammability (solid, gaseous):**	Not applicable.
· **Ignition temperature:**	Not applicable
· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Product is not self-igniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapor pressure:**	Not determined.
· **Density:**	Not determined.
· **Relative density:**	Not determined.
· **Vapor density:**	Not determined.
· **Evaporation rate:**	Not determined.
· **Solubility in / Miscibility with:**	
Water:	Not miscible or difficult to mix.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	0.5 %
VOC content:	0.50 % 5.0 g/l / 0.04 lb/gal
· **Other information:**	No further relevant information available.

10 Stability and Reactivity

· **Reactivity:** No further relevant information available.
· **Chemical stability:** Product is stable under normal conditions.
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions:** No dangerous reactions known.
· **Conditions to avoid:** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

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Trade Name: Glass Tube Thermometer - Red

11 Toxicological Information

· ***Information on toxicological effects:***
· ***Acute toxicity:***

· ***LD/LC50 values that are relevant for classification:***

108-88-3 Toluene

Oral	LD50	5,000 mg/kg (Rat)
Dermal	LD50	12,124 mg/kg (Rabbit)
Inhalative	LC50/4 h	12.5-28.8 mg/l (Rat)

· ***Primary irritant effect:***
· ***On the skin:*** No irritating effect.
· ***On the eye:*** No irritating effect.
· ***Additional toxicological information:***
The product shows the following dangers according to internally approved calculation methods for preparations:

· ***Carcinogenic categories:***
· ***IARC (International Agency for Research on Cancer):***
Group 1 - Carcinogenic to humans
Group 2A - Probably carcinogenic to humans
Group 2B - Possibly carcinogenic to humans
Group 3 - Not classifiable as to its carcinogenicity to humans
Group 4 - Probably not carcinogenic to humans

67-63-0	Isopropyl alcohol	3
108-88-3	Toluene	3

· ***NTP (National Toxicology Program):***
None of the ingredients are listed.

· ***OSHA-Ca (Occupational Safety & Health Administration):***
None of the ingredients are listed.

12 Ecological Information

· ***Toxicity:***

· ***Aquatic toxicity:***

108-88-3 Toluene

EC50	10 mg/l (Green algae)
	8 mg/l (Water flea)

· ***Persistence and degradability:*** No further relevant information available.
· ***Behavior in environmental systems:***
· ***Bioaccumulative potential:*** No further relevant information available.
· ***Mobility in soil:*** No further relevant information available.
· ***Additional ecological information:***
· ***General notes:***
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
· ***Results of PBT and vPvB assessment:***
· ***PBT:*** Not applicable.
· ***vPvB:*** Not applicable.

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Trade Name: Glass Tube Thermometer - Red

· **Other adverse effects:** No further relevant information available.

13 Disposal Considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household waste. Do not allow product to reach sewage system.
Observe all federal, state and local environmental regulations when disposing of this material.

· **Uncleaned packaging**
· **Recommendation:** Disposal must be made according to official regulations.

14 Transport Information

· **UN-Number:**
· **DOT, ADR/ADN, IMDG, IATA** Non-Regulated Material
· **UN proper shipping name:**
· **DOT, ADR/ADN, IMDG, IATA** Non-Regulated Material
· **Transport hazard class(es):**

· **DOT, ADR/ADN, ADN, IMDG, IATA**
· **Class:** Non-Regulated Material
· **Packing group:**
· **DOT, ADR/ADN, IMDG, IATA** Non-Regulated Material
· **Environmental hazards:** Not applicable.
· **Special precautions for user:** Not applicable.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.
· **UN "Model Regulation":** Non-Regulated Material

15 Regulatory Information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
No further relevant information available.
· **SARA (Superfund Amendments and Reauthorization):**

· **Section 355 (extremely hazardous substances):**
None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

67-63-0	Isopropyl alcohol
108-88-3	Toluene

· **TSCA (Toxic Substances Control Act):**
All components have the value ACTIVE.

· **Hazardous Air Pollutants**

108-88-3	Toluene

· **California Proposition 65:**

· **Chemicals known to cause cancer:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients are listed.

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Trade Name: Glass Tube Thermometer - Red

· **Chemicals known to cause reproductive toxicity for males:**		
None of the ingredients are listed.		

