

1. IDENTIFICATION

Product Name	NV Plus Malt Barley 0-10-34+Te
Other Names	Malt Barley 0-23-42
Uses	Fertilizer.
Chemical Family	No Data Available
Chemical Formula	Unspecified
Chemical Name	NV Plus Malt Barley 0-10-34+Te
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty 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) No Data Available

Safe Work Australia

Approved Criteria for Classifying Hazardous Substances (NOHSC:1008(2004))

Hazard Classification Hazardous according to the criteria of Safe Work Australia [NOHSC:1008(2004)]

Hazard Categories **Xi** Irritant

Safe Work Australia

National Code of Practice for the Labelling of Workplace Substances (NOHSC:2012(1994))

Risk Phrases **R36** Irritating to eyes.
R52/53 Harmful to aquatic organisms; may cause long term adverse effects in aquatic environment.

Safety Phrases **S37** Wear suitable gloves.
S60 This material and its container must be disposed of as hazardous waste.
S61 Avoid release to the environment. Refer to special instructions/Material Safety Data Sheets.

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)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Mono-Potassium Phosphate	H3O4P.K	7778-77-0	25 - 50 %
Potassium Chloride	ClK	7447-40-7	25 - 50 %
Citric Acid	No Data Available	77-92-9	<10 %
Zinc sulphate (hydrous) (mono-, hexa-and hepta hydrate)	No Data Available	7446-19-7	<1.5 %
Boric Acid	No Data Available	10043-35-3	<=1 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed Rinse mouth with water. Give water to drink. Do NOT induce vomiting. If vomiting occurs, lean patient forward to prevent aspiration into the lungs. Seek medical attention.

Eye Immediately flush eyes with plenty of water for 15 minutes, holding eyelids open. In all cases of eye contamination, it is a sensible precaution to seek medical advice.

Skin Remove contaminated clothing. Wash affected area with plenty of water. If swelling, redness, blistering or irritation occurs, seek medical attention.

Inhaled Remove victim from exposure to fresh air. If not breathing, apply artificial respiration. If breathing is difficult, give oxygen. Seek medical attention.

Advice to Doctor Treat symptomatically based on judgement of doctor and individual reactions of patient.

Medical Conditions Aggravated by Exposure No information available on medical conditions aggravated by exposure to this product.

5. FIRE FIGHTING MEASURES

General Measures	Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk.
Flammability Conditions	Product is a non-flammable solid.
Extinguishing Media	In case of fire, use appropriate extinguishing media most suitable for surrounding fire conditions including carbon dioxide, powder or water spray. Fight larger fires with water spray.
Fire and Explosion Hazard	Non-combustible solid.
Hazardous Products of Combustion	In case of fire, the following can be released: Phosphorus oxides (e.g. P ₂ O ₅), Toxic metal compounds (K ₂ O).
Special Fire Fighting Instructions	Do NOT allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment.
Personal Protective Equipment	Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves).
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	Avoid accidents, clean up immediately. May be slippery when spilt. Eliminate all sources of ignition. Increase ventilation. Avoid generating dust. Stop leak if safe to do so. Isolate the danger area. Use clean, non-sparking tools and equipment.
Clean Up Procedures	Contain and sweep/shovel up spills with dust binding material or use an industrial vacuum cleaner. Transfer to a suitable, labelled container and dispose of promptly as hazardous waste.
Containment	Stop leak if safe to do so. Isolate the danger area.
Environmental Precautionary Measures	Do NOT let product reach drains or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Management.
Evacuation Criteria	Evacuate all unnecessary personnel.
Personal Precautionary Measures	Personnel involved in the clean up should wear full protective clothing as listed in section 8.

7. HANDLING AND STORAGE

Handling	Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with eyes, skin and clothing. Do not inhale product dust/fumes.
Storage	Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Store away from incompatible materials as listed in section 10. Do not store together with organic materials. Store away from flammable substances. Store away from reducing agents. This product is not classified dangerous for transport according to The Australian Code for the Transport of Dangerous Goods By Road and Rail.
Container	Store in original packaging as approved by manufacturer.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No exposure standard has been established for this product by The Safe Work Australia (SWA). However, the exposure standard for dust not otherwise specified is 10mg/m ³ (for inspirable dust) and 3mg/m ³ (for respirable dust). NOTE: The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. These exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine
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dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

DNELs For Ingredients:

- For workers:

7778-77-0 potassium dihydrogenorthophosphate

Inhalative DNEL: Long-term-systemic effect(W) 4,07 mg/m³

10043-35-3 boric acid

Dermal DNEL: Long-term-systemic effects(W) 392 mg/kg bw/day

Inhalative DNEL: Long-term-systemic effect(W) 8,3 mg/m³

- For general population:

7778-77-0 potassium dihydrogenorthophosphate

Inhalative DNEL: Long-term-systemic effect(P) 3,04 mg/m³

10043-35-3 boric acid

Oral DNEL: Long-term-systemic effect(P) 0,98 mg/kg bw/day

DNEL: Short-term-systemic effect(P) 0,98 mg/kg bw/day

Dermal DNEL: Long-term-systemic effect(P) 196 mg/kg bw/day

Inhalative DNEL: Long-term-systemic effect(P) 4,15 mg/m³

- PNECs

7778-77-0 potassium dihydrogenorthophosphate

PNEC Aqua (freshwater): 0,05 mg/l

PNEC aqua (intermittent releases): 0,5 mg/l

PNEC aqua (marine water): 0,005 mg/l

Exposure Limits

No Data Available

Biological Limits

No information available on biological limit values for this product.

