1. PRODUCT IDENTIFIER & IDENTITY FOR THE CHEMICAL

Product Name: **NutriMAX Cal-N Fulvate**

LawrieCo Pty Ltd
A.B.N. 72 134 390 855
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SOUTH AUSTRALIA, 5013

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Emergency Contact 24 hours	LawrieCo Technical Manager: 0408 268 058	Poisons Information Centre: 13 11 26 (Australia)

CAS Number	Mixture	Product Code	NMCALNPLUS

Other Names: None
Product Use: Recommended for use as a plant/crop fertiliser only. See product label for application recommendations. A high analysis chelated calcium and nitrogen liquid fertiliser. With biostimulants, trace minerals and soil conditioners.

2. HAZARD IDENTIFICATION

Classified as Non-Hazardous
in accordance with Safe Work Australia - Hazardous Chemicals Information System (HCIS) Australia, Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

NOT Classified as a Scheduled Poison
in accordance with the Standard for the Uniform Scheduling of Medicines and Poison (SUSMP) Australia.

NOT Classified as Dangerous Goods
in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG).

GHS	**Non-Hazardous**
SUSMP	**Not a Scheduled Poison**
ADG	**Not Dangerous Goods**

GHS Classification

Hazard Categories	Not applicable
Signal Word	Not applicable
Hazard Statements	Not applicable

Precautionary Statements – General, Disposal

General	
P101 + P102 + P103	If medical advice is needed, have the product container or label on hand. Keep out of reach of children. Read label before use.
Disposal	
P501	Dispose of contents and container to an approved waste disposal plant in accordance with local regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Product name	NutriMAX Cal-N Fulvate	***SDS Code***	8035
Product use	A liquid fulvic acid concentrate for use as a plant/crop fertiliser.		
Ingredients	***Name***	***CAS Number***	***Proportion w/w***
	Nitric acid, calcium ammonium salt	15245-12-2	35.0 – 40.0%
	Fulvic acid	479-66-3	5.0%
	Microbial ferment (non-hazardous)	Mixture	50.0%
	Proprietary ingredients (non-hazardous)	Mixture	<10.0%

4. FIRST AID MEASURES

Description of necessary first aid measures

Inhalation Unlikely route of exposure, but if applicator feels drowsy, dizzy, tired or experiencing headaches, remove oneself to fresh air. If symptoms develop or persist seek medical attention.

Ingestion Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth out with water and give plenty of water to drink. Consult a doctor if any symptoms occur.

Eyes Rinse cautiously with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do so. Continue rinsing until all contaminants are washed out completely. Consult a doctor if any irritation occurs.

Skin and hair If skin contact occurs, wash skin and hair with soap and plenty of water. May stain skin yellow/brown. Consult a doctor if any skin irritation occurs.

First aid facilities Clean water supply, soap or skin cleaner and eyewash.

Advice to doctor If poisoning occurs, consult with the Poisons Information Centre (telephone **13 11 26**). Have a copy of this safety data sheet or label available. Treat symptomatically.

Symptoms caused by exposure

Contact may cause mild irritation of the eyes, skin, mucous membranes and abrasions. Other than mild irritation no acute, delayed or aggravated medical conditions known. Ingestion may cause vomiting.

Medical attention and special treatment

Wash exposed skin and hair with water and soap. If swallowed give plenty of water. If in eyes flush continuously with running water for at least 15 minutes.

5. FIRE FIGHTING MEASURES

Suitable extinguishing equipment AS 2444:2001 Appropriate extinguishing media includes water, water spray, foam, dry chemical or carbon dioxide. Use extinguishing media suitable for the surrounding fire and environment.

Specific hazards arising from the chemical fire Combustion and decomposition products may include carbon monoxide (CO) and carbon dioxide (CO_2). Gases generated in combustion may be corrosive, poisonous or irritating.

Special protective equipment and precautions for fire fighters	Wear self-contained breathing apparatus if necessary and normal protective firefighting clothing. No HAZCHEM Code assigned.
Further information	Clear fire area of all non-emergency personnel.
Flash Point	No data available
Lower Explosion Limit	No data available
Upper Explosion Limit	No data available
Auto Ignition Temperature	No data available

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Use personal protective equipment. Product is non-hazardous. For personal protection see section 8. No emergency procedures required.
Environmental precautions	Prevent from entering waterways, sewage and drains. For any queries consult Local Statuary Authorities.
Methods and materials for containment and cleaning up	Cover drains. Contain spills and absorb onto absorbent material, dry sand or earth. Sweep and shovel into suitably labelled, closed containers for disposal.

