Prepared in accordance with Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice (Safe Work Australia, February 2016)

Date of issue: 23.03.2021 Version No: 1.01 Revision date: 06.04.2016 v1.0.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Trade name: **CANNA PK 13/14**
Synonym(s): -

Relevant identified uses of the substance or mixture and uses advised against: Liquid PK fertilizer.
Product category: Product Category 12 (PC12 Fertilizers), Sector of Use 21 (SU21 Consumer uses).

Details of the supplier of the safety data sheet

Manufacturer/supplier:

For Australia:
CANNA Australasia Pty Ltd
PO Box 1816,
Subiaco WA 6904 Australia
Phone: 1800 422 662 / +61 (0)8 9217 4400

For New Zealand:
CANNA Australasia Pty Ltd
PO Box 158,
Auckland 1140, New Zealand
Phone: 0800 422 662 / +61 (0)8 9217 4400

Further information obtainable from:
Contact person: N. Linton
Tel.: +31 (0) 162-68 00 12
Email: msds@canna.com
Working hours (business days): 09:00-17:00.

Emergency telephone number:
Australia : Poisons Information Centre 13 11 26
New Zealand: National Poisons Centre 0800 764 766

SECTION 2: Hazards identification

Classification of the substance or mixture

Classification in accordance with GHS, 3rd Revised Edition
Skin Irrit. 2 H315
Eye Irrit. 2 H319

Label elements and precautionary statement
Hazards pictograms:

Signal word: Warning.
Hazard statements:
H315 Causes skin irritation.

H319 Causes serious eye irritation.
Precautions:
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.
P280 Wear eye protection.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/attention.

Hazard-determining components for labelling: Phosphoric acid 59%, potassium hydroxide.

Other hazards
Prevent aerosol or mist generation during processing.

Results of PBT and vPvB assessment
PBT: No.
vPvB: No.

SECTION 3: Composition/information on ingredients

Chemical characterization: Mixture.
The material forms a solution based on the components with the pH value being neutralised.
Description: Preparation based on i.a. water, phosphoric acid, potassium hydroxide and sulphuric acid.

Hazardous ingredients
Phosphoric acid 59 %
CAS#: 7664-38-2
EC#: 231-633-2
Index#: 015-011-00-6
REACH reg.#: -
Concentration (W/W):
10 - 50 %
Danger:
1272/2008/EC: Skin Corr. 1B; H314.

Potassium hydroxide
CAS#: 1310-58-3
EC#: 215-181-3
Index#: 019-002-00-8
REACH reg.#: -
Concentration (W/W):
10 - 20 %
Danger:
1272/2008/EC: Acute Tox. 4; H302 - Skin Corr. 1A; H314.

Sulphuric acid 29 %
CAS#: 7664-93-9
EC#: 231-639-5
Index#: 016-020-00-8
REACH reg.#: -
Concentration (W/W):
1 - 5 %
Danger:
1272/2008/EC: Skin Corr. 1A; H314.

Trade name: CANNA PK 13/14

Full text of H- phrase(s): see section 16.

SECTION 4: First aid measures

Description of first aid measures

General information:
Remove victim from danger zone and place in lying position.
In case of irregular breathing or respiratory arrest provide artificial respiration.
Remove immediately all contaminated clothing.
Substance is harmful to tissue after continuous contact. Rinsing immediately following exposure can limit injury.
Inhalation:
Remove the victim into fresh air, and keep at rest in a position that facilitates breathing.
If the victim is not breathing, apply artificial respiration.
Skin contact:
Wash immediately with plenty of water and soap for at least 20 minutes.
Eye contact:
Remove contact lenses, if present, and immediately rinse eyes while holding eyelids open for a sufficient period of time (at least 15 minutes) with lukewarm water. Help the victim with the rinsing process. Then immediately consult a physician/ophthalmologist.
Ingestion:
Rinse mouth immediately with water (if conscious), and then drink plenty of water. Do not induce vomiting (only under the supervision of a physician) and immediately consult a physician or take victim to hospital (show physician packaging, label or SDS). Place unconscious person on the side in the recovery position. Loosen tight clothing such as a shirt collar, tie, belt or waistband. Keep at rest.

