

**SAFETY DATA SHEET****Section 1: IDENTIFICATION of CHEMICAL PRODUCT and COMPANY**

<b>Product Name:</b>	<b>Vytrate Liquid Concentrate</b>
<b>Product Code:</b>	504330 (1 L), 504335 (5 L), 504340 (20 L)
<b>Recommended Use:</b>	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 bought-in or stressed calves and pigs. An aid in the treatment of pregnancy toxæmia in ewes.
<b>Restrictions on Use:</b>	For animal treatment only.
<b>Company Identification:</b>	Jurox Pty Limited
<b>Address:</b>	85 Gardiner Street, Rutherford, NSW 2320, Australia
<b>Email:</b>	jenq@jurox.com.au
<b>Customer Centre:</b>	1800 023 312
<b>National Poisons Information Centre:</b>	13 1126 (Australia-wide)
<b>Emergency Telephone Number:</b>	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.

**Section 3: COMPOSITION / INFORMATION on INGREDIENTS**

INGREDIENT	CAS No.	CONTENT
Glucose	50-99-7	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	77-92-9	0.3%
Potassium citrate	866-84-2	0.1%
Ingredients not contributing to the hazards	-	> 50 %

## Section 4: FIRST AID MEASURES

**General Information:** 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, aerosols or combustion products are inhaled remove from contaminated area. If respiratory symptoms occur, remove patient to fresh air. Lay patient down and keep warm and rested. If breathing is shallow or has stopped, ensure airway is clear and apply resuscitation. If breathing is difficult, give oxygen and seek medical assistance immediately.

**Ingestion:** If swallowed do NOT induce vomiting. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully.

**Skin:** If skin contact occurs: Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.

**Eye:** If eye contact occurs: Immediately flush the eye continuously with running 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 eye irritation persists, get medical advice/attention.

**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:** No data for mixture.

**Hazardous Combustion Products:** If involved in a fire, may emit noxious and irritant 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:** None specified.

## Section 6: ACCIDENTAL RELEASE MEASURES

**Spills and Disposal:** Wear gloves and appropriate protective clothing. For small spills, clean up spilled product then wipe area and put empty container in garbage. For large spills, exclude non-essential people from the area. Prevent spillage from entering drains or water courses and call emergency services.

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

**Environmental Precautions:** Prevent from entering drains, waterways or sewers. If spill does enter waterways contact local authority.

**Section 7: HANDLING AND STORAGE**

**Handling:** Handle this product to avoid exposure, taking all recommended precautions. Avoid contact with skin, eyes and inhalation of vapours. Use personal protective equipment as required. Do not eat, drink or smoke while handling product.

**Storage:** Keep out of reach of children. 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 <sup>3</sup>	360 mg/m <sup>3</sup>	1,600 mg/m <sup>3</sup>
Potassium phosphate, monobasic	9.6 mg/m <sup>3</sup>	110 mg/m <sup>3</sup>	630 mg/m <sup>3</sup>
Potassium citrate	2.1 mg/m <sup>3</sup>	23 mg/m <sup>3</sup>	140 mg/m <sup>3</sup>

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

**Personal Protective Equipment (PPE):**

Eye protection: Protective glasses or goggles are recommended when handling bulk quantities of this product.

Skin protection: When handling bulk product, prevent skin contact by wearing chemical protective gloves e.g. PVC.

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

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Clear yellow liquid	<b>limits:</b>	
<b>Odour:</b>	Not available	<b>Vapour Pressure:</b>	Not available
<b>Odour threshold:</b>	Not available	<b>Vapour density:</b>	Not available
<b>pH:</b>	Not available	<b>Relative density:</b>	Not applicable
<b>Melting Point:</b>	Not applicable	<b>Specific Gravity:</b>	~1.163
<b>Boiling Point:</b>	Not available	<b>Solubility in Water:</b>	Miscible
<b>Flash Point:</b>	Not available	<b>Partition coefficient:</b>	Not available
<b>Evaporation Rate:</b>	Not available	<b>Auto-ignition temperature:</b>	Not available
<b>Flammability:</b>	Combustible	<b>Decomposition temperature:</b>	Not available
<b>Upper flammability limits:</b>	Not available	<b>Viscosity:</b>	Not available
<b>Lower flammability</b>	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:** No data available.

**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 acutely toxic by the oral route. Extremely large doses may result in gastrointestinal disturbance.

Glucose: Oral LD<sub>50</sub>: 25800 mg/kg (rat);

Sodium chloride: Oral LD<sub>50</sub>: 3000 mg/kg (rat);

Glycine: Oral LD<sub>50</sub>: 4920 mg/kg (mouse), 7930 mg/kg (rat);

Potassium phosphate, monobasic: Oral LD<sub>50</sub>: 1700 mg/kg (mouse), Oral LDLo: 4640 mg/kg (rat);

Citric acid: Oral LD<sub>50</sub>: 3000 mg/kg (rat);

Potassium citrate: Oral LD<sub>50</sub>: > 2000 mg/kg.

