
SAFETY DATA SHEET

Section 1: IDENTIFICATION of CHEMICAL PRODUCT and COMPANY

Product Name:	Vytrate Liquid Concentrate
Product Identifier:	Aqueous solution containing 27.9% glucose, 5.3% sodium chloride, 3.9% glycine, 2.6% potassium phosphate, 0.3% citric acid and 0.1% potassium citrate.
Product Code:	504330 (1 L), 504335 (5 L), 504340 (20 L).
Recommended Use:	An oral, non-antibiotic supportive treatment to replace lost fluids and electrolytes in scouring or dehydrated calves, pigs and lambs. A suitable first feed for brought-in or stressed calves or pigs. An aid in the treatment of pregnancy toxemia in ewes.
Restrictions on Use:	For animal treatment only.
Company Identification:	Jurox Pty Limited
Address:	85 Gardiner Street, Rutherford, NSW 2320, Australia
Email:	customerservice@jurox.com.au
Customer Centre:	1800 023 312
National Poisons Information Centre:	13 1126 (24 hours)
Emergency Telephone Number:	1800 023 312 (9am – 5pm, Monday to Friday)

Section 2: HAZARDS IDENTIFICATION

Hazard Classifications: This product has been assessed according to GHS and is classified as non-hazardous.

Signal word: None

GHS Pictograms: None

Precautionary statements: None

Other hazards: None known.

Section 3: COMPOSITION / INFORMATION on INGREDIENTS

INGREDIENT	CAS No.	CONTENT
Glucose	5996-10-1	27.9%
Sodium chloride	7647-14-5	5.3%
Glycine	56-40-6	3.9%
Potassium phosphate, monobasic	7778-77-0	2.6%
Citric acid, monohydrate	5949-29-1	0.3%
Potassium citrate	6100-05-6	0.1%
Other ingredients not contributing to the hazards	-	> 50%

Section 4: FIRST AID MEASURES

General Information: Consult the National Poisons Centre on 13 1126 or a doctor immediately in every case of suspected chemical poisoning. Never give fluids or induce vomiting if a patient is unconscious or convulsing regardless of cause of injury. If medical advice/attention is needed, have this SDS, product container or label at hand.

Symptoms and Effects of Exposure: None known.

Inhalation: If fumes or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary.

Ingestion: Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Skin: If skin or hair contact occurs: Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.

Eye: If this product comes into contact with eyes: Wash out immediately with water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Continue flushing for at least 20 minutes. If irritation continues, seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Recommended First Aid Facilities: Ready access to running water and soap is required. Accessible eyewash is required.

Advice to Doctor: Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

Flash Point: Non-combustible.

Hazardous Combustion Products: If involved in a fire, may emit toxic and poisonous fumes.

Extinguishing Media: There is no restriction on the type of extinguisher which may be used. Use extinguishing media suitable for surrounding area.

Protective Equipment: Protective gloves and breathing apparatus.

HAZCHEM Code: Not specified.

Section 6: ACCIDENTAL RELEASE MEASURES

Spills and Disposal: Wear gloves and appropriate protective clothing. Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. For small spills, contain and absorb spill with sand, earth, inert material or vermiculite. Wipe up and place in a suitable, labelled container for waste disposal. For large spills, clear area of personnel and move upwind. Alert Fire Brigade and tell them the location and nature of the hazard. Stop leak if safe to do so.

Protective Clothing: For appropriate personal protective equipment see section 8.

Environmental Precautions: Prevent, by any means available, spillage from entering drains, waterways or sewers. If spill does enter waterways contact local authority.

Section 7: HANDLING AND STORAGE

Handling: Handle this product with care to avoid exposure, taking all recommended precautions. Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Do not allow material to contact humans, exposed food or food utensils.

Storage: Keep out of reach of children. Store in securely sealed, original containers, in a cool, dry, well-ventilated area. Protect containers against physical damage and check regularly for leaks. Store below 25°C (air conditioning), away from direct sunlight. Replace cap tightly once bottle has been opened.

Other Information: Avoid contact with incompatible substances as listed in Section 10. Always read the label before use.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

This SDS describes personal protective measures relating to long term industrial and manufacturing exposure and emergency situations, such as accidents and spills. See product label for personal protective measures during normal use of the marketed product.

Exposure Limits: No exposure limits have been assigned for this product. Known exposure limits for ingredients are as follows:

EMERGENCY LIMITS

INGREDIENT	TEEL-1	TEEL-2	TEEL-3
Sodium chloride	0.5 ppm	2 ppm	20 ppm
Glycine	33 mg/m ³	360 mg/m ³	1,600 mg/m ³
Potassium phosphate, monobasic	9.6 mg/m ³	110 mg/m ³	630 mg/m ³
Potassium citrate	2.1 mg/m ³	23 mg/m ³	140 mg/m ³

Engineering Controls: Handle in a well-ventilated area. Ensure that the work environment remains clean.

