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Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name	**KEYSTONE PLUS ™**
Other Names	None
Uses:	Plant food, activator and catalyst for professional applicators
Chemical family	Inorganic mineral based plant nutrition
Chemical formula	Formulated product see chapter 3
Chemical name	Formulated product see chapter 3
Product description	Liquid fertiliser, for the correction and prevention of plant nutrient deficiencies
Contact details of the supplier of this Safety Data Sheet	
Company Name	Agrichem
Company address	2 Hovey Rd Yatala QLD 4207 Australia
Phone number	+ 61 7 3451 0000
Emergency contact	Poison Information Centre Australia – **13 11 26**

2. HAZARD IDENTIFICATION

Poisons Schedule (Australian)	Not listed in SUSMP
Globally Harmonised System (GHS) Hazard classification	This product is not classified as hazardous under GHS / WHS
Hazard Category	None allocated
Pictograms	None allocated
Signal word	None allocated
Hazard Statements	None allocated
Precautionary Statements	P280 Wear protective gloves, protective clothing, face and eye protection
Response	P362 Take off contaminated clothing and wash before re use
	P302+352 IF ON SKIN. Wash with plenty of soap and water.

National Transport Commission (Australian)
Australian Code for the transport of Dangerous Goods by Road and Rail (ADG Code)

Is Not a Dangerous Goods according to the criteria of the ADG Code for road or rail transport ref ADG Code, ref to chapter 14 of this SDS.

3. INFORMATION ON INGREDIENTS

Ingredient	CAS Registry number	Proportion %w/w
Water	732-18-5	≥30 - <60
Ammonium polyphosphate	68333-79-9	≥30 - <60
Zinc EDTA	12519-36-7	<10
Potassium humate (solution)	68514-28-3	<10

No other ingredients present which to the current knowledge of Agrichem & in the concentrations present are classified as hazardous and thereby require reporting in this chapter.

4. FIRST AID MEASURES

Description of necessary measures according to routs of exposure

Swallowed	Rinse mouth with water. Do NOT induce vomiting unless told to do so by a medical doctor. Never give anything by the mouth to an unconscious patient. Seek medical advice.
Eye	Immediately wash in and around the eye area with water for 15 minutes. Eyelids to be held apart. Check for contact lenses, remove if easy to do so. Seek medical attention.
Inhalation	Avoid breathing mist, spray or vapour. If inhaled, remove to fresh air. Employ artificial respiration if indicated. Seek medical attention.
Skin	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 20 minutes. Seek medical advice if irritation persists.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of patient.
Medical Conditions Aggravated by Exposure	No Data Available

Have the product container or label with you when calling the Poison Information Centre or a doctor or going for treatment.

5. FIRE FIGHTING MEASURES

General measures	Clear 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	Non-flammable, aqueous solution.
Extinguishing Media	Use any means suitable for extinguishing surrounding fire.
Fire and Explosion Hazard	Non-flammable. Containers if heated, resultant increase in pressure may cause container to burst.
Hazardous Products of Combustion	May include various metal oxides as mentioned in chapter 3
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 Procedures	Avoid accidents, clean up immediately. Slippery when spilt. Increase ventilation. Avoid generating dust from dried product. Stop leak if safe to do so. Isolate the danger area.
Clean up Procedures	Land spill: Dike spill with absorbent or impervious materials such as earth, sand or clay. Vacuum, shovel, pump or sweep up the product and place in containers for disposal in accordance with applicable local regulations. Avoid contamination of water bodies during clean up and disposal. See containment section below. Spillage into water. Where possible, remove any intact containers from the water. Advice to local water authority that none of the affected water should be used for irrigation or

	for the abstraction of potable water until natural dilution returns water to normal environmental background levels.
Containment	Stop Leak if safe to do so. Isolate the danger area. Dike and absorb spill using inert absorbent materials such as earth, sand, clay, zeolite, or diatomaceous earth
Environmental Precautionary Measures	DO NOT let product reach drains or waterways. If product does enter a waterway , advise the Environmental Protection Authority and local Waste Management. The product is soluble in water (see section 12)
Evacuation Criteria	Evacuate all unnecessary personal from immediate area
Personal Precautionary Measures	Personal involved in the clean-up should wear protective clothing as listed in section 8.