· **Chemicals known to cause developmental toxicity:**	
108-88-3	Toluene

· **New Jersey Right-to-Know List:**	
67-63-0	Isopropyl alcohol
108-88-3	Toluene

· **New Jersey Special Hazardous Substance List:**		
67-63-0	Isopropyl alcohol	F3
108-88-3	Toluene	TE, F3

· **Pennsylvania Right-to-Know List:**	
67-63-0	Isopropyl alcohol
108-88-3	Toluene

· **Pennsylvania Special Hazardous Substance List:**		
67-63-0	Isopropyl alcohol	E
108-88-3	Toluene	E

· **Carcinogenic categories:**

· **EPA (Environmental Protection Agency):**		
108-88-3	Toluene	II

· **TLV (Threshold Limit Value established by ACGIH):**		
67-63-0	Isopropyl alcohol	A4
108-88-3	Toluene	A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health):**
None of the ingredients are listed.

· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms:**

· **Signal word:** Danger

· **Hazard-determining components of labeling:**
Solvent naphta (petroleum) heavy aliph.
Toluene
· **Hazard statements:**
H361 Suspected of damaging fertility or the unborn child.
H304 May be fatal if swallowed and enters airways.
· **Precautionary statements:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 If swallowed: Immediately call a poison center/doctor.
P331 Do NOT induce vomiting.
P308+P313 IF exposed or concerned: Get medical advice/attention.

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P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **National regulations:**

The product is not subject to be labelled according with the prevailing version of the regulations on hazardous substances.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

· **Contact:**
· **Abbreviations and acronyms:**
ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety and Health
OSHA: Occupational Safety & Health Administration
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
BEI: Biological Exposure Limit
Flammable Liquids 2: Flammable liquids – Category 2
Acute Toxicity - Inhalation 4: Acute toxicity – Category 4
Skin Irritation 2: Skin corrosion/irritation – Category 2
Toxic to Reproduction 2: Reproductive toxicity – Category 2
Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3
Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2
Aspiration Hazard 1: Aspiration hazard – Category 1
· ***** Data compared to the previous version altered.**
SDS created by MSDS Authoring Services www.msdsauthoring.com +1-877-204-9106

Safety Data Sheet

CREATED 5/30/2015 REVISED 1/13/2025 VERSION 5.01

1. PRODUCT AND COMPANY INFORMATION

Product Identifier: Verti-Gro 6-12-28
Recommended uses: Fertilizer end-use
Dry fertilizer for mixing with water for foliar and soil applications.

Restrictions on uses: None

Manufacturer: Plant Foods, Inc.
PO Box 1089
Vero Beach, FL 32961

Company Telephone/Fax (772)567-5741 (772)770-0473
Emergency Telephone Number (800)424-9300 (CHEMTREC)

2. HAZARDS IDENTIFICATION

Classification of the mixture
Reproductive toxicity 2
Aquatic Hazard/3

Hazard statements:
H361 Suspected of damaging fertility or the unborn child
H412 Harmful to aquatic life with long lasting effects

Physical Hazards
None

Label elements

Hazard Pictograms

Signal word
Warning

Precautionary Statements:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P273	Avoid release to the environment
P281	Use personal protective equipment as required.
P308+P313	If exposed or concerned: Get medical advice/attention.
P391	Collect Spillage
P405	Store locked up.
P501	Dispose of contents/container according to local/state/federal regulations.

Other Hazards

None Known

3. Composition/Information on Ingredients

This product is to be considered a mixture/preparation

Substance name		CAS#	Concentration
Potassium nitrate		7757-79-1	45%-50%
Boric Acid		100043-35-3	<1%

**Ingredients not specifically listed are non-hazardous and considered to be confidential business information under 29CFR §1910.1200

4. FIRST AID MEASURES

Description of First Aid Measures

General Information:

In case of persisting adverse effects consult a physician.

Never give anything by mouth to an unconscious person or a person with cramps.

In case of inhalation

Remove to fresh air and keep at rest in a position comfortable for breathing

Get medical attention for any breathing difficulty.

In case of skin contact

Wash with plenty of soap and water

If skin irritation occurs: Get medical advice/attention.

In case of eye contact

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.

In case of ingestion

Rinse mouth and drink plenty of water. Do not induce vomiting.

