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Version 1.1

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SECTION 1 – IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY

Product Identifier

Product Name	Citric Acid
Other Names	Citric Acid
Proper Shipping Name	1,2,3-propanetriccarboxylic acid, 2-hydroxy-;2-Hyrodxy-1,2,3-Propanetricarboxylic Acid;2-Hydroxypropane-1,2,3Tricarboxylic Acid; Citric Acid
Other means of Identification	None

Relevant identified uses of the substance or mixture

Relevant identified uses	Food, cosmetic and pharmaceuticalapplications.

Details of the supplier of the safety data sheet

Registered company name	Vetpak Limited
Address	249 Bruce Berquist Dr, Te Awamutu 3800.
Telephone	(07) 870 2024
Website	www.vetpak.co.nz
Email	sales@vetpak.co.nz

Emergency telephone numbers

Association/ Organisation	New Zealand National Poison information centre
Emergency telephone number	0800 764 766 (07) 870 2024 Vetpak. 8.00am to 5.00pm Monday to Friday except public holidays.
Other emergency telephone numbers	New Zealand emergency services 111

SECTION 2 – HAZARDS IDENTIFICATION

Hazard Classification:

Hazardous according to the criteria of the Globally Harmonised System of classification and labelling of chemicals (GHS)

Label pictograms

GHS label elements	
Signal Word	WARNING

Hazard statements

HSNO	Hazard Code	GHS Category	Hazard Statement
6.1E	H 303	Category 2	May be harmful if swallowed.
6.3B	H 316	Category 3	Causes mild skin irritation

8.3A	H 318	Category 1	Causes serious ocular irritation

Precautionary statements prevention

P102	Keep out of reach of children
P103	Read label before use
P280	Wear protective gloves/eye protection/ face protection

Precautionary statement responses

P101	If medical advice is needed have the product container or label on hand
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P337 + P313	If skin irritation or rash occurs: Get medical advice/attention.

Precautionary statement disposal

P501	Disposal should be through a suitably qualified contractor following the EPA guidelines

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Mixtures

CAS Number	% (weight)	Name
77 – 92 – 9	> 99%	Citric Acid
7732 – 18 – 5	To 100%	Water

SECTION 4 – FIRST AID MEASURES

Description of first aid measures

Eye contact	If this product comes in contact with eyes ➢ Flush out immediately with water ➢ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel ➢ Continue rinsing for 15 minutes, if eye irritation persists seek medical attention
Skin contact	If skin or hair contact occurs ➢ Remove and isolate contaminated clothing and shoes ➢ Seek medical attention in event of irritation
Inhalation	➢ Remove victim to fresh air and keep warm ➢ Seek medical advice if symptoms persist
Ingestion	➢ Immediately give a glass of water to rinse mouth ➢ Never give anything by mouth to an unconscious person ➢ Seek medical attention if symptoms develop and persist ➢ If vomiting occurs keep head below hips to prevent aspiration to lungs
Advice to the doctor	Show this safety data sheet (SDS) to the doctor in attendance. Treat symptomatically. Keep victim calm and warm. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves

SECTION 5 – FIREFIGHTING MEASURES

Extinguishing media

- Dry chemical powder
- Carbon dioxide
- Water spray or fog – large fires only

Special hazards arising from the substrate or mixture

Fire incompatibility	Non-combustible; However, following evaporation of aqueous component under fire conditions, the non-aqueous component may decompose and/or burn

Advice for fire fighters

Fire fighting	➢ Alert fire brigade and tell location and nature of hazard ➢ If safe to do so, move undamaged containers from fire area. ➢ Cool containers with water spray until well after fire is out. ➢ Prevent spillage from entering the waterways or drains ➢ Fight the fire from a safe distance and adequate cover
Fire/explosion hazard	➢ Fire may produce irritating and/or toxic gases, including Carbon oxides.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor spills	➢ Clean up spills immediately ➢ Contain and absorb small quantities with absorbent material ➢ Collect residue in a suitable waste container
Major spills	➢ Clear area of personnel for safety ➢ Alert fire brigade and tell them location and nature of hazard ➢ Prevent spillage from entering the waterways or drains
Clean Up Procedures	➢ Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Collected material should be promptly disposed of in accordance with appropriate laws and regulations
Containment	➢ Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 – HANDLING AND STORAGE