7. HANDLING and STORAGE

Precautions for safe handling	Keep out of reach of children. Use personal protective equipment. For personal protection see section 8. Avoid contact with skin and eyes. Avoid formation of mists or sprays. After use and before eating, drinking or smoking, wash all exposed skin and hair with soap and water.
Conditions of safe storage and incompatibilities	Containers must be clearly labelled. Store in a cool place. Keep container tightly closed and out of direct sunlight. Keep away from strong oxidising agents, acids and alkalis.
Specific end uses	Apart from uses mentioned in section 1., no other specific uses are stipulated.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure standards OEL (TWA 8hours)	There are no assigned exposure standards for this product.
Exposure standards STEL (15 min)	There are no assigned exposure standards for this product.
Biological limited values	There are no known Biological Limited Values that have been assigned.
Engineering controls	Keep unused product in a sealed container. Avoid creating mists or sprays. Handle in accordance with good industrial hygiene and safety practices.
Personal Protection	
Inhalation AS –NZS 1715-16	Inhalation protection not required. Avoid creating mists or sprays.
Eye AS –NZS 1337	Safety glasses fitted with side shields must be worn at all times during the handling and application period.

Gloves ***AS –NZS 2161***	It is advisable to handle with impervious nitrile, Viton or PVC gloves. Gloves must be inspected prior to use. Wash and dry hands after use.
Footwear ***AS –NZS 2210***	It is advisable to wear enclosed footwear during the handling and application period.
Clothing ***AS –NZS 2919***	It is advisable to wear protective clothing during handling. Suitable cotton overalls buttoned up at neck and wrists recommended.
Hearing ***AS –NZS 1270***	Hearing protection not required unless required with use of application equipment.
Thermal hazards	Not required
Other Requirements	The type of protective equipment must be selected according to the concentration and amount substance used at the specific workplace. Avoid unnecessary contact with eyes, skin and hair. After application, wash skin and hair thoroughly with soap and water.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Brown – liquid
Odour	Coffee/sour milk odour
Odour threshold	No data available
pH @ 20^{O}C	3.8 – 4.1
Freezing point	No data available
Boiling point and boiling range	No data available
Melting point	Not applicable
Flash point	No data available
Evaporation rate	No data available
Flammability	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Bulk density or Specific Gravity	1.31 - 1.33 g/mL
Solubility	Miscible in water
Partition coefficient: n-octonal/water	No data available
Decomposition temperature	>100^{O}C
Viscosity	No data available
Specific heat value	No data available
Particle size	Not applicable
Volatile organic compounds content	No data available
% volatile	No data available
Saturated vapour concentration	No data available
Release of invisible flammable vapours and gases	No data available
Flammability limits	No data available

10. STABILITY AND REACTIVITY

Reactivity	Will react with strong oxidising agents.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Hazardous polymerisation will not occur.
Conditions to avoid	Extreme heat.

Incompatible materials	Strong oxidising agents, acids and alkalis.
Hazardous decomposition products	Decomposition products may include carbon monoxide (CO) and carbon dioxide (CO_2). Gases generated in combustion may be corrosive, poisonous or irritating. In the event of fire: see section 5.

11. TOXICOLOGICAL INFORMATION

Toxicological information on listed ingredients classified as non-hazardous

Ingredient: Fulvic Acid (479-66-3)	**Information Sources:** None available
Concentration	>60% by weight.
Acute oral toxicity	No data available
Acute dermal toxicity	No data available
Acute inhalation toxicity	No data available
Specific Target Organ Toxicity STOT - repeated exposure	No data available
Specific Target Organ Toxicity STOT - single exposure	No data available
Skin corrosion/irritation	Contact may cause mild skin irritation.
Serious eye damage/irritation	Contact may cause mild eye irritation.
Respiratory or skin sensitisation	Not a skin sensitiser. Respiratory, no data available.
Germ cell mutagenicity	No data available
Carcinogenicity	Not identified as a probable, possible or confirmed human carcinogen by IARC.
Reproductive Toxicity	No data available
Aspiration hazard	No data available
Possible routes of exposure	Inhalation, dermal contact and ingestion.
Signs and Symptoms of exposure	Contact of eyes, skin, mucous membranes and abrasions may cause mild irritation.
Other information	Ingestion may cause vomiting.