Call a POISON CENTER or doctor/physical if you feel unwell.

Most important symptoms and effects, both acute and delayed

The following symptoms may occur:

In case of inhalation	Irritation to respiratory tract
	Delayed lung effects after short term exposure to thermal degradation products.
In case of skin contact	May cause redness or irritation
In case of eye contact	May cause redness or irritation
In case of ingestion	Ingestion of large amounts may cause: gastrointestinal disturbances

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing media:

Suitable extinguishing media:	Use any suitable mean for extinguishing the surrounding fire.
Unsuitable material:	None, but attention should be paid to compatibility with chemicals surrounding.

Specific hazards arising from the chemical

Thermal decomposition can lead to the escape of toxic/corrosive gases and vapors.

Thermal decomposition products: (Nox), nitrites, phosphorous oxides, ammonia and metallic oxidies.

Protective equipment and precautions for firefighters

Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (self contained breathing apparatus (SCBA)

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Provide adequate ventilation. Wear personal protection equipment (Section 8).

Environmental precautions

Do not allow to enter into surface water or drains. Ensure waste is collected and contained.

Methods and material for containment and cleaning up

Take up mechanically, placing in appropriate containers for disposal and recovery.

Unsuitable material for containment/taking up: None specified

Other Information

None

7. HANDLING AND STORAGE

Precautions for Safe Handling

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Avoid generation of dust.

Provide adequate ventilation.

Wear personal protective equipment.

Wash hands thoroughly after handling.

Do not eat, drink, or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Keep/store only in original container

Store in well-ventilated place

Keep container tightly closed

Store locked up.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Control Parameters:

		ACGIH Threshold			OSHA PEL		NIOSH REL	
Chemical Identity:	**CAS#**	**TWA**	**STEL**		**TWA**	**STEL**	**TWA**	**STEL**
Potassium Nitrate	7757-79-1	NDA	NDA		NDA	NDA	NDA	NDA
Boric Acid	10043-35-3	2 mg/m^3	6 mg/m^3		NDA	NDA	NDA	NDA

Engineering controls

Use exhaust ventilation to keep airborne concentrations below exposure limits.

Personal Protective Equipment

Eye/face protection	Chemical goggles required all the time
Skin protection	Nitrile rubber gloves, over 0.11 mm thickness, > 480 min breakthrough time, recommended . Overall
Respiratory Protection	Wear respiratory protection, where airborne concentrations are expected to exceed exposure limits.

General Hygiene Considerations

Avoid contact with eyes and skin. Wash hands thoroughly after handling. Do not eat, drink or smoke when using the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	solid, granular
Color	blue
Odor	odorless
Odor Threshold	No Data Available
pH value	No Data Available
Melting point/freezing range	No Data Available
Boiling temperature/ range	No Data Available
Flash point	No Data Available
Vaporization rate	No Data Available
Evaporation rate	No Data Available
Flammable solids	Not flammable
Explosion limits (LEL, UEL)	No Data Available
Vapour pressure	No Data Available
Vapour density	No Data Available
Relative Density	No Data Available
Solubility	No Data Available
Partition coefficient n-octanol	Not applicable
Auto Ignition temperature	Not applicable
Decomposition temperature	No Data Available
Viscosity	No Data Available
Explosive properties	Not Explosive
Oxidizing properties	Not Oxidizer
Other Information	None

10. STABILITY AND REACTIVITY

Reactivity

No hazardous reaction when handled and stored according to provisions.

Chemical stability

Stable under normal storage and temperature conditions.

Possibility of hazardous reactions

No Data Available

Conditions to avoid

No Data Available

Incompatible materials

No Data Available

Hazardous decomposition products

Thermal decomposition products:	Nitrous oxides (Nox), nitrites, phosphorus oxides, ammonia and metallic oxides.

11. TOXICOLOGICAL INFORMATION

The following information mostly refers to the major component of the product

Likely routes of exposure (inhalation, ingestion, skin and eye contact)

Eye contact, skin contact and inhalation. Exposure by ingestion is not expected to occur through normal industrial or agricultural use.

Symptoms related to the physical, chemical, and toxicological characteristics

May be irritant to the respiratory tract. May cause redness or irritation to the skin and eyes. Ingestion of large amounts may cause gastrointestinal disturbances. May cause delayed lung effects after short term exposure or thermal degradation products.