Most important symptoms and effects, both acute and delayed
Inhalation:
Exposure to vapour concentrations of component dusts higher than the MAC value can be harmful to the health. Potential health effects include: burning sensation, sore throat, coughing, difficulty breathing, shortness of breath. Effects may be delayed. Prolonged inhalation of aerosol and/or mist may cause pneumonia and/or lung oedema, but only after initial corrosive effects on the mucous membranes of the eyes and/or upper airways have become manifest.
Skin contact:
Redness, pain, blisters, yellow discolouration. Contains phosphoric acid which may be absorbed through the skin. Skin contact can cause eczema through skin damage.
Eye contact:
May cause irreversible damage to the eyes. Redness. Pain. Poor eyesight. Damage to the cornea. Burns.
Ingestion:
Blisters/tingling of lips, mouth and throat, stomach cramps, nausea, vomiting, diarrhoea, blood pressure drop, unconsciousness.

Indication of any immediate medical attention and special treatment needed
Symptomatic treatment and supportive therapy as prescribed. Symptomatic treatment (decontamination, control of vital functions). No specific antidote known. To prevent pulmonary oedema from severe exposure: corticosteroid-containing dosing aerosol.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media:
CO2, extinguishing powder or water jet. Fight larger fires with water spray.
Foam.
Sand.

Adapt extinguishing measures to suit the environment.
Unsuitable extinguishing media:
Powerful water jet.

Special hazards arising from the substance or mixture
During heating or in case of fire, poisonous gases may be produced.
May be released in event of fire:
Nitrogen oxides (NOx).
Phosphorus oxides.

Advice for firefighters
Special protective clothing:
Wear self-contained breathing apparatus.

Other information
No specific requirements.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
Ensure sufficient ventilation.
Wear personal protective equipment.
Keep unprotected persons at a distance.

Environmental precautions
Do not allow large quantities of product to reach sewage/surface water/groundwater in concentrated form.
Notify competent authorities in case of release of large quantities into the environment.

Methods and material for containment and cleaning up
Soak up immediately with absorbent material (sand, dry earth).
Recycle, if possible.
Collect in suitable containers for disposal.
Then flush away residue with plenty of water.

Reference to other sections
Information regarding safe handling – see section 7.
Information regarding personal protective equipment – see section 8.
Information regarding disposal – see section 13.

SECTION 7: Handling and storage

Handling
Precautions for safe handling:
Provide adequate ventilation/extraction in the workplace.
Open and handle package with care.
Avoid formation of aerosols.
Information about fire - and explosion protection:
Keep away from ignition sources - do not smoke.

Conditions for safe storage, including any incompatibilities
Storage:
Rinse/clean equipment prior to maintenance activities.
Ensure the safety of the tank installation to limit risks of exposure.

Regularly check the installation for correct operation.
Provide a floor-level liquid containment system or store materials in packaging in acid-proof drip-trays.
Make the content of the dip-tray equal to the content of the largest package plus 10% of the other packages.
Restrict access to the storage location to authorised personnel in case of risk of exposure.
Close containers after each use.
Handle empty containers as if they were full.
Requirements to be met by storerooms and receptacles:
Keep only in the original container.
Keep in a dark place.
Store in a frost-free environment.
Protect from heat and direct sunlight.
Suitable packaging material: Polyethylene.
Suitable material for tanks and pipelines: Stainless steel, PVC.
Information about storage in one common storage facility:
Install partitions in the drip tray to prevent acidic and alkaline fertilisers from coming into contact with one other.
Further information about storage conditions:
Keep tanks / packing hermetically closed.
Keep in a cool place.
Recommended storage temperature 10 - 30 °C.

Specific end use(s)
No further relevant information available.

SECTION 8: Exposure controls/personal protection

Control parameters

Ingredients with limit values that require monitoring at the workplace:		
Product information: 7664-38-2	Phosphoric acid	
TWA 8 hours TWA 15 min.	mg/m³ (ppm)	1 (1.3) 2000/39/EC 2 (2.6) 2000/39/EC
Product information: 1310-58-3	Potassium hydroxide	
TWA 8 hours TWA 15 min.	mg/m³ (ppm)	2 (-) Limit value Hungary, Spain 0.5 (-) Limit value Poland 2 (-) Limit value Belgium, France, Austria, UK, Hungary 1 (-) Limit value Poland
Product information: 7664-93-9	Sulphuric acid	
TWA 8 hours TWA 15 min.	mg/m³ (ppm)	0.05 (-) 2009/161/EC 0.1 (-) Limit value Germany, Switzerland (inhalable aerosol) 1 (-) Limit value Hungary 2 (-) Limit value Austria, Denmark 3 (-) Limit value Belgium, France, Poland, Spain