7. HANDLING AND STORAGE

Handling	Prevent against physical damage. Wash hands after handling this material. Good housekeeping, splash and dust (when product dries) prevention procedures should be followed to minimize exposure and accumulation. Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Avoid contact with eyes, skin and clothing. Do not inhale product mist, spray or fumes. Your supplier can advise you on safe handling, please contact the supplier.
Storage	Store in a cool, dry, well-ventilated area. Keep containers tightly closed if not in use. Inspect regularly for hazards such as damage or leaks. Protect against physical damage. Store away from incompatible materials as listed in section 10. Do not store with food stuffs. Use good housekeeping practices to prevent accumulation of product and follow sound cleaning techniques that will prevent contamination. Dry indoor storage is recommended. Provide appropriate ventilation and store containers such as to prevent any accidental damage.
Container	Store in original packaging as approved by manufacturer

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards has been established for this product by Safe Work Australia
Exposure Limits	No Data Available. However all atmospheric contamination should be keep to as low a level as is workable and a default threshold limit value of 10 mg/m3 as a time weighted average for liquefied mists.
Biological limits	No information on biological limit values available for this product. Exposure limits for ingredients where available are listed below
Engineering Measures	A system of local and or general exhaust is recommended to keep employee exposure as low as possible. Local exhaust extraction / ventilation is preferred as it controls emissions at the source preventing dispersion of the general work area. Adequate ventilation should be provided so that exposure limits are not exceeded.
Personal Protection Equipment PPE	

	RESPIRATOR: Respirators should be used for conditions of use where exposure to spray or mist is apparent and engineering controls are not feasible.
	EYES: Use chemical safety goggles. Maintain eye wash fountain and quick drench facilities in work area (AS1336/1337). An emergency eyewash or water supply should be readily accessible to the work area.
	HANDS: Gloves, chemical resistant (AS2161).
	CLOTHING: Lab coat, apron or coveralls and safety footwear (AS3765/2210).
Work Hygienic practices	Thoroughly wash hands, forearms and face after using product, prior to eating, smoking using toilet or at end of work period. Contaminated clothing to be laundered prior to re-use

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Appearance	Solution
Odour	Slight, characteristic
Colour	Black
pH	6.0 – 7.0
Vapour pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling point	>100 degrees Celsius
Melting point	No Data Available
Freezing point	No Data Available
Solubility in water	Soluble in water (aqueous solution)
Specific gravity	1.29 – 1.31
Flash point	No Data Available
Auto Ignition Tem	No Data Available
Decomposition temp	No Data Available
Molecular weight	No Data Available
Particle size	No Data Available
Particle size distribution	Solution product, no significant articles present
Viscosity	< 100 centipoise

Note: Physical data are typical values but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

General Information	This product is stable under normal handling and storage conditions.
Chemical Stability	Stable under ordinary conditions.
Conditions to Avoid	Excessive heat, do not store near heat or flames.
Materials to Avoid	1. Strong oxidising agents – may decompose
Hazardous Products of Decomposition	Under normal handling and storage, decomposition is not expected. See chapter 5 for further comments re involvement in fire.
Hazardous Polymerisation	No Data Available

11. TOXICOLOGICAL INFORMATION

General Information	Exposure by all routes should be minimised under good product stewardship.
Eye Irritant	Expected to be somewhat irritating to eyes, wear eye protection
Ingestion	LD_{50} >2,000 mg/kg in the Rat May cause diarrhoea, nausea, vomiting, cramps, weakness and tiredness
Inhalation	No Data Available
Skin Irritant	LD_{50} >5,000 mg/kg in the Rat. Prolonged exposure may cause skin irritation
Reproduction	No Data Available
Carcinogen Category	No Data Available
Mutagenicity	No Data Available

