



SAFETY DATA SHEET NUTRIVANT COTTON REVISION 3, DATE 10 OCT 19

1. IDENTIFICATION

Product Name	Nutrivant Cotton
Other Names	4-11-27+1.2Mg+1B+ME; 4-24-32+2MgO+TE+Fertivant; Nutrivant Plus Cotton
Uses	Fertiliser; Restricted to professional users.
Chemical Family	No Data Available
Chemical Formula	Unspecified
Chemical Name	Contains: Boric acid
Product Description	Boron (B): 1.00 %

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust)

Not Scheduled



Globally Harmonised System

Hazard Classification Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Hazard Categories Toxic To Reproduction - Category 1B

Pictograms

Signal Word Danger

Hazard Statements **H360FD** May damage fertility. May damage the unborn child.

Precautionary Statements

Prevention	P201	Obtain special instructions before use.
	P281	Use personal protective equipment as required.
Response	P308 + P313	IF exposed or concerned: Get medical advice/ attention.
Storage	P405	Store locked up.
Disposal	P501	Dispose of contents/container in accordance with local / regional / national / international regulations.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications Health Hazards **6.8A** Substances that are known or presumed human reproductive or developmental toxicants

3. COMPOSITION/INFORMATION ON INGREDIENTS*Ingredients*

Chemical Entity	Formula	CAS Number	Proportion
Boric acid	H3BO3	10043-35-3	5 - 10 %
Copper-EDTA	Cu-EDTA	14025-15-1	0.1 - 1 %
Iron-EDTA	Fe-EDTA	15708-41-5	0.1 - 1 %
Manganese sulphate, monohydrate	MnSO4.H2O	10034-96-5	0.1 - 1 %
Zinc sulphate, monohydrate	ZnSO4.H2O	7446-19-7	0.1 - 1 %
Ammonium heptamolybdate, tetrahydrate	H24Mo7N6O24.4H2O	12054-85-2	<0.1 %
Ingredients determined not to be hazardous	Unspecified	Unspecified	Balance %

4. FIRST AID MEASURES*Description of necessary measures according to routes of exposure*

Swallowed	IF SWALLOWED: Rinse mouth, then drink plenty of water. Get medical advice/attention if you feel unwell. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
Eye	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention.
Skin	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms persist, get medical advice/attention. Apply resuscitation if victim is not breathing - Administer oxygen if breathing is difficult.
Advice to Doctor	If exposed or concerned, get medical advice/attention. Treat symptomatically.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	In the event of fire and/or explosion do not breathe fumes. If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
Flammability Conditions	Not flammable; May burn but does not ignite readily.
Extinguishing Media	If material is involved in a fire, use extinguishing agent suitable for type of surrounding fire - Do not use high volume water jet.
Fire and Explosion Hazard	Doesn't present explosion hazard. Thermal decomposition can lead to release of irritating and toxic gases and vapours.
Hazardous Products of Combustion	Fire or heat may produce irritating, toxic and/or corrosive fumes.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
Personal Protective Equipment	Wear self-contained breathing apparatus (SCBA) and chemical splash suit. SCBA and structural firefighter's uniform may provide limited protection.
Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. Do not touch or walk through spilled material. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing.
Clean Up Procedures	Take up mechanically and collect in suitable, properly labelled containers for disposal (see SECTION 13).
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Prevent dust cloud.
Decontamination	No information available.
Environmental Precautionary Measures	Prevent entry into drains and waterways. Do not allow material to contaminate ground-water system.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away.
Personal Precautionary Measures	Use personal protective equipment as required (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Obtain special instructions before use - Do not handle until all safety precautions have been read and understood. Avoid generating dust. Avoid breathing dust/mist/aerosols and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). *For specific use(s): Read and follow label instructions.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed - partly used packaging should be closed well. Keep away from food/feedstuffs and incompatible materials (see SECTION 10). Store locked up.
Container	Keep in the original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product. COMPONENT: Iron-EDTA (CAS No. 15708-41-5): - Safe Work Australia Exposure Standard for Iron salts, soluble (as Fe): TWA = 1 mg/m3. COMPONENT: Copper-EDTA (CAS No. 14025-15-1): - Safe Work Australia Exposure Standard for Copper dust & mist (as Cu): TWA = 1 mg/m3. COMPONENT: Manganese sulphate (CAS No. 7785-87-7): - Safe Work Australia Exposure Standard for Manganese, dust & compounds (as Mn): TWA = 1 mg/m3. COMPONENT: Ammonium heptamolybdate, tetrahydrate (CAS No. 12054-85-2): - Safe Work Australia Exposure Standard for Molybdenum, soluble compounds (as Mo): TWA = 5 mg/m3.
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
Personal Protection Equipment	- Respiratory protection: Wear respiratory protection in case of high dust concentration or mist/spray/aerosol exposure. Recommended: Dust mask or particulate filter respirator (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Safety glasses or goggles. - Hand protection: Handle with gloves. Recommended: Nitrile rubber. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Lightweight protective clothes. In case of mist/spray/aerosol exposure, wear protective suit.
Special Hazards Precautions	No information available.
Work Hygienic Practices	Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Take off contaminated clothing and wash before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Powder
Odour	None
Colour	Off-white
pH	4.1 +/- 0.5 (1%)
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	No Data Available
Melting Point	No Data Available

