Safety Data Sheet

PRODUCT NAME: Technigro 15-15-15 Geranium SDS #5042

Date of Issue: March 13, 2014
Supersedes: March 7, 2013

1. Product and Company Identification

Product Name: Technigro 15-15-15 Geranium
Recommended Uses: End-use fertilizer
Restrictions on Uses: None

Manufacturer/Supplier
Sun Gro Horticulture Distribution Inc.
770 Silver Street
Agawam, MA 01001
1-800-732-8667

Distributed in the USA by
Sun Gro Horticulture Distribution Inc.
770 Silver Street
Agawam, MA 01001
1-800-732-8667

Distributed in Canada by
Sun Gro Horticulture Canada Ltd.
52130 RR 65, PO Box 189
Seba Beach, AB T0E 2B0 Canada
1-800-732-8667

For more information: www.sungro.com

For more customer information call:

Western Region:	1-888-797-6497	Central Region:	1-888-982-4500
Eastern Region:	1-888-896-1222	Southeast Region:	1-800-683-7700
Agawam:	1-800-732-8667		

Emergency Telephone Number

For Chemical Emergency, Spill, Leak, Fire, Exposure or Accident Call **CHEMTREC** Day or Night.
For shipments and products within the US and Canada: 1-800-424-9300
For shipments and products travelling outside of the US and Canada: + 1 703-527-3887

2. Hazards Identification

Classification of the mixture

Classification of the chemical in accordance with 29CFR §1910.1200

Hazard Classes and Hazard Categories	Hazard Statements
Oxidizing solid, Cat. 3	May intensify fire; oxidizer
Mildly irritating to eyes, Cat. 2B	Causes eye irritation

Label elements - Hazard pictograms

Signal word **DANGER**
Hazard Statements May intensify fire; oxidizer
Causes eye irritation

Precautionary Statements

Keep away from flammable/combustible/reducing materials.
Wear eye protection. Wash hands and face thoroughly after handling.
In case of fire: use any suitable mean for extinguishing surrounding fire. Spray water for small fires. For large fires, flood area with water.
IF IN Eyes: rinse cautiously with water for several minutes. Remove contact lenses if present and able to do. Continue rinsing.
If eye irritation persists, get medical advice or attention.
Dispose of contents/container according to local, state, federal regulations.

Other hazards

None

Classification of the relevant ingredients of the mixture in accordance with 29CFR §1910.1200

Sodium Nitrate	Oxidizing solid, Cat. 3; Mildly irritating to eyes, Cat. 2B
Potassium Nitrate	Oxidizing solid, Cat. 3

3. Composition/Information on Ingredients

The product is to be considered as a mixture/preparation

Ingredients	CAS No.	EC No	Concentration
Sodium Nitrate	7631-99-4	231-554-3	10%-70%
Potassium Nitrate	7757-79-1	231-818-8	30%-90%
Perchlorate (ClO_4^-)*			<0.01%
Iodate (IO_3^-)*			<50 ppm

**This product contains naturally occurring trace amounts of perchlorate and iodate. The components are not regulated by 29CFR §1910.1200. Refer to* www.dtsc.ca.gov/hazardouswaste/perchlorate *and Section 15 for more information regarding California State regulations on handling and disposal.*

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, person having convulsions, 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. Remove contaminated, saturated clothing immediately. If skin irritation occurs, get medical attention or advice.

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 call a poison control center or a doctor.

In case of ingestion

If able, rinse mouth and drink plenty of water. Do not induce vomiting. Call Poison Control Center of doctor if unwell.

More 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 surrounding fire. Spray water for small fires. For large fires flood area with water.

Unsuitable material: None, but attention should be paid to compatibility with surrounding chemicals.

Specific hazards arising from the chemical

Oxidizer. Contact with combustible materials will not cause spontaneous ignition, however sodium nitrate will enhance an existing fire. Thermal decomposition which can lead to the escape of toxic or corrosive gases and vapors.

Thermal decomposition products: Nitrous oxides (NO_x), nitrates, phosphorus oxides, ammonia and metallic oxides.

Protective equipment and precautions for firefighters

Keep upwind of fire. Wear full firefighting 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 clean up

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

Unsuitable material for containment or taking up: Do not absorb in saw-dust or other combustible absorbents.

Other information

None

7. Handling and Storage

Precautions for Safe Handling

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. Keep away from flammable, combustible and reducing substances.