**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.

Sodium chloride: Inhalation LC<sub>50</sub>: > 42 gm/m<sup>3</sup>/1H.

**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.

Sodium chloride: Dermal LD<sub>50</sub>: > 10000 mg/kg (rat);

Potassium phosphate, monobasic: Dermal LD<sub>50</sub>: > 2000 mg/kg (rat);

Citric acid: Dermal LD<sub>50</sub>: > 2000 mg/kg;

Potassium citrate: Dermal LD<sub>50</sub>: 5400 mg/kg (mouse).

**Skin Corrosion / Irritation:** No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be a skin irritant.

**Serious Eye Damage / Irritation:** No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be an eye irritant.

**Respiratory or Skin Sensitisation:** No data for the mixture is available. Based on available data for the ingredients, the mixture is not considered to be a skin sensitiser or respiratory sensitiser.

**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 considered 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 considered to be a specific target organ toxicant after repeat exposure.

**Aspiration hazard:** No data available.

## 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 ecotoxic.

### Fish

Glucose: LC<sub>50</sub> (96h): 371.5 mg/L;  
Sodium chloride: LC<sub>50</sub> (96h): 620 mg/L, NOEC (6h): 0.001 mg/L;  
Glycine: LC<sub>50</sub> (96h): 7776 mg/L;  
Potassium phosphate, monobasic: No data;  
Citric acid, monohydrate: LC<sub>50</sub> (96h): 9.2 mg/L;  
Potassium citrate: No data.

### Crustacea

Glucose: No data;  
Sodium chloride: EC<sub>50</sub> (48h): 402.6 mg/L, EC<sub>50</sub> (384h): 140.6 mg/L;  
Glycine: No data;  
Potassium phosphate, monobasic: No data;  
Citric acid, monohydrate: EC<sub>50</sub> (72h): < 80 mg/L, NOEC (16h): 153 mg/L;  
Potassium citrate: No data.

### Algae and other aquatic plants

Glucose: No data;  
Sodium chloride: EC<sub>50</sub> (96h): 2430 mg/L;  
Glycine: EC<sub>50</sub> (96h): 6417.9 mg/L;  
Potassium phosphate, monobasic: No data;  
Citric acid, monohydrate: EC<sub>50</sub> (96h): 23.3 mg/L;  
Potassium citrate: No data.

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
Glucose	LOW	LOW	LOW (LogKOW = -3.24)	LOW (KOC = 10)
Sodium chloride	LOW	LOW	LOW (LogKOW = 0.539)	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:** Dispose of empty container by wrapping with paper and putting in garbage.

### Section 14: TRANSPORT INFORMATION

**Dangerous Goods Classification:** Not considered 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:**

<b>AICS</b>	Australian Inventory of Chemical Substances.
<b>CAS No.</b>	Chemical Abstracts Service Registry Number.
<b>EC<sub>50</sub></b>	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.
<b>GHS</b>	Globally Harmonized System of Classification and Labelling of Chemicals.
<b>Hazchem Code</b>	Emergency action code of numbers and letters that provide information to emergency services especially firefighters.
<b>KOC</b>	Soil-Water Partition Coefficient. The ratio of a chemical's concentration that is adsorbed in the soil to the concentration of chemical in solution.
<b>KOW</b>	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.
<b>LC<sub>50</sub></b>	The median lethal concentration, being a statistically derived concentration of a substance that can be expected to cause death in 50% of animals.
<b>LD<sub>50</sub></b>	The median lethal dose, being a statistically derived single dose of a substance that can be expected to cause death in 50% of animals.
<b>LDLo</b>	The lowest lethal dose, that is, the minimum amount of a substance that is lethal to a specified type of animal.
<b>NICNAS</b>	National Industrial Chemicals Notification and Assessment Scheme.
<b>NOEC</b>	No-observable-effect-concentration.
<b>PPE</b>	Personal Protective Equipment.
<b>PVC</b>	Polyvinyl chloride.
<b>SDS</b>	Safety Data Sheet.
<b>STOT</b>	Specific Target Organ Toxicity.
<b>SUSMP</b>	Standard for the Uniform Scheduling of Medicines and Poisons.
<b>SWA</b>	Safe Work Australia.

**References:**

ChemID Plus

EPA New Zealand Chemical Classification and Information Database (CCID)

HSDB (Hazardous Substances Data Bank)

**This version issued:** 12 December 2016 and is valid for 5 years from this date.

**Supersedes:** This SDS supersedes the version issued on 23 June 2014.

**Revision History:**

Date of Revision	Reason
12 December 2016	Update of SDS to comply with SWA Code of Practice, February 2016.

**END OF SDS**