

SAFETY DATA SHEET

Campbells Potassium Nitrate Greenhouse/Technical Grade (Nitro-K)

Date of Issue: July 2017

1. IDENTIFICATION

Product Identifier:	Campbells Potassium Nitrate Greenhouse/Technical Grade (Nitro-K)
Other Means of Identification:	None
Recommended Use of the Chemical and Restrictions on Use:	Fertiliser
Details of Manufacturer or Importer:	Campbells Fertilisers Australasia 18 Raymond Road, Laverton North, Victoria, 3026 Phone: (03) 9931 2211 Fax: (03) 9931 2201 www.campbellsfert.com.au
Emergency Telephone Number:	(03) 9931 2211 (business hours only 8.30 am to 5.00 pm) 0418 350 726 (after business hours) Poisons Information Centre 13 11 26

2. HAZARD(S) IDENTIFICATION

GHS Classification: Classified as hazardous according to the GHS

Hazard Class: Oxidizing solid, Category 3



Pictograms: Flame over circle

GHS Signal Word: DANGER

Hazard Statements

May intensify fire; oxidiser

Precaution Statements

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking*.

Keep away from clothing and other combustible materials.

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Wear eye protection.

In case of fire: use any suitable means for extinguishing surrounding fire. Spray water for small fires. For large fires, flood with abundant water.

If exposed or concerned: Get medical advice/attention.

Dispose of contents/container according to local/state/federal regulations.

Note: * This statement does not accurately reflect the risk. Product is not flammable.

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Other Hazards: None

ADG Classification: Based on available information, classified as a Dangerous Good under the Australian Code for the Transport of Dangerous Goods by Road and Rail, 7th Edition. Refer to section 14.

SUSMP Classification: Not scheduled

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Component:	CAS Number:	Concentration (%):
Potassium nitrate	7757-79-1	>94

4. FIRST AID MEASURES

Description of Necessary 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.

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

Skin Contact: Wash with plenty of soap and water. If skin irritation occurs, get medical advice/attention.

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.

Ingestion: Rinse mouth immediately and drink plenty of water. Get medical advice/attention if you feel unwell.

Most Important Symptoms and Effects, both Acute and Delayed:

The following symptoms may occur:

Inhalation: Irritation to respiratory tract.
Delayed lung effects after short term exposure to thermal degradation products.

Skin Contact: May cause redness or irritation.

Eye Contact: May cause redness or irritation.

Ingestion: Ingestion of large amounts may cause gastrointestinal disturbances.

Indication of any Immediate Medical Attention and Special Treatment needed:

Treat symptomatically. Symptoms after the inhalation of thermal decomposition products may appear delayed.

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5. FIRE FIGHTING MEASURES

Suitable Extinguishing Equipment:	Use any suitable means for extinguishing surrounding fire. Spray water for small fires. For large fires flood with abundant water. No unsuitable material, but attention should be paid to compatibility with chemicals surrounding.
Specific Hazards arising from the Chemical:	Oxidizer. Contact with combustible materials will not cause spontaneous ignition, however, potassium nitrate will enhance an existing fire. Thermal decomposition can lead to the escape of toxic/corrosive gases and vapours. Thermal decomposition products: Nitrous oxides (NO _x), potassium nitrite and potassium oxide.
Special Protective Equipment and Precautions for Fire Fighters:	Keep upwind of fire. Wear a self-contained breathing apparatus and chemical protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:	Provide adequate ventilation. Avoid generation of dust. Wear personal protective equipment.
Environmental Precautions:	Do not allow to enter into surface water or drains. Ensure waste is collected and contained.
Methods and Materials for Containment and Cleaning Up:	Take up mechanically, placing in appropriate containers for disposal or recovery. Unsuitable material for containment/taking up: Do not absorb in saw dust or other combustible absorbents.

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. Do not eat, drink or smoke when using this product. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Keep away from flammable, combustible and reducing agents.
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 flammable, combustible and reducing agents. Do not store more than 3 pallets/bags high.

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8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Standards:

Occupational Exposure Limits:

Potassium Nitrate:

OSHA PEL Not Established

STEL/ceiling Not Established

ACGIH (2012 LVs and BEIs)

TWA Not Established

STEL/ceiling Not Established

Derived No-Effect Level (DNEL) suggested by the manufacturer:

Workers (industrial/professional):	
DNEL human, dermal, long term (repeated)	20.8 mg/kg/day (systemic)
DNEL human, inhalation, long term (repeated)	36.7 mg/m ³ (systemic)

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

Biological Monitoring:

Not available.

Control Banding:

Not available.

Engineering Controls:

Use exhaust ventilation to keep airborne concentrations below exposure limits.

Individual Protection Measures e.g. Personal Protective Equipment (PPE):

Eye and Face Protection:

Chemical goggles required all the time.