Conditions for safe storage, including any incompatibilities

Keep/store only in original container. Store in a well-ventilated place. Keep container tightly closed. Do not store together with: Combustible substance, reducing agents

8. Exposure Controls/Personal Protection

Exposure Guidelines: Occupational exposure limits

	Potassium Nitrate	Sodium Nitrate
OSHA - PEL	Not established	Not established
STEL/ceiling	Not established	Not established

ACGIH (2012 TLVs® and BEIs®)

TWA	Not established	Not established
STEL/ceiling	Not established	Not established

Derived No-Effect Level* (DNEL) suggested by manufacturer: Workers (Industrial/professional):

Sodium Nitrate/Potassium Nitrate

DNEL Human, dermal, long term (repeated)	20.8 mg/kg/day (systemic)
DNEL Human, inhalation, long term (repeated)	36.7 mg/kg/day (systemic)

* (Derived No-Effect Level (DNEL) is the level of exposure to the substance above which humans should not be exposed)

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.

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. Have eye-wash facilities immediately available.

9. Physical and Chemical Properties

Appearance	Solid, prilled
Color	Pale Blue
Odor	Odorless
Odor Threshold	Not applicable
pH value	No data available
Melting point/freezing range	No data available
Boiling temperature/boiling range	Not applicable
Flash Point	Not applicable
Vaporization rate/Evaporation rate	No data available
Flammable Solids	Not flammable
Explosion limits (LEL, UEL)	Not applicable
Vapor Pressure	No data available
Vapor Density	No data available
Relative Density	No data available
Solubility	> 100 g/L at 20°C/68°F (water)
Partition coefficient n-octanol/water	Not applicable
Auto Ignition temperature	Not applicable
Decomposition temperature	No data available
Viscosity	Not applicable

Other information

Explosive properties	Not explosive
Oxidizing properties	Oxidizer

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

None identified

Conditions to avoid

Keep away from flammable, combustible, and reducing substances.

Incompatible materials

Flammable, combustible and reducing substances under specific conditions.

Hazardous decomposition products

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

11. Toxicological Information

The following information refers to sodium nitrate and potassium nitrate.

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 to thermal degradation products.

Toxicological effects from short and long term exposure (No data for the mixture.)

Acute toxicity:			Species:	Method:
Acute oral toxicity	LD50:	> 2000 mg/kg bw	Rat	OECD Guideline 425
Acute dermal toxicity	LD50:	> 5000 mg/kg bw (Potassium nitrate)	Rat	OECD Guideline 402
Acute inhalation toxicity	LD50:	>0.527 mg/L (4-h) (Potassium nitrate) (maximum achievable concentration)	Rat	OECD Guideline 403

Assessment/classification: Based on available data, the classification criteria are not met.

Irritant and corrosive effects:

Irritation to the skin	Result	Species:	
Equivalent/similar to OECD Guideline 404	non-irritant	Rabbit	Data obtained by analogy conclusion
Irritation to the eyes	Result	Species:	
OECD Guideline 437	non-irritant	In vitro study	
OECD Guideline 405	Mild Irritant	Rabbit	

Assessment/classification: Based on available data, this product is classified and labelled as Mildly irritating to eyes, Cat. 2B: causes eye irritation.

Respiratory or skin sensitization:

Skin sensitization	Result	Species	
OECD Guideline 429	not sensitizing	Mouse	(Sodium nitrate)

Respiratory sensitization

No information available

Assessment/classification: Based on available data, the classification criteria are not met

Genetic effects:

In-vitro genotoxicity	Method	Result
Gene-mutations microorganisms	bacterial reverse mutation assay	negative (Potassium nitrate)
Gene-mutations mammalian cells	OECD Guideline 476/EU B.17	negative (Potassium nitrate)
Chromosome aberr. mammalian cells	Ishidate & Odashima (1977)	negative (Potassium nitrate)
Sister Chromatic Exchange (SCE)	Equivalent or similar to OECD 479	negative (Potassium nitrate)

Assessment/classification: Overall assessment of data indicates that sodium nitrate and potassium nitrate are not genotoxic *in vitro* and *in vivo*. Based on available data, the classification criteria are not met.

Reproductive toxicity:

Data obtained from potassium nitrate. No reliable data available for sodium nitrate.

Adverse effects on sexual function and fertility/developmental toxicity:

OECD guideline 422 NOAEL(C): 1500 mg/kg/d Rat

At the highest dose tested, no effects on fertility or development were observed in this repeated dose toxicity study. Data from other nitrate substances are in line with this study.

Assessment/classification: Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Practical experience/human evidence

No relevant effect have been observed after single exposure to potassium nitrate or sodium nitrate.

Assessment/classification: Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure)

Several oral repeated dose studies with sodium nitrate are available, however, most of them lack reliability. A reliable study with potassium nitrate did not show effects at highest dose tested.