Precautions for safe handling

Safe Handling	➢ Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. ➢ Ensure adequate ventilation - Use only outdoors or in a well-ventilated area. ➢ Handle in accordance with good industrial hygiene and safety practice. ➢ Avoid breathing mist/vapours/spray and contact with eyes, skin and clothing. ➢ Use personal protective equipment as required
Other information	➢ Store in a cool, dry and well ventilated place, out of direct sunlight. ➢ Keep container tightly closed. Protect from damage - Inspect periodically for deficiencies such as damage or leaks. ➢ Keep away from heat and sources of ignition - No smoking. ➢ Keep away from incompatible material

Conditions for safe storage, including any incompatibilities

Suitable container	➢ Use packing as supplied by manufacturer ➢ Plastic containers may only used if approved by manufacturer ➢ Check containers are clearly labelled and free from leaks

Storage incompatibility	➢ Avoid heat and ignition sources, store out of direct sunlight

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No exposure limits have been set for Citric Acid by Work Safe New Zealand.

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level protection. The basic controls are: Process controls which involve changing the job activity or process to reduce risk Ventilation that strategically adds and removes air in work environment. Ventilation can remove or dilute an air contaminant if designed properly Avoid dust formation - consider dust explosion hazard.
Personal protection	
Eye and face protection	➢ Safety glasses with side shields ➢ Chemical goggles ➢ Contact lenses may pose a special hazard soft contact lenses may absorb and concentrate materials. ➢ Medical personal should be trained and readily available in the event of chemical exposure; they should begin eye irrigation and remove contact lenses as soon as practicable. Lenses should be removed at the first sign of eye irritation
Skin protection	Wear general protective gloves e.g. light weight rubber gloves
Hand / feet protection	As above for hands; wear appropriate footwear for the environment
Body protection	Overalls or PVC Aprons
Other protection	➢ Overalls ➢ PVC Aprons ➢ PVC protective gear ➢ Eyewash facilities ➢ Ensure there is ready access to a safety shower ➢ Non sparking footwear ➢ Respiratory protection when working in case of inadequate ventilation

NOTE: Some PVC protective clothing may not be suitable due to the risk of static electricity

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	White powder	Relative density (Water = 1)	1.67 @ 20 deg.C
Odour	Odourless	Auto ignition temperature	Decomposes
Odour threshold	Not Available	Decomposition temperature	Not available
pH	2.2 (10% solution)	Viscosity	Not available
Melting point (^{o}C)	153^{o}C	Molecular weight (g/mol)	Not available
Boiling point (^{o}C)	Not available	Specific Gravity	1.542 (water = 1)
Flash point (^{o}C)	1000 - 1020°C	Explosive properties	Not applicable

Evaporation rate	Not available	Oxidising properties	Not available
Flammability	Not available	Volatile component (% vol)	Not available

SECTION 10 – STABILITY AND REACTIVITY

Chemical stability	Product is stable under normal conditions of use, storage and temperature.
Conditions to avoid	Avoid excessive heat, direct sunlight, static discharges, moisture, and temperature extremes. Slightly deliquescent (absorbs moisture) in moist air.
Incompatible materials	Incompatible with strong oxidizing agents and strong bases. Keep containers dry and tightly closed to avoid moisture absorption and contamination.
Hazardous Polymerisation	No decomposition if stored and applied as directed. Thermal decomposition can lead to release of dangerous/toxic fumes.