Skin Protection:

Nitrile rubber gloves, over 0.11 mm thickness, >480 min breakthrough time and protective clothing, recommended.

Respiratory Protection:

Wear respiratory protection, where airborne concentrations are expected to exceed exposure limits.

General Hygiene Considerations:

Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product.

Thermal Hazards:

No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

White solid

Odour:

Odourless

Odour Threshold:

Not applicable

pH value:

8-10 (5% aqueous solution)

Melting Point/Melting Range:

335°C/635°F at 1013 hPa (literature information)

Boiling Temperature/Boiling Range:

Not applicable

Flash Point:

Not applicable

Vapourisation Rate/Evaporation Rate:

No data available

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Flammable Solids:	Not flammable
Explosion Limits (LEL, UEL):	Not applicable
Vapour Pressure:	Not applicable
Vapour Density:	No data available
Density:	2.1 g/cm ³ at 20°C/68°F (literature information)
Solubility:	>100 g/L at 25°C/77°F (water) (literature information)
Partition Coefficient n-Octanol/Water:	Not applicable
Auto-Ignition Temperature:	Not applicable
Decomposition Temperature:	>600°C/1112°F (literature information)
Viscosity:	Not applicable
Explosive Properties:	Not explosive
Oxidising Properties:	Oxidizer; UN Test O.1: Test for oxidising solids Those non-crystalline forms that pass UN O.1 or UN O.3 test need not to be classified as oxidizer under specific regulations. Refer to product labelling and applicable regulations for the classification of specific products

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), potassium nitrite and potassium oxide.

11. TOXICOLOGICAL INFORMATION

The following information mostly refers to the major component of the product and, if it applies, to the impurities which contribute to the classification of the substance.

Toxicokinetics, Metabolism and Distribution:

50% absorption is estimated for oral, dermal and inhalation exposure. Based on analysis in animals and humans, nitrate is widely distributed throughout the body. Nitrate is partly reduced by oral bacteria into nitrite. Nitrite is then rapidly converted into nitrate (by oxyhaemoglobin). Excretion of nitrate is mainly via urine (60% within 48-h).

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Information on Toxicological Effects from Short and Long Term Exposure:

Acute Toxicity:	<p>Acute Oral Toxicity LD₅₀ (rat) >2000 mg/kg bw OECD Guideline 425. Data obtained by analogy conclusion.</p> <p>Acute Dermal Toxicity LD₅₀ (rat) >5000 mg/kg bw OECD Guideline 402.</p> <p>Acute Inhalation Toxicity LC₅₀ (rat) >0.527 mg/L (4-h) OECD Guideline 403. (Maximum achievable concentration).</p> <p>Assessment/classification: Based on available data, the classification criteria are not met.</p>
Irritant and Corrosive Effects:	<p>Irritation to the Skin: Equivalent/similar to OECD Guideline 404. Non-irritant (Rabbit). Data obtained by analogy conclusion.</p> <p>Irritation to Eyes: OECD Guideline 437. Non-irritant (<i>In vitro</i> study). OECD Guideline 405/EU B.5. Non-irritant (Rabbit).</p> <p>Assessment/classification: Based on available data, the classification criteria are not met.</p>
Respiratory or Skin Sensitisation:	<p>Skin Sensitization: OECD Guideline 429/EU B.42. Non-sensitizing (Mouse). Data obtained by analogy conclusion.</p> <p>Respiratory Sensitization: No information available.</p> <p>Assessment/classification: Based on available data, the classification criteria are not met.</p>
Germ Cell Mutagenicity/ Genotoxicity:	<p><i>In vitro</i> Genotoxicity Gene-mutations microorganisms. Bacterial reverse mutation assay: negative (literature information)</p> <p>Gene-Mutations Mammalian Cells. OECD Guideline 476/EU B.17: negative</p> <p>Chromosome Aberration Mammalian Cells. According to Ishidate & Odashima (1977): negative (literature information)</p> <p>Sister Chromatid Exchange (SCE). Equivalent or similar to OECD Guideline 479: negative (literature information)</p> <p>Assessment/classification: Based on available data, the classification criteria are not met.</p>
Carcinogenicity:	<p>No substance related neoplastic lesions were observed in a chronic toxicity study in rats (literature information).</p> <p>Assessment/classification: Based on available data, the classification criteria are not met.</p>
Reproductive Toxicity:	<p>Adverse effects on sexual function and fertility/developmental toxicity. OECD Guideline 422. NOAEL (C): ≥1500 mg/kg/day (rat). At the highest dose tested, no effects on fertility or development were observed in this repeated dose toxicity study.</p>