Dangerous ingredients with DN(M)EL:				
Product information: 7664-38-2 Phosphoric acid	Exposure	Value	Unit	Population / Effects
DN(M)EL	Short-term dermal	-	mg/kg bw/day	Workers Local
DN(M)EL	Short-term inhalation	-	mg/m³	Workers Local
DN(M)EL	Long-term dermal	-	mg/kg bw/day	Workers Systemic
DN(M)EL	Long-term inhalation	-	mg/m³	Workers Systemic
DN(M)EL	Long-term dermal	-	mg/kg bw/day	Workers Local
DN(M)EL	Long-term inhalation	2.92	mg/m³	Workers Local

DN(M)EL	Short-term dermal	-	mg/kg bw/day	General population Local
DN(M)EL	Short-term inhalation	-	mg/m³	General population Local
DN(M)EL	Long-term dermal	-	mg/kg bw/day	General population Systemic
DN(M)EL	Long-term inhalation	-	mg/m³	General population Systemic
DN(M)EL	Long-term oral	-	mg/kg bw/day	General population Systemic
DN(M)EL	Long-term dermal	-	mg/kg bw/day	General population Local
DN(M)EL	Long-term inhalation	0.73	mg/m³	General population Local

Dangerous ingredients with DN(M)EL:				
Product information: 1310-58-3 Potassium hydroxide	Exposure	Value	Unit	Population / Effects
DN(M)EL	Short-term dermal	-	mg/kg bw/day	Workers Local
DN(M)EL	Short-term inhalation	-	mg/m³	Workers Local
DN(M)EL	Long-term dermal	-	mg/kg bw/day	Workers Systemic
DN(M)EL	Long-term inhalation	1	mg/m³	Workers Systemic
DN(M)EL	Long-term dermal	-	mg/kg bw/day	Workers Local
DN(M)EL	Long-term inhalation	-	mg/m³	Workers Local
DN(M)EL	Short-term dermal	-	mg/kg bw/day	General population Local
DN(M)EL	Short-term inhalation	-	mg/m³	General population Local
DN(M)EL	Long-term dermal	-	mg/kg bw/day	General population Systemic
DN(M)EL	Long-term inhalation	1	mg/m³	General population Systemic
DN(M)EL	Long-term oral	-	mg/kg bw/day	General population Systemic
DN(M)EL	Long-term dermal	-	mg/kg bw/day	General population Local
DN(M)EL	Long-term inhalation	-	mg/m³	General population Local

Dangerous ingredients with DN(M)EL:				
Product information: 7664-93-9 Sulphuric acid	Exposure	Value	Unit	Population / Effects
DN(M)EL	Short-term dermal	-	mg/kg bw/day	Workers Local
DN(M)EL	Short-term inhalation	0.1	mg/m^3	Workers Local
DN(M)EL	Long-term dermal	-	mg/kg bw/day	Workers Systemic
DN(M)EL	Long-term inhalation	-	mg/m^3	Workers Systemic
DN(M)EL	Long-term dermal	-	mg/kg bw/day	Workers Local
DN(M)EL	Long-term inhalation	0.05	mg/m^3	Workers Local
DN(M)EL	Short-term dermal	-	mg/kg bw/day	General population Local
DN(M)EL	Short-term inhalation	-	mg/m^3	General population Local
DN(M)EL	Long-term dermal	-	mg/kg bw/day	General population Systemic
DN(M)EL	Long-term inhalation	-	mg/m^3	General population Systemic
DN(M)EL	Long-term oral	-	mg/kg bw/day	General population Systemic
DN(M)EL	Long-term dermal	-	mg/kg bw/day	General population Local
DN(M)EL	Long-term inhalation	-	mg/m^3	General population Local

Dangerous ingredients with PNEC:			
Product information: 7664-93-9 Sulphuric acid	Value	Unit	Compartment
PNEC	0.0025	mg/l	Fresh water
PNEC	0.00025	mg/l	Marine water
PNEC	-	mg/l	Intermittent releases
PNEC	8.8	mg/l	STP (sewage treatment plant)
PNEC	0.002	mg/kg dwt	Sediment fresh water
PNEC	0.002	mg/kg dwt	Sediment marine water
PNEC	-	mg/kg wwt	Soil
PNEC	-	mg/l	Oral (foodstuffs)

Exposure controls

Personal protective equipment:
Remove immediately all contaminated clothing.
Wash contaminated clothing before reuse.
Store protective clothing separately.
Avoid contact with the eyes and skin.
Wash hands thoroughly after handling this product.
General protective and hygienic measures:
Keep away from foodstuffs and beverages.

Do not eat, drink or smoke when using this product.
The usual precautionary measures are to be adhered to when handling chemicals.
Respiratory protection:
If the workplace limit value cannot be achieved with engineering controls, workers should wear a combination filter for short-term exposures.