Personal Protective Equipment (PPE):

Eye protection: Safety glasses with side shields or chemical goggles are recommended when handling bulk quantities of this product. An eye wash unit should be at hand.

Skin protection: When handling bulk quantities, prevent skin contact by wearing chemical protective gloves e.g. PVC. Wear safety gumboots, e.g. rubber.

Respiratory protection: Not required for the normal use of this product.

Other: When handling bulk quantities of this product, overalls, PVC apron, barrier cream and skin cleansing cream may be required.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear yellow liquid	Lower flammability limits	Not applicable
Odour:	Not available	Vapour Pressure:	Not available
Odour threshold:	Not available	Vapour density:	Not applicable
pH:	Not available	Relative density:	Not available
Melting Point:	Not available	Specific Gravity:	~1.163
Boiling Point:	Not available	Solubility in Water:	Miscible
Flash Point:	Not applicable	Partition coefficient:	Not available
Evaporation Rate:	Not available	Auto-ignition temperature:	Not applicable
Flammability:	Not applicable	Decomposition temperature:	Not available
Upper flammability limits:	Not applicable	Viscosity:	Not available

Section 10: STABILITY AND REACTIVITY

Reactivity: This product is unlikely to react or polymerise under normal storage conditions.

Stability: When stored appropriately this product should show no significant degradation within the expiry period shown on the label.

Conditions to Avoid: Extreme temperatures.

Incompatible Materials: Oxidising agents.

Hazardous Decomposition Products: Decomposition may produce toxic fumes of carbon dioxide, hydrogen chloride, phosgene, metal oxides and other pyrolysis products typical of burning organic material.

Section 11: TOXICOLOGICAL INFORMATION

Acute Toxicity:

Ingestion: No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be an acute oral toxicant.

Glucose: Oral LD₅₀: 25800 mg/kg (rat);

Sodium chloride: Oral LD₅₀: 3000 mg/kg (rat);

Glycine: Oral LD₅₀: 7930 mg/kg (rat);

Potassium dihydrogen phosphate: Oral LD₅₀: >500 mg/kg (rat);

Citric acid monohydrate: Oral LD₅₀: 3000 mg/kg (rat);

Potassium citrate: No data.

Inhalation: No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be acutely toxic by the inhalation route. Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

Glucose: No data;

Sodium chloride: Inhalation LC₅₀: >42000 mg/m³ (rat);

Glycine: No data;

Potassium dihydrogen phosphate: No data;

Citric acid monohydrate: No data;

Potassium citrate: No data.

Dermal: No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be acutely toxic by the dermal route. Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. Entry into the blood stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

Glucose: No data;

Sodium chloride: Dermal LD₅₀: >10000 mg/kg (rabbit);

Glycine: No data;

Potassium dihydrogen phosphate: Dermal LD₅₀: >2000 mg/kg (rat), >4640 mg/kg (rabbit);

Citric acid monohydrate: Dermal LD₅₀: >2000 mg/kg (rat)

Potassium citrate: No data.

Skin Corrosion / Irritation: No data for the mixture is available. Based on available data for the ingredients, the mixture is not thought to cause skin corrosion or irritation.

Serious Eye Damage / Irritation: No data for the mixture is available. Based on available data for the ingredients, the mixture is not thought to cause serious eye damage or irritation. Direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness.

Respiratory or Skin Sensitisation: No data for the mixture is available. Based on available data for the ingredients, the mixture is not thought to cause respiratory or skin sensitisation.

Germ Cell Mutagenicity: No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be mutagenic.

Carcinogenicity: No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be carcinogenic.

Reproductive Toxicity: No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be a reproductive toxicant.

STOT: Single exposure: No data for the mixture is available. Based on available data for the ingredients, the mixture is not thought to be a Specific Target Organ Toxicant after single exposure.

STOT: Repeat exposure: No data for the mixture is available. Based on available data for the ingredients, the mixture is not thought to be a Specific Target Organ Toxicant after repeat exposure.

Aspiration Hazard: No data available.

Narcotic Effects: No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to have any narcotic effects.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be toxic to the aquatic environment.

Fish

Glucose: LC₅₀ (96h): 371.52 mg/L;
 Sodium chloride: LC₅₀ (96h): 620 mg/L, NOEC (6h) 0.001 mg/L;
 Glycine: LC₅₀ (96h): 7776 mg/L;
 Potassium phosphate, monobasic: LC₅₀ (96h): >100 mg/L;
 Citric acid monohydrate: LC₅₀ (96h): 9.2 mg/L;
 Potassium citrate: No data.

