



Section 1: IDENTIFICATION

Product Name: Solid Start

Synonyms: Not available.

Product Use: Hydroponic plant fertilizer.

Restrictions on Use: Not available.

Manufacturer/Supplier: Growth Science Nutrients Inc.
4200 Scotts Valley Dr. Ste A
Scotts Valley, CA 95066

Phone Number: 831-600-8679

Emergency Phone: CHEMTREC: 800-424-9300

Date of Preparation of SDS: September 8, 2015

Section 2: HAZARD(S) IDENTIFICATION

GHS INFORMATION

Classification: Skin Irritation, Category 2
Eye Irritation, Category 2A

LABEL ELEMENTS

Hazard

Pictogram(s):



Signal Word: Warning

Hazard Statements: Causes skin irritation.
Causes serious eye irritation.

Precautionary Statements

Prevention: Wash thoroughly after handling.
Wear protective gloves, protective clothing and eye protection.

Response: IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.

Storage: Not applicable.

Disposal: Not applicable.

Hazards Not Otherwise Classified: Not applicable.



Ingredients with Unknown Toxicity: None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations, 2015.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Nitric acid potassium salt (1:1)	Potassium nitrate	7757-79-1	10 - 15

Section 4: FIRST-AID MEASURES

- Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.
Acute and delayed symptoms and effects: May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
- Eye Contact:** If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Acute and delayed symptoms and effects: Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
- Skin Contact:** If on skin: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
Acute and delayed symptoms and effects: Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching.
- Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
Acute and delayed symptoms and effects: May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. The major acute toxic effect from nitrate ingestion is development of methemoglobinemia, a condition where more than 10% of the hemoglobin is transformed into methemoglobin. Methemoglobin reduces the oxygen-carrying capacity of the blood and, in addition, it interferes with the unloading of oxygen. When the conversion exceeds 70% the condition can be fatal.
- General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).
- Note to Physicians:** Symptoms may not appear immediately.



Section 5: FIRE-FIGHTING MEASURES

FLAMMABILITY AND EXPLOSION INFORMATION

Not flammable or combustible by OSHA/WHMIS criteria. Dry residue has oxidizer potential.

Sensitivity to Mechanical Impact: This material is not sensitive to mechanical impact.

Sensitivity to Static Discharge: This material is not sensitive to static discharge.

MEANS OF EXTINCTION

Suitable Extinguishing Media: Use appropriate extinguishing media for surrounding fire.

Unsuitable Extinguishing Media: Not available.

Products of Combustion: Oxides of nitrogen. Potassium nitrite. Potassium oxide. Nitric acid.

Protection of Firefighters: Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

Section 6: ACCIDENTAL RELEASE MEASURES

Emergency Procedures: Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

Personal Precautions: Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

Environmental Precautions: Keep out of drains, sewers, ditches, and waterways.

Methods for Containment: Stop leak if without risk. Do not flush to sewer or allow to enter waterways.

Methods for Clean-Up: Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Other Information: See Section 13 for disposal considerations.

Section 7: HANDLING AND STORAGE

Handling:

Do not swallow. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. See Section 8 for information on Personal Protective Equipment.

Storage:

Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.



Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Component

Potassium nitrate [CAS No. 7757-79-1]

ACGIH: 10 mg/m³ (TWA) (Inhalable.); 3 mg/m³ (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified

OSHA: 15 mg/m³ (Total dust) (TWA), 5 mg/m³ (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

TWA: Time-Weighted Average

Engineering Controls: Not normally required.

PERSONAL PROTECTIVE EQUIPMENT (PPE)



Eye/Face Protection:

Wear safety glasses. Ensure that eyewash stations are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

Hand Protection:

Wear protective gloves. Consult manufacturer specifications for further information.

Skin and Body Protection:

Wear protective clothing.

Respiratory Protection:

Not required under normal use conditions. If ventilation is inadequate then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.

General Hygiene Considerations:

Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.



Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear liquid.
Colour:	Colourless.
Odour:	Like fish.
Odour Threshold:	Not available.
Physical State:	Liquid.
pH:	7.1
Melting Point / Freezing Point:	Not available.
Initial Boiling Point:	Not available.
Boiling Range:	Not available.
Flash Point:	Not available.
Evaporation Rate:	Not available.
Flammability (solid, gas):	Not applicable.
Lower Flammability Limit:	Not available.
Upper Flammability Limit:	Not available.
Vapor Pressure:	Not available.
Vapor Density:	Not available.
Relative Density:	Not available.
Solubilities:	Soluble in water.
Partition Coefficient: n-Octanol/Water:	Not available.
Auto-ignition Temperature:	Not available.
Decomposition Temperature:	Not available.
Viscosity:	Not available.
Percent Volatile, wt. %:	Not available.
VOC content, wt. %:	Not available.
Density:	Not available.
Coefficient of Water/Oil Distribution:	Not available.