Hand protection:

Safety gloves.
The glove material (EN374) has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
Glove material
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
Penetration time of glove material
The exact break through time can be obtained from the manufacturer of the protective gloves and has to be observed.

Eye protection:

Use close-fitting safety goggles. Eye shower. Full facemask with splash/spatter risk.

Body protection:
Wear suitable protective work clothing (in case of splash risk).

Measuring procedures:
In order to establish compliance with an exposure limit and to establish that exposure is properly controlled, it may be necessary to determine the concentration of the substances in the inhalation zone or in the general workspace.

Environmental exposure controls:
Leakage of the material and concentrated solution must be stopped. Leakage of large quantities into sewage, surface waters and groundwater must be avoided.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

General information	
Appearance	
Form:	Liquid.
Colour:	Colourless.
Odour:	Odourless.
Odour threshold:	Not determined.
pH-value:	Approx. 6.5 - 7.
Change in condition	
Melting point/melting range:	Not determined.
Boiling point/boiling range:	Not determined.
Flash point:	> 93 °C.
Flammability (solid, gas):	Not applicable.
Auto-ignition temperature:	Not determined.
Explosion hazard:	Not determined.
Explosive limits	
Lower:	Not determined.
Upper:	Not determined.
Vapour pressure:	Not determined.
Relative density:	1.193 (water = 1).
Vapour density:	Not determined.
Evaporation rate:	Not determined.
Solubility in/miscibility with	

water:	Fully.
Partition coefficient: n-octanol/water:	Not determined.
Viscosity	
Dynamic:	Not determined.
Kinematic:	Not determined.
Other information	No further relevant information available.

SECTION 10: Stability and reactivity

Reactivity

Chemical stability:
The product is stable if stored and handled as prescribed.
Thermal decomposition/Conditions to be avoided:
The product is stable if used as prescribed. Avoid storing at high temperatures (> 30 °C) to prevent degradation of the material or pressure build-up. Avoid low temperatures (< 10 °C) to prevent crystallization from occurring. Material is susceptible to frost.

Possibility of hazardous reactions

Contact with strong reducing agents, strong acids and strong bases.

Conditions to avoid

Avoid heat, sparks, open flames, and other sources of ignition. Prevent evaporation in a non-ventilated environment. Protect against heat and direct sunlight. Protect against frost.

Incompatible materials

Mildly corrosive to metals. Attacks wool, leather and polyester tissue. Reacts violently with halogenated hydrocarbons and nitro compounds. Reacts with ammonium salts to form a poisonous and corrosive gas. Attacks some plastics.

Hazardous decomposition products

No hazardous decomposition products are formed if stored under normal conditions. Upon heating or combustion, irritating or toxic fumes such as nitrogen oxides and phosphorus oxides may be released.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity from the components:

LD/LC50 values relevant for classification:		
Product information: 7664-38-2	Phosphoric acid	
Oral Inhalation Dermal	LD50 LC50 (1 h) LD50	2000 mg/kg (rat) (OECD 423) 3846 mg/l (rat) (OECD 403) 2740 mg/kg (rabbit)
Product information: 1310-58-3	Potassium hydroxide	
Oral Inhalation Dermal	LD50 LC50 LD50	333 mg/kg (rat, man) (OECD 425) - -
Product information: 7664-93-9	Sulphuric acid	
Oral Inhalation Dermal	LD50 LC50 (4 h) LD50	2140 mg/kg (rat) 375 mg/l (rat) (OECD 403) -

Trade name: CANNA PK 13/14

The following health risk assessment is based on an assessment of the various ingredients in the product.

Primary irritant effect:
on the skin:
Irritates the skin and the mucous membranes.
on the eye:
Irritant / corrosive effect.

Germ cell mutagenicity:
Not classified.
Reproductive and developmental toxicity:
Not classified.
Sensitisation:
No sensitising effects known.
CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):
Not classified.
Other information:
No further relevant information available.

SECTION 12: Ecological information

Toxicology information

Ecotoxicity from the components:

Aquatic toxicity:		
Product information: 7664-38-2	Phosphoric acid	
Fish Water flea Algae Bacteria	LC100 (96 h) EC50 (96 h) EC50 EC50	3 - 3.25 mg/l (bluegill sunfish) > 100 mg/l (daphnia magna) - -
Product information: 1310-58-3	Potassium hydroxide	
Fish Zebra clam Algae Bacteria	LC50 (96 h) EC100 (48 h) EC50 EC50	80 mg/l (gambusia affinis) > 10 mg/l - -
Product information: 7664-93-9	Sulphuric acid	
Fish Water flea Algae Bacteria	LC50 (96 h) EC50 (48 h) ErC50 (0-72 h) NOEC (21 d)	16 - 28 mg/l (bluegill sunfish) 100 mg/l (OECD 202) > 100 mg/l (OECD 201) 100 mg/l

The following ecological risk assessment is based on an assessment of the various ingredients in the product.

