



### 1.0 Identification

<b>Product Identifier</b>	Finale Boost
<b>Other Means of Identification</b>	APTUS Finale Booster Liquid Fertiliser
<b>Recommended Use and Restrictions on use</b>	Liquid fertiliser, dilute and use as directed.
<b>Details of Importer</b>	APTUS PLANT TECH Australia Unit 1/11 Didswith St, East Brisbane QLD 4169
<b>Emergency Phone Number</b>	Australian Poisons Information (24 hours / 7 days) ☎ 13 11 26

### 2.0 GHS Hazard identification

<b>Classification of The Hazardous Chemical</b>	(nil)
<b>Signal Word</b>	(nil)
<b>Hazard Statement</b>	May cause skin irritation May cause eye irritation
<b>Precautionary Statements</b>	Wash hands and exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. IF ON SKIN: Wash with plenty of water IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Specific treatment. IF SKIN irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing.
<b>GHS Pictograms</b>	None allocated

### 3.0 Ingredients / Composition %w/w

<b>Ingredient Name/Nature</b>	<b>&lt;2</b>	<b>2&gt;10</b>	<b>&gt;10</b>	<b>&gt;20</b>	<b>&gt;30</b>	<b>&gt;40</b>	<b>&gt;50</b>	<b>&gt;60</b>	<b>&gt;70</b>	<b>&gt;80</b>	<b>&gt;90</b>	<b>&gt;100</b>
Potassium thiosulfate CAS 10294-66-3												
Proprietary Ingredients determined to be hazardous at that concentration												

### 4.0 First Aid Measures

<b>First Aid Instructions</b>	Consider your own safety first.
<b>Swallowed</b>	Rinse mouth and SPIT, if conscious give a glass of water. For advice, contact a Poisons Information Centre e.g. phone Australia 13 11 26; or a doctor.
<b>Eye</b>	Rinse cautiously with running water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention.
<b>Skin</b>	Wash with plenty of water. If skin irritation occurs: Get medical advice/attention.
<b>Inhaled</b>	Remove to fresh air; rinse mouth and spit, For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; or a doctor.
<b>Symptoms caused by exposure</b>	Local irritation effects can be anticipated. Expected to have laxative effects if swallowed. Large exposures can cause dehydration and electrolyte disturbances secondary to the osmotic effects.
<b>Medical Attention / Special Treatment</b>	Following ingestion oral hydration and observation may be merited.

### 5.0 Fire Fighting Measures

<b>Extinguishing media</b>	As merited by packaging &/or surrounding materials, Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
<b>Specific Hazards arising from the chemical</b>	None indentified
<b>Special protective equipment and precautions for fire fighters HAZCHEM</b>	Wear self-contained breathing apparatus for firefighting if necessary.

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**6.0 Accidental Release Measures**

<b>Personal precautions, protective equipment and emergency procedures</b>	Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing vapours or mist. Wash hands and exposed skin thoroughly after handling.
<b>Environmental precautions</b>	Concentrate as supplied should not enter to waterways, may cause localised effects.
<b>Methods and materials for containment and cleaning up</b>	Absorb liquid onto inert absorbent and dispose as solid waste. Dilute and contain residue where possible. Take off contaminated clothing and wash it before reuse.

**7.0 Storage and Handling**

<b>Precautions for Safe Handling</b>	Do not store diluted product. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing vapours or mist. Wash hands and exposed skin thoroughly after handling.
<b>Safe Storage Practice</b>	Keep out of reach of children. Keep in original container.
<b>- Avoid</b>	Do not mix with other chemicals.
<b>- Control</b>	Avoid contamination.
<b>- Maintain</b>	Keep tightly closed in original container.
<b>- Other</b>	No data

**8.0 Exposure Controls / Personal Protection**

<b>National Exposure Standards</b>	None identified				
<b>Control Banding</b>	Band Zero – Household or Consumer Use	Band 1 – good industrial hygiene practice	Band 2 – use local exhaust ventilation	Band 3 – enclose the process	Other
<b>Engineering Controls</b>	General industrial hygiene practice.				
<b>PPE</b>	Wear protective gloves/eye protection/face protection				