Information on toxicological effects from short and long term exposure

There is no data available for the mixture itself.

Acute toxicity

Acute oral toxicity	NDA
Acute Estimate for the mixture	>2000 mg/kg bw
Potassium nitrate	>2000 mg/kg bw
Boric Acid	3765 mg/kg bw
Assessment/classification:	Based on available data for the ingredients of the mixture, the classification criteria are not met.

Skin corrosion/irritation:

May cause skin irritation

Serious eye damage/eye irritation:

May cause eye irritation including redness and inflammation.

Respiratory or skin sensitization:

No data available

Carcinogenicity:

No data available

Germ cell mutagenicity

The product does not contain ingredients classified as germ cell mutagens.

Reproductive toxicity

Boric acid has been shown to adversely affect male reproduction in laboratory animals, however, male reproductive effects attributable to boron have not been demonstrated in studies of highly exposed workers.

Based on the available data for ingredients of the mixture, this product is classified and labelled as Presumed human reproductive toxicant, Category 1B, in accordance with Appendix A to 29CRF section 1910-1200.

Specific target organ toxicity - single or repeated exposure:

No relevant effect have been observed.

Aspiration hazard

Physicochemical data and toxicological information does not indicate and aspiration hazard.

12. ECOLOGICAL INFORMATION

There is no data for the mixture itself. The following information mostly refers to the major component of the product.

<u>Ecotoxicity</u>

Aquatic Toxicity

Potassium nitrate

96-h LC50	1378 mg/L	*poecilia reticulata*

	24-h EC50	490 mg/L	*Daphnia magna*
	10d EC50	>1700 mg/L	Several algae species
Boric acid			
	96-h LC50	74-725 mg B/L	Fish
	48-h EC50	45-1376 mg B/L	Aquatic invertebrates
	72-h EC50	40 mg B/L	Algae (*pseudokirchneriella subcapitata)*

Persistence and degradability

The product contains mainly inorganic nitrate and phosphate salts. In aqueous solutions, these salts dissociate into their respective ions. Phosphate ions are finally incorporated into the Phosphorus cycle. Under anoxic conditions, denitrification occurs and nitrate is ultimately converted into molecular nitrogen as part of the Nitrogen cycle.

Bioaccumulative potential

Low potential for bioaccumulation based on physicochemical properties of main components.

Mobility in soil

The components of this mixture have a low potential for absorption. Portion not taken up by plants, can leach to groundwater.

Other adverse effects

Excess nitrate leaching may enrich waters leading to eutrophication.

13. DISPOSAL CONSIDERATIONS

Disposal should be in accordance with all local, state, and federal regulations. This product is not listed as a dangerous waste in the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste disposal method.

14. TRANSPORTATION INFORMATION

US DOT (49CFR PART 172)

UN-No.	Non dangerous good
UN Proper Shipping Name	Not applicable
Hazard class	Not applicable
Packing group	Not applicable
Hazard label(s)	Not applicable
Special Marking	No
Special provision	No

International Maritime Organization (IMDG Code)

UN-No.	Non dangerous good
UN Proper Shipping Name	Not applicable
Hazard class	Not applicable
Packing group	Not applicable
Marine pollutant	No
Hazard label(s)	Not applicable
Special Marking	No

International Civil Aviation Organization (ICAO) and International Air Transport Association (IATA)

UN-No.	Non dangerous good
UN Proper Shipping Name	Not applicable

Hazard class	Not applicable
Packing group	Not applicable
Hazard label(s)	Not applicable
Special Marking	No
Special provision	No

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

Other special precautions

None

15. REGULATORY INFORMATION

US Federal - OSHA Status:

SARA Title III Rules

Section 311/312 Hazard Classes

Acute Health Hazard	No
Chronic Health Hazard	Yes (Toxic to reproduction)
Fire Hazard	No
Release of Pressure	No
Reactive Hazard	No

Section 313 Toxic Chemicals

N511 Nitrate compounds (water dissociable; reportable only when in aqueous solution)

Section 302 Extremely Hazardous Substances (EHS)/CERCLA Hazardous Substances

None ingredient is listed.