Freezing Point	No Data Available
Solubility	Soluble in water
Specific Gravity	No Data Available
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	No information available.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Not flammable; May burn but does not ignite readily.
Reactions That Release Gases or Vapours	Thermal decomposition can lead to release of irritating and toxic gases and vapours.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	Not reactive.
Chemical Stability	Stable under normal conditions.
Conditions to Avoid	Avoid generating dust. Keep out of direct sunlight.
Materials to Avoid	Incompatible/reactive with catalysts like derivatives of hexavalent chromium and metal halides. Keep away from flammable materials.
Hazardous Decomposition Products	None under normal processing. Thermal decomposition can lead to release of irritating and toxic gases and vapours.
Hazardous Polymerisation	No information available.

11. TOXICOLOGICAL INFORMATION**General Information**

- Acute toxicity: May cause gastrointestinal discomfort if consumed in large amounts.
- Skin corrosion/irritation: May cause irritation.
- Eye damage/irritation: May cause slight irritation.
- Respiratory/skin sensitisation: No information available.
- Germ cell mutagenicity: No information available.
- Carcinogenicity: No information available.
- Reproductive toxicity: May damage fertility. May damage the unborn child. COMPONENT: Boric acid (CAS No. 10043-35-3); Repr. 1B (H360FD).
- STOT (single exposure): Inhalation of dust in high concentration may cause irritation of respiratory system.
- STOT (repeated exposure): No information available.
- Aspiration toxicity: No information available.

Acute**Ingestion**

- Acute toxicity (Oral):
- ATEmix: 23,981 mg/kg [Supplier's SDS].
- COMPONENT: Boric acid (CAS No. 10043-35-3):
- LD50, Rat: 2,660 mg/kg [Supplier's SDS].

Carcinogen Category

None

12. ECOLOGICAL INFORMATION**Ecotoxicity**

- Aquatic toxicity:
- COMPONENT: Boric acid (CAS No. 10043-35-3):
- LC50, Fish (Carassius auratus): 1,020 mg/L (72 h) flow-through [Supplier's SDS].
 - EC50, Crustacea (Daphnia magna): 115 - 153 mg/L (48 h) [Supplier's SDS].
- *2 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Persistence/Degradability

No persistent or cumulative effects were observed.

Mobility

No information available.

Environmental Fate

Prevent entry into drains and waterways. Do not allow material to contaminate ground-water system.