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

RESPIRATOR: Wear an effective dust mask where dusts/vapours are generated and engineering controls are inadequate (AS1715/1716).

EYES: Tightly sealed goggles (AS1336/1337).

HANDS: Wear rubber, neoprene or other resistant elastomer gloves (AS2161).

CLOTHING: Long-sleeved protective clothing and safety footwear (AS3765/2210).

Work Hygienic Practices

No Data Available

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Crystalline powder
Odour	Characteristic
Colour	Yellow-brown
pH	3 - 4
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 25°C
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 Data Available
Potential for Dust Explosion	No Data Available
Fast or Intensely Burning Characteristics	No Data Available
Flame Propagation or Burning Rate of Solid Materials	No Data Available
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No Data Available
Properties That May Initiate or Contribute to Fire Intensity	No Data Available
Reactions That Release Gases or Vapours	No Data Available
Release of Invisible Flammable Vapours and Gases	No Data Available

10. STABILITY AND REACTIVITY

Chemical Stability	Product is stable under normal conditions of use, storage and temperature.
Conditions to Avoid	Water, store away from flammable substances, source of ignition, heat, fire, high humidity, sparks. -
Materials to Avoid	Alkalis, organic materials, reducing agents.
Hazardous Decomposition Products	Decomposition products may include toxic fumes of phosphorous oxides, and Potassium oxides (K ₂ O).
Hazardous Polymerisation	Hazardous polymerisation not likely to occur.

11. TOXICOLOGICAL INFORMATION

General Information	Acute toxicity: - LD/LC50 values relevant for classification: 7446-19-7 zinc sulphate (hydrous) (mono-, hexa-and hepta hydrate) Oral LD50 2150 mg/kg (rat) 7447-40-7 potassium chloride Oral LD50 3020 mg/kg (rat) 7778-77-0 potassium dihydrogenorthophosphate Oral LD50 >2000 mg/kg (rat) 10043-35-3 boric acid Oral LD50 2660 mg/kg (rat) 77-92-9 citric acid Oral LD50 5040 mg/kg (mouse)
Eye/Irritant	May cause irritation.
Inhalation	Inhalation might cause sensitization.
Carcinogen Category	No Data Available

12. ECOLOGICAL INFORMATION

Ecotoxicity	Aquatic toxicity: 7447-40-7 potassium chloride EC50/120h 1337 mg/l (algae) EC50/21d 130 mg/l (daphnia magna) LC50/96h 880 mg/l (Fathead minnow fish)
Persistence/Degradability	This product dissociates into potassium and phosphate ions, which can't be further degraded.
Mobility	No further relevant information available.
Environmental Fate	Do NOT let product reach waterways, drains and sewers.
Bioaccumulation Potential	Does not accumulate in organisms
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of in accordance with all local, state and federal regulations. All empty packaging should be disposed of in accordance with Local, State, and Federal Regulations or recycled/reconditioned at an approved facility. Empty containers or liners may retain some product residues. Do NOT burn empty packaging. Do NOT empty into drains. Dispose of packaging in accordance with all local regulations. This product is used as fertilizer. However, large spills can kill vegetation. Prevent large quantities from entering waterways. If uncontaminated, sweep up or collect, and reuse as product. If contaminated with other materials, collect in suitable containers.
Special Precautions for Land Fill	Contact a specialist disposal company or the local waste regulator for advice.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	NV PLUS MALT BARLEY 0-10-34+TE
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

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	NV PLUS MALT BARLEY 0-10-34+TE
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

Land Transport (United States of America)

US DOT

Proper Shipping Name	NV PLUS MALT BARLEY 0-10-34+TE
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

Sea Transport

IMDG Code

Proper Shipping Name	NV PLUS MALT BARLEY 0-10-34+TE
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

Air Transport

IATA DGR

Proper Shipping Name	NV PLUS MALT BARLEY 0-10-34+TE
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

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	No Data Available
Poisons Schedule (Aust)	No Data Available

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code Not Assessed

National/Regional Inventories

Australia (AICS)	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)	Not Determined
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	NPKFOL9300, NPKSOL9300, NPKSOL9301
Revision	2
Revision Date	12 Feb 2015
Key/Legend	< Less Than > Greater Than AICS Australian Inventory of Chemical Substances atm Atmosphere CAS Chemical Abstracts Service (Registry Number) cm² Square Centimetres CO₂ Carbon Dioxide COD Chemical Oxygen Demand deg C (°C) Degrees Celcius EPA (New Zealand) Environmental Protection Authority of New Zealand deg F (°F) Degrees Farenheit g Grams g/cm³ Grams per Cubic Centimetre g/l Grams per Litre HSNO Hazardous Substance and New Organism IDLH Immediately Dangerous to Life and Health immiscible Liquids are insoluable in each other. inHg Inch of Mercury inH₂O Inch of Water K Kelvin kg Kilogram kg/m³ Kilograms per Cubic Metre

lb Pound

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.

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.

ltr or **L** Litre

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