NFPA 704-2012: National Fire Protection Association

Health	1
Fire	0
Reactivity	0
Special	None

US State Regulations

California Proposition 65	None ingredient is listed
California Code of Regulations Title 22 (Health & Safety Code), Chapter 33	see http://www.dtsc.ca.gov/hazardouswaste/perchlorate/

State Right to Know Laws

Pennsylvania Right to Know Components

	CAS-No.	Revision Date
Potassium nitrate	7757-79-1	03/01/07
Boric Acid	10043-35-3	07/17/09

Massachusetts Right to Know Components

	CAS-No.	Revision Date
Potassium nitrate	7757-79-1	03/01/07
Boric Acid	10043-35-3	07/17/09

New Jersey Right to Know Components

	CAS-No.	Revision Date
Potassium nitrate	7757-79-1	03/01/07
Boric Acid	10043-35-3	07/17/09

Chemical Inventories

United States TSCA	All ingredients are listed
Canada DSL	All ingredients are listed
European Union (EINECS)	All ingredients are listed
Japan (METI)	All ingredients are listed

16. OTHER INFORMATION

Prepared by: Plant Foods, Inc.

Preparation Date: 13-Jan-25

Key Legend Information

N/Ap:	Not Applicable	ND:	Not Determined
N/R	Not Rated	NDA:	No Data Available
ACGI	American Conference of Govr'ntal Industrial Hygienist	TLV:	Threshold Limit Value
		TWA:	Time Weighted Average
OSHA	Occupational Safety and Health Admin.	NTP:	National Toxicology Program
PEL:	Permissible Exposure Limit	TSCA:	Toxic Substance Control Act
STEL:	Short Term Exposure Limit	CERCLA:	Compressive Response, Compensation and Liability Act
IARC:	International Agency for Research on Cancer		
SARA Title III:	Superfund Amendments and Reauthorization Act	CWA:	Clean Water Act
CAA:	Clean Air Act	IMO:	International Maritime Organization Shipping Info
RCRA:	Resource Conservation Recovery Act		
IATA:	International Air Transportation Association Shipping Information		

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Plant Foods, Inc. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Plant Foods, Inc. has been advised of the possibility of such damages.

OSHA STANDARD 29 CRF 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a Hazard Communication Program including training, Safety Data Sheets, and access to written records. We request that you, and it is your legal duty, make all information in this Safety Data Sheet available to your employees.

Safety Data Sheet

CREATED 5/30/2019 REVISED 8/30/2023 VERSION 5.01

1. PRODUCT AND COMPANY INFORMATION

Product Identifier: Verti-Gro 15-0-0

Recommended uses: Fertilizer end-use
Dry fertilizer for mixing with water for foliar and soil applications.

Restrictions on uses: None

Manufacturer:
Plant Foods, Inc.
PO Box 1089
Vero Beach, FL 32961

Company Telephone/Fax (772)567-5741 (772)770-0473
Emergency Telephone Number (800)424-9300 (CHEMTREC)

2. HAZARDS IDENTIFICATION

Classification of the mixture
Serious Eye Damage/Eye Irritation 1

Hazard statements:
H302 Harmful if swallowed
H318 Causes serious eye damage

Physical Hazards
None

Label elements

Hazard Pictograms

Signal word
Danger

Precautionary Statements:

P280-b	Wear protective gloves and eye protection
P270	Do not eat, drin or smoke when using this product
P264-a	Wash hans throughly after handling
P305	IF IN EYES:
P351	Rinse contiously with water for several minutes
P338	Remove contact lenses, if present and east to do. Continue rinsing
P310	Immediately call a POISON CENTER or doctor/physisican.
P301	IF SWALLOWED:

P312 Call a POISON CENTER or doctor/physician if you feel unwell
P330 Rinse mouth

Other Hazards

None Known

3. Composition/Information on Ingredients

This product is to be considered a mixture/preparation

Substance name	CAS#	Concentration
Nitric acid, calcium salt (2:1)	10124-37-5	>70%
Nitric acid ammonium salt (1:1)	6484-52-2	>7%

**Ingredients not specifically listed are non-hazardous and considered to be confidential business information under 29CFR §1910.1200

4. FIRST AID MEASURES

Description of First Aid Measures

General Information:

In case of persisting adverse effects consult a physician.
Never give anything by mouth to an unconscious person or a person with cramps.