Section 10: STABILITY AND REACTIVITY

Reactivity: Contact with incompatible materials. Sources of ignition. Exposure to heat.

Chemical Stability: Stable under normal storage conditions.

Possibility of Hazardous Reactions: None known.

Conditions to Avoid: Contact with incompatible materials. Sources of ignition. Exposure to heat.

Incompatible Materials: Reducers. Metals. Combustible materials.

Hazardous Decomposition Products: Not available.

Section 11: TOXICOLOGICAL INFORMATION

EFFECTS OF ACUTE EXPOSURE

Product Toxicity

Oral: Not available.

Dermal: Not available.

Inhalation: Not available.

Component Toxicity

Component	CAS No.	LD ₅₀ oral	LD ₅₀ dermal	LC ₅₀
Potassium nitrate	7757-79-1	1901 mg/kg (rabbit)	Not available.	Not available.

Likely Routes of Exposure: Eye contact. Skin contact. Inhalation. Ingestion.

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system. Blood. Kidneys.

Symptoms (including delayed and immediate effects)

Inhalation: May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Eye: Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin: Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

Ingestion: May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. The major acute toxic effect from nitrate ingestion is development of methemoglobinemia, a condition where more than 10% of the hemoglobin is transformed into methemoglobin. Methemoglobin reduces the oxygen-carrying capacity of the blood and, in addition, it interferes with the unloading of oxygen. When the conversion exceeds 70% the condition can be fatal.



Skin Sensitization: Not available.

Respiratory Sensitization: Not available.

Medical Conditions Aggravated By Exposure: Not available.

EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system. Blood. Kidneys.

Chronic Effects: Prolonged or repeated contact may dry skin and cause irritation.

Carcinogenicity: This product does not contain any carcinogens or potential carcinogens as listed by ACGIH, IARC, OSHA, or NTP. The major concern of possible long-term effects of exposure to nitrate is associated with formation of nitroso compounds, many of which are carcinogenic. This formation may take place wherever nitrite and nitrosable compounds are present, but it is favored by acidic conditions or the presence of some bacteria. The gastrointestinal tract (especially the stomach) is regarded as the main formation site, but nitrosation reactions can also take place in an infected urinary bladder.

Component Carcinogenicity

Component	ACGIH	IARC	NTP	OSHA	Prop 65
Potassium nitrate	Not listed.	Not listed.	Not listed.	Not listed.	Not listed.

Mutagenicity: Not available.

Reproductive Effects: OECD Test Guideline 422: NOAEL(C) = 1500 mg/kg/day, rat. At the highest dose tested, no effects on fertility or development were observed.

Developmental Effects

Teratogenicity: Not available.

Embryotoxicity: Not available.

Toxicologically Synergistic Materials: Not available.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

Persistence / Degradability: Not available.

Bioaccumulation / Accumulation: Not available.

Mobility in Environment: Not available.

Other Adverse Effects: Not available.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Instructions: Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.



Section 14: TRANSPORT INFORMATION

U.S. Department of Transportation (DOT)

Proper Shipping Name: Not regulated.
Class: Not applicable.
UN Number: Not applicable.
Packing Group: Not applicable.
Label Code: Not applicable.

Canada Transportation of Dangerous Goods (TDG)

Proper Shipping Name: Not regulated.
Class: Not applicable.
UN Number: Not applicable.
Packing Group: Not applicable.
Label Code: Not applicable.

Section 15: REGULATORY INFORMATION

Federal Regulations

United States

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III

No components are listed.

State Regulations

Massachusetts

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

Component	CAS No.	RTK List
Potassium nitrate	7757-79-1	Listed.

New Jersey

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

Component	CAS No.	RTK List
Potassium nitrate	7757-79-1	Listed.

Pennsylvania

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

Component	CAS No.	RTK List
Potassium nitrate	7757-79-1	Listed.



GROWTH SCIENCE
NUTRIENTS

SAFETY DATA SHEET

Solid Start

Date of Preparation: September 8, 2015

California

California Prop 65: This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Section 16: OTHER INFORMATION

Disclaimer:

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for his own particular use.

Date of Preparation of SDS: September 8, 2015

Version: 1.1

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