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Specific Target Organ Toxicity (STOT) - Single Exposure:	<p>Practical experience/human evidence: No relevant effect has been observed after single exposure to potassium nitrate.</p> <p>Assessment/classification: Based on available data, the classification criteria are not met.</p>
Specific Target Organ Toxicity (STOT) - Repeated Exposure:	<p>OECD Guideline 422; NOAEL (C) Effect dose: 1500 mg/kg bw/day Organs effected: None</p> <p>Assessment/classification: Based on available data, the classification criteria are not met.</p>
Aspiration Hazard:	<p>Physicochemical data and toxicological information does not indicate an aspiration hazard.</p> <p>Assessment/classification: Based on available data, the classification criteria are not met.</p>

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

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

Ecotoxicity:	<p><u>Aquatic toxicity</u> (literature information) LC_{50} 96 hr (<i>Poecilia reticulata</i>, freshwater fish) = 1378 mg/L EC_{50} 48 hr (<i>Daphnia magna</i>, freshwater flea) = 490 mg/L EC_{50} 10 d (Several algae species) >1700 mg/L</p> <p>Assessment/classification: Based on available data, the classification criteria are not met.</p>
Persistence and Degradability:	<p>In aqueous compartments, the substance will dissociate into potassium and nitrate ions. Other minor compounds are also expected to be dissociated into their corresponding ions. 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 oxyanion impurities are likely to be found in oxic compartments</p>
Bioaccumulative Potential:	<p>Potassium nitrate has a low potential for bioaccumulation based on physicochemical properties (high water solubility).</p>
Mobility in Soil:	<p>Nitrate has a low potential for adsorption. Portion not taken up by plants, can leach into groundwater. Potassium may be absorbed by plants and it can also participate in ion exchange processes.</p>
Other Adverse Effects:	<p>Excess nitrate leaching may enrich waters leading to eutrophication</p>

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13. DISPOSAL CONSIDERATIONS

Product and Container Disposal: Delivery to an approved waste disposal company. Dispose according to legislation. Do not allow to enter into surface water or drains. Any suitable waste treatment method.

14. TRANSPORT INFORMATION

LAND TRANSPORT

Classification: Based on available information, classified as Dangerous Goods for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail, 7th Edition.

UN Number: 1486

Proper Shipping Name or Technical Name: Potassium nitrate

Transport Hazard Class: 5.1

Packing Group: III

Environmental Hazards for Transport Purposes: This product is not considered harmful to the aquatic environment. Not a marine pollutant.

Hazard Label: Hazard label: 5.1 (Oxidizer)

HAZCHEM Code: 1Z

SEA TRANSPORT

Classification: International Maritime Organization (IMDG Code)

UN Number: 1486

Proper Shipping Name or Technical Name: Potassium nitrate

Transport Hazard Class: 5.1

Packing Group: III

Environmental Hazards for Transport Purposes: This product is not considered harmful to the aquatic environment. Not a marine pollutant.

Hazard Label: Hazard label: 5.1 (Oxidizer)

Special Marking: No

Special Provision: 964; 967

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AIR TRANSPORT

Classification:	ICAO-TI/IATA-DGR
UN Number:	1486
Proper Shipping Name or Technical Name:	Potassium nitrate
Transport Hazard Class:	5.1
Packing Group:	III
Environmental Hazards for Transport Purposes:	This product is not considered harmful to the aquatic environment. Not a marine pollutant.
Hazard Label:	Hazard label: 5.1 (Oxidizer)
Special Marking	No
Special Provision	No

15. REGULATORY INFORMATION

SUSMP:	Not scheduled
APVMA:	Exempt from registration
State Departments of Agriculture / Primary Industries:	Registration not required
Australian Inventory of Chemical Substances (AICS):	All components listed
Toxic Substance – NZ	Exempt

16. OTHER INFORMATION

Edition:	Revision 1
Revision Due:	July 2022
Reason for Revision:	Update for GHS information
Preparation Information:	Prepared by Campbells Fertilisers Australasia
Data Sources:	Supplier SDS

Glossary:

ACGIH	American Conference of Government Industrial Hygienists
APVMA	Australian Pesticides and Veterinary Medicines Authority
BEI	Biological Exposure Indices
CAS	Chemical Abstract Services number, used to uniquely identify chemical compounds
LV	Limit Values



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- OSHA** Occupational Safety and Health Administration
- PEL** Permissible Exposure Limit
- PPE** Personal protective equipment
- STEL** Short-term Exposure Limit
- SUSMP** Standard for the Uniform Scheduling of Medicines and Poisons

This SDS summarises our best knowledge of the health and safety hazard information available for this product and how to safely handle and use it. Since the use of this information and the conditions of the use of this product are not under the control of Campbell's Fertilisers, it is the user's responsibility to determine conditions of safe use of the product.

END OF SDS