Bioaccumulation Potential

- Does not bioaccumulate.
- COMPONENT: Boric acid (CAS No. 10043-35-3):
- log Pow: -0.757

Environmental Impact

No Data Available

13. DISPOSAL CONSIDERATIONS**General Information**

Disposal of wastes should be in accordance with applicable regional, national and local laws and regulations.

Special Precautions for Land Fill

Contaminated packaging: Do not reuse container. Packaging material is industrial waste.

14. TRANSPORT INFORMATION**Land Transport (Australia)**

ADG Code

Proper Shipping Name	Nutrivant Cotton
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	Nutrivant Cotton
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	Nutrivant Cotton
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (United States of America)

US DOT

Proper Shipping Name	Nutrivant Cotton
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Sea Transport

IMDG Code

Proper Shipping Name	Nutrivant Cotton
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
EMS	No Data Available
Marine Pollutant	No
Comments	NON-DANGEROUS GOODS: Not regulated for SEA transport.

Air Transport

IATA DGR

Proper Shipping Name	Nutrivant Cotton
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for AIR transport.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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15. REGULATORY INFORMATION

General Information	BORIC ACID is listed in Schedule 5 of the SUSMP except in preparations, other than insect baits, containing 1 % or less of boron.
Poisons Schedule (Aust)	Not Scheduled

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	HSR002571
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National/Regional Inventories

Australia (AIC)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined

China (IECSC)	Not Determined
Europe (EINECS)	Not Determined
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Not Determined
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Not Determined

16. OTHER INFORMATION

Related Product Codes	NPKFOL9700, NPKFOL9701, NPKSOL9700
Revision	3
Revision Date	10 Oct 2019
Reason for Issue	Update SDS
Key/Legend	<p>< Less Than</p> <p>> Greater Than</p> <p>AICS Australian Inventory of Chemical Substances</p> <p>atm Atmosphere</p> <p>CAS Chemical Abstracts Service (Registry Number)</p> <p>cm² Square Centimetres</p> <p>CO₂ Carbon Dioxide</p> <p>COD Chemical Oxygen Demand</p> <p>deg C (°C) Degrees Celcius</p> <p>EPA (New Zealand) Environmental Protection Authority of New Zealand</p> <p>deg F (°F) Degrees Farenheit</p> <p>g Grams</p> <p>g/cm³ Grams per Cubic Centimetre</p> <p>g/l Grams per Litre</p> <p>HSNO Hazardous Substance and New Organism</p> <p>IDLH Immediately Dangerous to Life and Health</p> <p>immiscible Liquids are insoluable in each other.</p> <p>inHg Inch of Mercury</p> <p>inH₂O Inch of Water</p> <p>K Kelvin</p> <p>kg Kilogram</p> <p>kg/m³ Kilograms per Cubic Metre</p> <p>lb Pound</p> <p>LC₅₀ LC stands for lethal concentration. LC₅₀ is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.</p> <p>LD₅₀ LD stands for Lethal Dose. LD₅₀ is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.</p> <p>ltr or L Litre</p>

m³ Cubic Metre

mbar Millibar

mg Milligram

mg/24H Milligrams per 24 Hours

mg/kg Milligrams per Kilogram

mg/m³ Milligrams per Cubic Metre

Misc or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.

mm Millimetre

mmH₂O Millimetres of Water

mPa.s Millipascals per Second

N/A Not Applicable

NIOSH National Institute for Occupational Safety and Health

NOHSC National Occupational Health and Safety Commission

OECD Organisation for Economic Co-operation and Development

Oz Ounce

PEL Permissible Exposure Limit

Pa Pascal

ppb Parts per Billion

ppm Parts per Million

ppm/2h Parts per Million per 2 Hours

ppm/6h Parts per Million per 6 Hours

psi Pounds per Square Inch

R Rankine

RCP Reciprocal Calculation Procedure

STEL Short Term Exposure Limit

TLV Threshold Limit Value

tne Tonne

TWA Time Weighted Average

ug/24H Micrograms per 24 Hours

UN United Nations

wt Weight