12. ECOLOGICAL INFORMATION

General Ecotoxicity	Adopt good working practices and procedures to restrict environmental release.
Algal toxicity	No Data Available
Invertebrate toxicity	No Data Available
Vertebrate toxicity	Oral LD_{50} >2,000 mg/kg in the Rat
Persistence/ Degradability	Readily consumed in plants to support growth
Mobility	Highly soluble in water
Environmental Fate	Do NOT let product reach waterways, drains and sewers
Bioaccumulation	Low, as all elements in product are essential to plant life and removed with crop
Environmental impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.
Special Precautions for Landfill	Small quantities of this product can usually be disposed of at Liquid Waste Disposal sites. No special disposal treatment is required, but local authorities should be consulted about any specific local requirements. Larger volumes of this product are not recommended to be sent to Liquid Waste Disposal sites. Such product should, if possible, be used for an appropriate application.

14. TRANSPORTATION INFORMATION

Land Transport, Australian Dangerous Goods Code (ADG Code) for transport by road and rail.

DG classification	Not a Dangerous goods as per ADG Code
Proper Shipping Name	Compounded product, no data available
Class	Not regulated
EPG	Not required
UN Number	Compounded product, no data available
Packaging group	Not regulated

Air Transport: International Air Transport Association (IATA)

DG classification	Not regulated
Proper Shipping Name	Compounded product, no data available
Class	Not regulated
EPG	Not required
UN Number	Compounded product, no data available
Packaging group	Not regulated

Sea Transport: International Maritime Dangerous Goods (IMBG)

DG classification	Not regulated
Proper Shipping Name	Compounded product, no data available
Class	Not regulated
EPG	Not required
UN Number	Compounded product, no data available
Packaging group	Not regulated

15. REGULATORY INFORMATION

General information	Not a Dangerous goods under ADG Code
Poisons Schedule	Not listed SUSMP

16. OTHER INFORMATION

The information contained in this SDS is by way of general comment only. Because conditions of use, suitability of product and application conditions are beyond the control of Agrichem, this SDS does not offer any advice in respect to any product. The authors and Agrichem hereby disclaim any liability to any person, property, or thing in respect of any consequence of anything done or omitted to be done by any person in reliance, whether wholly or in part, upon whole or part of the contents of this SDS.

KEY

< Less than
> Greater than
a.i. Active ingredient
ADG Code Australian dangerous goods code
AICS Australian Inventory of Chemical Substances
ATE Acute toxicity extimation
atm Atmosphere
CAS Chemical Abstract Service (registry number)
Cm^2 Square Centimetres
CO2 Carbon Dioxide
deg C (°C) Degrees Celsius
EPA Environmental Protection Agency based in each state of Australia
g Grams
g/cm3 Grams per Cubic Centimetre
g/l Grams per Litre
GRAS Generally recognised as safe
HSIS Hazardous substances information system
HSNO Hazardous substances and New Organism
HDPE High density polypropylene
IDLH Immediately Dangerous to Life and Health
Immiscible Liquid are insoluble in each other
inHg inch of Mercury
I**nH_20** Inch of Water
K Kelvin
kg Kilogram
kg/m^3 Kilogram per Cubic Metre
LC_{50} LC stands for lethal concentration, LC_{50} is the concentration of a product in air that will cause the death of 50% of a population of test animals. Product is normally inhaled for between 1 and more typically 4 hours
LD_{50} LD stands for lethal dose. LD_{50} is the amount of product given in a single dose, causing death in 50% of a population of test animals.

End of SDS

LDLo The lowest amount of a solid or liquid material reported to have caused the death of animals or humans
m^3 Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 hours
mg/kg Milligrams per Kilogram
mg/m^3 Milligrams per Cubic Metre
Misc or **Miscible** Liquids from one homogeneous liquid phase regardless of the amount of either component present
mm Millimetre
mmH_2O Millimetres of Water
mPa.s Millipascals per Second
MSHA Mine safety and health administration
N/A Not Applicable
NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Health and Safety Commission
OECD Office for Economic Co-operation and Development
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
PPE personal protective equipment
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
SCBA Self Contained Breathing Apparatus
SWA Safe Work Australia
STEL Short Term Exposure Limit
SUSMP Standard for the uniform scheduling of medicines and poisons
TVL Threshold Limit Value
TWA Time Weighted Average
UN United Nations
wt Weight