Crustacea

Glucose: No data;
 Sodium chloride: EC₅₀ (48h): 402.6 mg/L;
 Glycine: EC₅₀ (48h): >220 mg/L;
 Potassium phosphate, monobasic: EC₅₀ (48h): >100 mg/L;
 Citric acid monohydrate: EC₅₀ (48h): >50 mg/L, EC₅₀ (72h): <80 mg/L, NOEC (16h): 153 mg/L;
 Potassium citrate: No data.

Algae and other aquatic plants

Glucose: EC₅₀ (96h): 745000 mg/L;
 Sodium chloride: EC₅₀ (96h): 2430 mg/L;
 Glycine: EC₅₀ (72h): > 1 mg/L, NOEC (72h): ≥1 mg/L;
 Potassium phosphate, monobasic: EC₅₀ (72h): > 100 mg/L, NOEC (72h): >100 mg/L;
 Citric acid monohydrate: EC₅₀ (72h): 990 mg/L;
 Potassium citrate: NOEC (192h): 425 mg/L.

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
Glucose	LOW	LOW	LOW (logKOW = -3.24)	LOW (KOC = 10)
Sodium chloride	LOW	LOW	LOW (logKOW = 0.54)	LOW (KOC = 14.3)
Glycine	LOW	LOW	LOW (logKOW = -3.21)	HIGH (KOC = 1)
Potassium phosphate, monobasic	No data	No data	No data	No data
Citric acid	LOW	LOW	LOW (logKOW = -1.64)	LOW (KOC = 10)
Potassium citrate	No data	No data	No data	No data

Section 13: DISPOSAL INFORMATION

Product Disposal: Dispose of product only by using according to label or at an approved landfill.

Container Disposal: Wrap with paper and place in garbage.

Section 14: TRANSPORT INFORMATION

Dangerous Goods Classification: Not classified as a Dangerous Good for land, sea and air transport.

Section 15: REGULATORY INFORMATION

Poison Schedule (SUSMP): None

APVMA No.: 53841

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations.

Section 16: OTHER INFORMATION

This information is based on data believed by Jurox Pty Limited to be accurate at the time of writing but is subject to change without notice. It is given in good faith, but no warranty expressed or implied is made as to its accuracy, completeness otherwise and no assumption of liability from howsoever arising is made by Jurox Pty Limited by reason of the provision of this information. Every person dealing with the materials referred to herein does so at his/her own risk absolutely and must make independent determinations of suitability and completeness of information from all sources to ensure their proper use.

Legend:

AICS	Australian Inventory of Chemical Substances.
APVMA	Australian Pesticides and Veterinary Medicines Authority.
CAS No.	Chemical Abstracts Service Registry Number.
EC₅₀	The median effect concentration, being a statistically derived concentration of a substance that can be expected to cause an adverse reaction in 50% of organisms or a 50% reduction in growth or in the growth rate of organisms.
GHS	Globally Harmonized System of Classification and Labelling of Chemicals.
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters.
KOC	Soil-Water Partition Coefficient. The ratio of a chemical's concentration that is adsorbed in the soil to the concentration of chemical in solution.
KOW	Octanol Water Partition Coefficient. The ratio of a compound's concentration in a known volume of n-octanol to its concentration in a known volume of water after the octanol and water have reached equilibrium.
LC₅₀	The median lethal concentration, being a statistically derived concentration of a substance that can be expected to cause death in 50% of animals.
LD₅₀	The median lethal dose, being a statistically derived single dose of a substance that can be expected to cause death in 50% of animals.
NICNAS	National Industrial Chemicals Notification and Assessment Scheme.
NOEC	No-observable-effect-concentration.
PPE	Personal Protective Equipment.
PVC	Polyvinyl chloride.
SDS	Safety Data Sheet.
STOT	Specific Target Organ Toxicity.
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons.
SWA	Safe Work Australia.
TEELs	Temporary Emergency Exposure Limits. Guidelines designed to predict the response of members of the general public to different concentrations of a chemical during an emergency response incident.
TEEL-1	The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic, nonsensory effects. However, these effects are not disabling and are transient and reversible upon cessation of exposure.
TEEL-2	The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting, adverse health effects or an impaired ability to escape.
TEEL-3	The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience life-threatening adverse health effects or death.

References:

ChemID Plus

Chemwatch

EPA New Zealand Chemical Classification and Information Database (CCID)

HSDB (Hazardous Substances Data Bank)

This version issued: 17 December 2018 and is valid for 5 years from this date.**Supersedes:** This SDS supercedes the version issued on 12 December 2016.**Revision History:**

Date of Revision	Reason
12 December 2016	Update of SDS to comply with SWA Code of Practice, February 2016.
17 December 2018	Updated sections 1, 4, 5, 6, 7, 8, 10, 11, 12 and 13.

END OF SDS