SECTION 11 – TOXICOLOGICAL INFORMATION

Skin	This material may cause mild but significant inflammation of the skin either following direct contact or after a delay of some time. Contact may cause skin redness, swelling, and production of vesicles, scaling and thickening of the skin. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering
Ingestion	Accidental ingestion of the material may cause minor gastrointestinal disturbances. May cause diarrhoea, indigestion and nausea. Ingestion of large amounts may lead to more serious consequence.
Eye	This substance is corrosive and may cause serious eye damage
Inhalation	Irritating to the respiratory system, may cause coughing, shortness of breath and sore throat.
Toxicity	Acute Oral Toxicity, Rat, LD50: 3000 mg/kg Acute Dermal Toxicity, Rat, LD50: >2000 mg/kg Acute Inhalation Toxicity, LC50: No data.
Irritation	Skin (rabbit): 500 mg/24h – Mild. Eye (rabbit): 0.75 mg/24h – Severe.
Other Information	Long-term or repeated exposure may cause erosion of tooth enamel. Citric acid is a powerful chelating agent and there is evidence that dietary citric acid may reduce the biological availability of iron and calcium.
Carcinogenic Effects	Not suspected of being a carcinogen
Mutagenic Effects	Not a mutagen
Reproductive Effects	Not a reproductive toxic agent

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity	Fish, (Leuciscus idus), Golden orfe, 96hr LC50: 440 mg/L [OECD Test Guideline 203] Aquatic Invertebrates, (Daphnia magna), water flea, 24hr EC50: 1535 mg/L Algae (Senedesmus quadricauda), green algae, 168h: 425 mg/l static test.
Persistence/Degradability	Readily biodegradable (97% 28d) [OECD Test Guideline 301B] Readily biodegradable (100% 19d) [OECD Test Guideline 301E]
BOD COD	526 mg/g 728 mg/g
Bioaccumulation Potential	Citric acid is miscible in water and readily biodegradable, therefore accumulation is not

	expected. Log Pow: -1.72 at 20°C
Environmental Impact	No information available

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / packaging disposal	➢ Do not allow wash water from cleaning or process equipment to enter drains ➢ It may be necessary to collect all wash water for treatment before disposal ➢ In all case disposal to sewer may be subject to local laws and regulations and these should be considered first ➢ If in doubt contact the responsible authority ➢ Contact manufacturer for recycling options or consult local or regional waste management authority for disposal ➢ Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed

SECTION 14 – TRANSPORT INFORMATION

Labels required

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: UN, IATA, IMDG

Not classified as a Dangerous Good under NZS 5433:2012 Transport of Dangerous Goods on Land

SECTION 15 – REGULATORY INFORMATION

Safety, health and environment regulations / legislation specific for the substance or mixture

GHS Codes	6.1E, 6.3B, 8.3A
National Inventory	Status
Australia – AICS	Yes
Europe – EINEC / ELINCS / NLP	Yes
New Zealand – NZIoC	Yes
	All ingredients are on the inventory
Environmental Protection Authority (New Zealand)	Veterinary Medicines (Limited pack size, finished dose) Group Standard 2020
Approval Code	HSR003138
Hazard Classifications	6.1E, 6.3B, 8.3A. Preparations. This substance is not classified as "dangerous" according to (EC) 1272/2008
Regulatory Status	No special regulatory status. Appears on the GRAS (Generally Regarded As Safe) list. Ministry for Primary Industries

SECTION 16 – OTHER INFORMATION

While Vetpak Limited in good faith has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, Vetpak Limited accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

New Zealand National Poison Information Centre: 0800 764 766
New Zealand Emergency Services: 111
Vetpak Limited: +64 7 870 2024

Definitions and abbreviations

PC – TWA	Permissible concentration – time weighted average
PC – STEL	Permissible concentration – short term exposure limit
IARC	International agency for research on cancer
ACGIH	American conference of Government Industrial Hygiene
STEL	Short term exposure limit
TEEL	Temporary emergency exposure limit
IDLH	Immediate dangerous to life or health concentration
OSF	Odour safety factor
NOAEL	No observed adverse effect level
LOAEL	Lowest observed adverse effect level
TLV	Threshold limit value
LOD	Limit of detection
OTV	Odour threshold value
BCF	BioConcentration factors

END OF SDS