Toxicological information on listed ingredients classified as hazardous

Ingredient: Nitric acid, ammonium calcium salt (15245-12-2)	**Information Sources:** NICNAS STD/1589; OECD SIDS Dossier; ECHA
Concentration	35 - 40% by weight.
Acute oral toxicity	OECD Test Guideline 407 (Repeated Dose 28 day Oral Toxicity in Rodents) 1000 mg/kg bw/day. Rat – No adverse effects based on analogue chemical nitric acid, potassium calcium salt. NOEL set at 150 mg/kg bw/day. OECD Test Guideline 423 (Acute Toxic Class Method) LD50 between 300 – 2000 mg/kg bw/day. Rat – The notified chemical harmful by the oral route.
Acute dermal toxicity	OECD Test Guideline 402 (rodents) based on analogue chemical nitric acid, potassium calcium salt LD50 >2000 mg/kg bw/day. Rat – low toxicity via dermal route.
Acute inhalation toxicity	No data available
Specific Target Organ Toxicity STOT - repeated exposure	OECD TG 407 (Repeated Dose 28-day Oral Toxicity in Rodents) based on analogue chemical nitric acid, potassium calcium salt – high dose 1000 mg/kg bw/day. Rat – No mortality observed in any treatment group; changes to organs were considered of no toxicological significance. OECD Test Guideline 423 (Acute Toxic Class Method) LD50 between 300 – 2000 mg/kg bw/day. Rat – No abnormalities were found within the surviving animals.
Specific Target Organ Toxicity STOT - single exposure	Acute oral and dermal toxicity OECD TG 407, 423, 402 Rodent – No abnormalities were found at macroscopic post mortem examination of the animals.
Skin corrosion/irritation	OECD Test Guideline 404 (Acute Dermal Irritation/Corrosion) based on analogue chemical nitric acid, potassium calcium salt. Rabbit – The test substance is non-irritating to the skin.
Serious eye damage/irritation	OECD Test Guideline 437 (Bovine Corneal Opacity and Permeability Test Method for Identifying Ocular Corrosives and Severe Irritants) 20% w/w solution – The notified chemical was a non-irritant under the conditions of the test. OECD Test Guideline 405 (Acute Eye Irritation/Corrosion) Rabbit – The notified chemicals is severely irritating to the eye.
Respiratory or skin sensitisation	OECD Test Guidelines 429 (skin sensitisation: local lymph node assay) Mouse – There was no evidence of induction of a lymphocyte proliferative response indicative of a skin sensitisation to the notified chemical. Respiratory – No data available
Germ cell mutagenicity	No data available – non-mutagenic in mammalian somatic cells and bacteria.
Carcinogenicity	**Genotoxicity (somatic cells):** OECD Test Guideline 476 (in vitro Mammalian Cell Gene Mutation Test in mouse lymphoma cells) – The notified chemical was not clastogenic to the mouse lymphoma cells treated in vitro under the conditions of the test. **Genotoxicity (bacteria):** OECD Test Guideline 471 (Bacterial Reverse Mutation Test) *S. typhimurium & E. coli* – The notified chemical was not mutagenic to bacteria under the conditions of the test. Not identified as a probable, possible or confirmed human carcinogen by IARC.
Reproductive Toxicity	No data available
Aspiration hazard	No data available
Possible routes of exposure	Dermal contact and ingestion.
Signs and Symptoms of exposure	Lethargy, uncoordinated movements, shallow breathing and hypothermia. Ingestion may cause vomiting.
Other information	OEL (TWA 8hours) 10mg/m^3 (total inhalable dust); 5mg/m^3 (respirable dust) STEL (15 min) 20mg/m^3

GHS Hazard classification	Acute toxicity (Category 4). Serious eye damage/eye irritation (Category 1).
GHS Hazard statement	H302 – Harmful if swallowed. H318 – Causes serious eye damage.

To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

Ecotoxicity No data available

Persistence and Degradability No data available

Bioaccumulative potential No data available

Mobility in soil No data available

Other adverse effects No data available

13. DISPOSAL CONSIDERATIONS

Spills
Prevent spills from entering drains, surface water and ground water. Collect all residues with absorbent material. After removal of residues wash down area with water. Disposal must be carried out in accordance with Local Statuary Authorities.

Material
Handle and dispose of in compliance with current environmental waste legislation. If in doubt, contact Local Statuary Authorities.