In case of inhalation

Remove to fresh air and keep at rest in a position comfortable for breathing
Get medical attention for any breathing difficulty.

In case of skin contact

Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention.

In case of eye contact

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.

In case of ingestion

Rinse mouth and drink plenty of water. Do not induce vomiting.
Call a POISON CENTER or doctor/physical if you feel unwell.

Most important symptoms and effects, both acute and delayed

The following symptoms may occur:

In case of inhalation	Irritation to respiratory tract	
	Delayed lung effects after short term exposure to thermal degradation products.	
In case of skin contact	May cause redness or irritation	
In case of eye contact	May cause redness or irritation	
In case of ingestion	Ingestion of large amounts may cause:	gastrointestinal disturbances

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing media:

Suitable extinguishing media:	Use any suitable mean for extinguishing the surrounding fire.
Unsuitable material:	None, but attention should be paid to compatibility with chemicals surrounding.

Specific hazards arising from the chemical

Thermal decomposition can lead to the escape of toxic/corrosive gases and vapors.

Thermal decomposition products: (Nox), nitrites, phosphorous oxides, ammonia and metallic oxidies.

Protective equipment and precautions for firefighters

Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (self contained breathing apparatus (SCBA)

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Provide adequate ventilation. Wear personal protection equipment (Section 8).

Environmental precautions

Do not allow to enter into surface water or drains. Ensure waste is collected and contained.

Methods and material for containment and cleaning up

Take up mechanically, placing in appropriate containers for disposal and recovery.

Unsuitable material for containment/taking up: None specified

Other Information

None

7. HANDLING AND STORAGE

Precautions for Safe Handling

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Avoid generation of dust.

Provide adequate ventilation.

Wear personal protective equipment.

Wash hands thoroughly after handling.

Do not eat, drink, or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Keep/store only in original container

Store in well-ventilated place

Keep container tightly closed

Store locked up.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Control Parameters:

Chemical Identity:	CAS#	ACGIH Threshold			OSHA PEL		NIOSH REL	
		TWA	STEL		TWA	STEL	TWA	STEL

Engineering controls

Use exhaust ventilation to keep airborne concentrations below exposure limits.

Personal Protective Equipment

Eye/face protection	Chemical goggles required all the time
Skin protection	Nitrile rubber gloves, over 0.11 mm thickness, > 480 min breakthrough time, recommended . Overall
Respiratory Protection	Wear respiratory protection, where airborne concentrations are expected to exceed exposure limits.

General Hygiene Considerations

Avoid contact with eyes and skin. Wash hands thoroughly after handling. Do not eat, drink or smoke when using the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	solid
Color	White or yellowish
Odor	No Data Available
Odor Threshold	No Data Available
pH value	No Data Available
Melting point/freezing range	No Data Available
Boiling temperature/ range	No Data Available
Flash point	No Data Available
Vaporization rate	No Data Available
Evaporation rate	No Data Available
Flammable solids	Not flammable
Explosion limits (LEL, UEL)	No Data Available
Vapour pressure	No Data Available
Vapour density	No Data Available
Relative Density	No Data Available
Solubility	No Data Available
Partition coefficient n-octanol	Not applicable
Auto Ignition temperature	Not applicable
Decomposition temperature	No Data Available
Viscosity	No Data Available
Explosive properties	Not Explosive
Oxidizing properties	Not Oxidizer
Other Information	None

10. STABILITY AND REACTIVITY

Reactivity

No hazardous reaction when handled and stored according to provisions.

Chemical stability

Stable under normal storage and temperature conditions.

Possibility of hazardous reactions

No Data Available

Conditions to avoid

No Data Available

Incompatible materials

No Data Available

Hazardous decomposition products

Thermal decomposition products:	Nitrous oxides (Nox), nitrites, phosphorus oxides, ammonia and metallic oxides.

11. TOXICOLOGICAL INFORMATION

The following information mostly refers to the major component of the product

Likely routes of exposure (inhalation, ingestion, skin and eye contact)

Eye contact, skin contact and inhalation. Exposure by ingestion is not expected to occur through normal industrial or agricultural use.