OECD Guideline 422	Effect dose:	Organs affected:
NOAEL(C):	1500 mg/kg/ bw/day	None

Assessment/classification: Based on available data, the classification criteria are not met.

Aspiration hazard

Physicochemical data and toxicological information does not indicate an aspiration hazard.
Assessment/classification: Based on available data, the classification criteria are not met

Carcinogenicity

No substance related neoplastic lesions were observed in a chronic toxicity study (literature information)

International Agency for Research on Cancer (IARC)	Inadequate animals and humans evidence
National Toxicology Program (NTP)	Not listed
29 CFR part 1910, subpart Z	Not listed
California Proposition 65	Not listed
WHO (2003) Nitrate in drinking water	No association between nitrate exposure in humans and the risk of cancer

Assessment/classification: Based on available data, the classification criteria is not met

Other Toxicological Information

This product contains trace amounts of naturally occurring perchlorate and iodate. Like other goitrogenic substances, perchlorate may affect iodine uptake by thyroid under specific conditions.

12. Ecological Information

No data for the mixture, information refers to potassium nitrate.

Ecotoxicity

Aquatic Toxicity

Potassium nitrate

96-h LC50	1378 mg/L	*Poecilia retic*ulate (freshwater fish)	(literature information)
24-h EC50	490 mg/L	*Daphnia magna* (freshwater flea)	(literature information)
10 d EC50	>1700 mg/L	Several algae species	(literature information)

Assessment/classification: Based on available data, the classification criteria are not met

Persistence and degradability

In aqueous compartments, the components of the mixture will dissociate into sodium, potassium and nitrate ions. Other minor compounds are also expected to be dissociated in their corresponding ions. Sodium and potassium ions are not subject to further degradation. Under anoxic conditions, nitrate is subjected to denitrification and is ultimately converted into molecular nitrogen as part of the nitrogen cycle. Nitrate and other oxyanions impurities are likely to be found in oxic compartments.

Bioaccumulative potential

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

Mobility in soil

Nitrate has a low potential for adsorption. Portion not taken up by plants can leach to groundwater. Sodium and potassium can participate in ion exchange processes.

Other adverse effects

Excess nitrate leaching may enrich waters leading to eutrophication.

13. Disposal Considerations

Disposal should be in accordance with applicable federal and state laws.
It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal method in compliance with applicable regulations.
Waste containing nitrates that exhibit the characteristic of ignitability has the EPA Hazardous Waste Number of D001 according to the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

14. Transportation Information

US DOT (49CFR part 172)

UN No.	1499
UN Proper Shipping Name	Sodium Nitrate and Potassium Nitrate Mixtures
Hazard class	5.1
Packing group	III
Hazard label(s)	5.1 (Oxidizer)
Special marking	No
Special Provision	A1; A29; IB8; IP3; T1; TP33; W1

International Maritime Organization (IMDG Code)

UN No.	1499
UN Proper Shipping Name	Sodium Nitrate and Potassium Nitrate Mixtures
Hazard Class	5.1
Packing group	III
Marine pollutant	No
Hazard label(s)	5.1 (Oxidizer)
Special marking	No
Special Provision	964

Air transport (ICAO-TI/IATA-DGR)

UN No.	1499
UN Proper Shipping Name	Sodium Nitrate and Potassium Nitrate Mixtures
Hazard class	5.1
Packing group	III
Hazard label(s)	5.1 (Oxidizer)
Special marking	No

Special handling procedure

None

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

SARA Title III Rules

Section 311/312 Hazard Classes

Acute Health Hazard	Yes (Irritant)
Chronic Health Hazard	No
Fire Hazard	Yes (Oxidizer)
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

Ingredients not listed

NFPA 704: National Fire Protection Association

Health	1
Fire	0
Reactivity	0
Special	OX

US State Regulations

California Proposition 65 Ingredients not listed

California Code of Regulations Title 22 (Health & Safety)

http://www.dtsc.ca.gov/hazardouswaste/percholrate

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

This SDS complies with 29 CFR part 1910 subpart Z (2012) and ANSI Standard Z400.1-2004

The information contained in this SDS is provided without warranty of any kind, express or implied. The information contained herein is made available solely for consideration, investigation, and verification by the original recipients hereof. Users should consider this information only as a supplement to other information gathered by or available to them. Users should make independent determinations of the suitability and completeness of information from all sources to assure proper use and disposal of these materials for the safety and health of employees, customers, and the environment. This hazard information is not a substitute for risk assessment under actual conditions of use. Users have the responsibility to keep currently informed on chemical hazard information, to design and update their own programs, and to comply with all applicable national, federal, state, provincial, and local laws and regulations regarding safety, occupational health, right to know, and environmental protection.