Persistence and degradability

Partially inorganic and presumed to be partially biodegradable over the long-term.

Behaviour in environmental compartments

Bioaccumulative potential:
Bioaccumulation in organisms is not expected.
Mobility in soil:
No further relevant information available.

Further ecological information

General information:
Water hazard class 1 (German regulation) (Self-assessment): slightly hazardous to water. Do not discharge

undiluted product into groundwater, surface water or sewage system.

Results of PBT and vPvB assessment
The mixture does not meet all of the assessment criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB.

Other adverse effects
No data.

SECTION 13: Disposal considerations

Waste treatment methods
Recommendation:
May be brought to a supervised incineration plant in compliance with local regulations.
EC Regulation for Disposal of Waste (EWC):
06 10 02* WASTES FROM INORGANIC CHEMICAL PROCESSES, wastes from the MFSU of nitrogen chemicals, nitrogen chemical processes and fertiliser manufacture; waste containing dangerous substances.

Uncleaned packaging
Recommendation:
Disposal must be made according to official regulations. Empty the packaging with care. Do not contaminate soil, water or environment with the waste container. Comply with local regulations with regard to the recovery or disposal of waste.

SECTION 14: Transport information

Land transport ADR/RID (cross-border)

ADR/GGVSEB class:	Not a dangerous good according to the transport regulations.
Hazard identification number:	-
UN number:	-
Packing group:	-
Label:	-
Special marking:	-
UN proper shipping name:	-
Tunnel restriction code:	-

Inland shipping ADN/ADR

ADN/R-class:	-
UN number:	-
Subsidiary risk	
Environmental hazards:	-
CMR properties:	-
Buoyancy:	-

Maritime transport IMDG

IMDG-class:	-
UN number:	-
Label:	-
Packing group:	-
EMS number:	-
Marine pollutant:	-
Proper shipping name:	-

Air transport ICAO-TI and IATA-DGR

ICAO/IATA-class:	-
UN number:	-
Label:	-

Packing group:	-
Proper shipping name:	-

Environmental hazards
No.

Special precautions for user
None.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
No further relevant information available.

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulations:
Agricultural and Veterinary Chemicals Act 1988 (Commonwealth)- Australia
Fertilisers (Subsidiary Hazard) Group Standard 2006. Approval Number HSR002571 – New Zealand
New Zealand Inventory of Chemicals (NZIoC)

EU regulations and directives which affect this mixture (not yet directly or indirectly mentioned):

Directive 89/686/EEC	Personal protective equipment.
Directive 98/24/EC	Risks related to chemical agents at work.
Regulation 2003/2003/EC	Concerning fertilisers.

Chemical safety assessment
A chemical safety assessment has not been carried out.

SECTION 16: Other information

This information is based on the current state of our knowledge. It should not be construed as any guarantee of product characteristics, nor does it establish a legally valid contractual relationship.

List of relevant H- phrases from sections 2 and 3

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

Document history

Printed on:	23 March 2021.
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Abbreviations and acronyms:

ADR:	Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID:	Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG:	International Maritime Code for Dangerous Goods
IATA:	International Air Transport Association
IATA-DGR:	Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO:	International Civil Aviation Organization

Trade name: CANNA PK 13/14

ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO)
P:	Marine pollutant:
GHS:	Globally Harmonized System of Classification and Labelling of Chemicals
CAS:	Chemical Abstracts Service (division of the American Chemical Society)
EC50:	Half maximal effective concentration
HSNO	Hazardous Substances and New Organisms Act 1996
LC50:	Lethal concentration, 50 percent
LD50:	Lethal dose, 50 percent
OEL:	Occupational Exposure Limit
NOEC:	No Observed Effect Concentration
NZIoC	New Zealand Inventory of Chemicals
vPvB:	Very Persistent and Very Bioaccumulative
PBT	Persistent, Bioaccumulative and Toxic substance
EWC:	European Waste Catalogue
TWA	Time-Weighted Average
DNEL:	Derived No-Effect Level
DMEL:	Derived Minimal Effect Level
PNEC:	Predicted No-Effect Concentration