Contaminated Material
Empty containers may be suitable for reuse or recycling after cleaning and appropriate disposal of the cleaning agents. Disposal method dependent upon degree and nature of contaminated material. Disposal must be carried out in compliance with current environmental waste legislation. If in doubt seek professional advice or contact Local Statuary Authorities.

14. TRANSPORT INFORMATION

UN number Not required under ADG Code

Proper Shipping Name NOT CONSIDERED DANGEROUS GOODS

Transport Hazard Class Not required under ADG Code

Subsidiary Risk Not required under ADG Code

Packing Group Not required under ADG Code

Environmental hazards for transport purposes Not a known marine pollutant according to IMDG Code. Not an Annexe I chemical according to MARPOL.

Special precautions for user Ensure packaging is not damaged and suitable for transport.

Additional information No additional information required by overseas regulatory agencies or regulations for the transport of goods by other modes.

HAZCHEM Not required according to ADG Code.

IMDG Not required according to IMDG Code.

15. REGULATORY INFORMATION

Hazard Category The product is **Classified as Non-Hazardous** in accordance with Safe Work Australia - Hazardous Chemicals Information System (HCIS) Australia, Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

Montreal Protocol
Not an ozone depleting substance.

The Stockholm Convention
Not a persistent organic pollutant.

The Rotterdam Convention
Not a banned pesticide or industrial chemical.

Basal Convention
Not a hazardous waste.

MARPOL
Not subject to Annexe III - not a harmful substance carried in packed form or a noxious liquid substance

Safety, health and environmental regulations
SUSMP Classification - Not Classified as a Schedule Poison
NICNAS - No data available

16. OTHER INFORMATION

This Safety Data Sheet conforms with the "PREPARATION OF SAFETY DATA SHEETS FOR HAZARDOUS CHEMICALS Code of Practice, DECEMBER 2011" by Safe Work Australia. To meet the GHS requirements under the WHS regulations in relation to the preparation of safety data sheets for hazardous chemicals.

SDS prepared 9th December 2018 version number 1.

Legend of Abbreviations and Acronyms

ADG - Australian Dangerous Goods Code for the Transport of Dangerous Goods by Road or Rail
AS/NZS - Australian Standards and New Zealand Standards
BCF - Bioconcentration Factor
CAS Number - Chemical Abstract Service Number
GHS - Globally Harmonised System
HSIS - Hazardous Substances Information System
IARC - International Agency for Research on Cancer
IERG - Initial Emergency Response Guide
IMDG - International Maritime Dangerous Goods
MARPOL - International Convention for the Prevention of Pollution from Ships
OECD - Organisation for Economic Co-operation and development (guidelines for testing of chemicals)
TWA – Time-Weighted Average
SDS - Safety Data Sheet
STEL -Short Term Exposure Limit
STOT - Specific Target Organ Toxicity
SUSMP - Standards for the Uniform Scheduling of Medicines and Poisons
UN Number - United Nations Number
^{o}C - Degrees Celsius
EC_{50} -Half maximal effective concentration
LD_{50} - Median lethal dose; is the median dosage per unit bodyweight required to kill half the members of a tested population after specified test duration
LD_{Lo} - Lethal dose low, is the lowest dosage per unit of bodyweight known to have resulted in a fatality in a particular animal species
LC_{50} - Median lethal concentration; is the median dosage per unit body weight required to kill half the members of a tested population after a specified test duration.
mg/kg - Milligrams per kilogram
mg/L - Milligrams per litre
mg/m^3 - Milligrams per cubic metre

pH - Potential of hydrogen (numeric scale to specify the acidity or basicity of an aqueous solution)
w/w - Weight per weight
% - Percent or percentage
< - Less than
> - Greater than
@ - at
mPa·s - Millipascal-second

Emergency Contacts 24 hours	LawrieCo Technical Manager: 0408 268 058	Poisons Information Centre: 13 11 26 (Australia)

Disclaimer

The data provided is to best of LawrieCo's knowledge and is believed to be accurate and reliable as of the date of issue. However, no expressed or implied warranties are given. LawrieCo cannot anticipate or control the conditions under which this information may be used. Therefore, it is the user's responsibility to satisfy themselves as to the suitability and completeness of such information for their particular use. It is the responsibility of the user to ensure that the issue is current. This information given is a non-controlled document.

Related Product Codes

NMCALNPLUS/L
NMCALNPLUS1000
NMCALNPLUS200
NMCALNPLUS20

Safety Data Sheet Revision

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Revision Number:	Original version
Next Revision Due:	December 2023

End of Safety Data Sheet