Symptoms related to the physical, chemical, and toxicological characteristics

May be irritant to the respiratory tract. May cause redness or irritation to the skin and eyes. Ingestion of large amounts may cause gastrointestinal disturbances. May cause delayed lung effects after short term exposure or thermal degradation products.

Information on toxicological effects from short and long term exposure

There is no data available for the mixture itself.

Acute toxicity

Acute oral toxicity	NDA
Acute Estimate for the mixture	>2000 mg/kg bw
Potassium nitrate	>2000 mg/kg bw
Boric Acid	3765 mg/kg bw
Assessment/classification:	Based on available data for the ingredients of the mixture, the classification criteria are not met.

Skin corrosion/irritation:

May cause skin irritation

Serious eye damage/eye irritation:

May cause eye irritation including redness and inflammation.

Respiratory or skin sensitization:

No data available

Carcinogenicity:

No data available

Germ cell mutagenicity

The product does not contain ingredients classified as germ cell mutagens.

Reproductive toxicity

Boric acid has been shown to adversely affect male reproduction in laboratory animals, however, male reproductive effects attributable to boron have not been demonstrated in studies of highly exposed workers.

Based on the available data for ingredients of the mixture, this product is classified and labelled as Presumed human reproductive toxicant, Category 1B, in accordance with Appendix A to 29CRF section 1910-1200.

Specific target organ toxicity - single or repeated exposure:

No relevant effect have been observed.

Aspiration hazard

Physicochemical data and toxicological information does not indicate and aspiration hazard.

12. ECOLOGICAL INFORMATION

There is no data for the mixture itself. The following information mostly refers to the major component of the product.

Ecotoxicity

Aquatic Toxicity

Nitric acid, calcium salt

96-h LC50	1378 mg/L	*Fish*
4 d EC50	2400 mg/L	*bluegill*
48h EC50	490 mg/L	Daphnia
10d EC50	1,700 mg/L	Daphnia

Persistence and degradability

The product contains mainly inorganic nitrate and phosphate salts. In aqueous solutions, these salts dissociate into their respective ions. Phosphate ions are finally incorporated into the Phosphorus cycle. Under anoxic conditions, denitrification occurs and nitrate is ultimately converted into molecular nitrogen as part of the Nitrogen cycle.

Bioaccumulative potential

Low potential for bioaccumulation based on physicochemical properties of main components.

Mobility in soil

The components of this mixture have a low potential for absorption. Portion not taken up by plants, can leach to groundwater.

Other adverse effects

Excess nitrate leaching may enrich waters leading to eutrophication.

13. DISPOSAL CONSIDERATIONS

Disposal should be in accordance with all local, state, and federal regulations. This product is not listed as a dangerous waste in the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste disposal method.

14. TRANSPORTATION INFORMATION

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Not applicable

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Section 313 Toxic Chemicals

N511 Nitrate compounds (water dissociable; reportable only when in aqueous solution)

Section 302 Extremely Hazardous Substances (EHS)/CERCLA Hazardous Substances

None ingredient is listed.

NFPA 704-2012: National Fire Protection Association

Health	2
Fire	0
Reactivity	0
Special	None

US State Regulations

California Proposition 65	None ingredient is listed
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State Right to Know Laws

Chemical Inventories

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16. OTHER INFORMATION

Prepared by: Plant Foods, Inc.

Preparation Date: 30-Aug-23

Key Legend Information

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ACGI	American Conference of Govr'ntal Industrial Hygienist
OSHA	Occupational Safety and Health Admin.
PEL:	Permissible Exposure Limit
STEL:	Short Term Exposure Limit
IARC:	International Agency for Research on Cancer
SARA Title III:	Superfund Amendments and Reauthorization Act
CAA:	Clean Air Act
RCRA:	Resource Conservation Recovery Act
IATA:	International Air Transportation Association Shipping Information
ND:	Not Determined
NDA:	No Data Available
TLV:	Threshold Limit Value
TWA:	Time Weighted Average
NTP:	National Toxicology Program
TSCA:	Toxic Substance Control Act
CERCLA:	Compressive Response, Compensation and Liability Act
CWA:	Clean Water Act
IMO:	International Maritime Organization Shipping Info

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Plant Foods, Inc. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Plant Foods, Inc. has been advised of the possibility of such damages.

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