**9.0 Physical & Chemical Properties**

<b>Appearance</b>	Brown coloured solution	<b>Partition Co-efficient n-Octanol/water</b>	Not determined
<b>Odour</b>	mild	<b>Solubility</b>	Water soluble
<b>pH</b>	6.5 to 7	<b>Vapour Pressure</b>	Not determined
<b>Melting / Freezing Pt</b>	Not determined	<b>Vapour Density</b>	Not determined
<b>Boiling Point</b>	Not determined	<b>Relative Density</b>	~1.3g/mL
<b>Flash Point</b>	Not determined	<b>Auto-ignition Temp</b>	Not determined
<b>Evaporation Rate</b>	Not determined	<b>Decomposition Temp</b>	Not determined
<b>Flammability</b>	Not classified as flammable	<b>Viscosity</b>	Not determined
<b>Explosive Limits</b>	Not determined	<b>Other</b>	Not determined

**10.0 Stability & Reactivity**

<b>Reactivity</b>	Anticipated as being stable under conditions of use.
<b>Chemical Stability</b>	Anticipated as being stable under conditions of use.
<b>Possibility of Hazardous Reactions</b>	None identified
<b>Conditions to avoid</b>	Excessive heat, avoid freezing.
<b>In compatible materials</b>	It can generate toxic gases when in contact with inorganic sulfide, strong reducing agents.
<b>Hazardous Decomposition Products</b>	None identified

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**11.1 Known Toxicological Information (CONFLICTING DATA EXISTS)**

~60% Potassium thiosulfate CAS 10294-66-3

<b>Ingredient Name / Type</b>	<b>Data</b>
<b>Acute Toxicity</b>	A toxic dose has not been established. Theoretically, a massive ingestion could cause hypernatremia, but the required dose is not known. Hyperkalemia and ECG abnormalities developed in 2 patients after ingesting 6 tablespoons of cream of tartar (potassium bitartrate) which is approximately 3.5 times the daily FDA recommendation of at least 4.7 grams (120 mmoles) of potassium.
<b>Skin Corrosion / Irritation</b> <b>Serious Eye Damage</b> <b>Irritation</b>	CONFLICTING DATA EXISTS ECHA ( <a href="https://echa.europa.eu/brief-profile/-/briefprofile/100.030.593">https://echa.europa.eu/brief-profile/-/briefprofile/100.030.593</a> ) and data obtained from ECHA republished on PUBCHEM indicate that the substance causes both eye and skin irritation <b>however</b> the animal studies cited on ECHA indicate for eyes "not irritating" and for skin 'Not irritating". Suppliers SDS and other resources also indicate non-irritating.
<b>Respiratory or skin sensitisation</b>	Based on available data unlikely to be sensitising.
<b>Germ cell mutagenicity</b>	Based on available data; no evidence of toxic effects on reproduction.
<b>Carcinogenicity</b>	Based on available data; unlikely. No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
<b>Reproductive toxicity</b>	Drug use classifies this substances as Category C.
<b>Specific Target Organ Toxicity – single exposure</b>	Potassium Thiosulphate is commonly used as a saline laxative substance. Saline cathartics are poorly absorbed from the gastrointestinal tract hence, systemic toxicity is unlikely unless massive amounts have been ingested. Large exposures can cause dehydration and electrolyte disturbances secondary to the osmotic effects.
<b>Specific Target Organ Toxicity (STOT) – repeated exposure</b>	
<b>Aspiration hazard.</b>	As with any liquid
<b>Skin - Acute</b>	Conflicting data, may cause (reversible) skin irritation
<b>Inhaled - Acute</b>	Bo adverse effects anticipated.
<b>Swallowed - Acute</b>	Potassium Thiosulphate is commonly used as a saline laxative substance.
<b>Eye - Acute</b>	Conflicting data, may cause (reversible) eye irritation
<b>Early Onset Symptoms</b>	No data
<b>Delayed Health Effects from exposure</b>	No data
<b>Exposure Level &amp; Health Effects</b>	None anticipated from use as directed on the label
<b>Interactive effects</b>	
<b>Other</b>	Two different oxidation routes of sulfite to sulfate have been identified in the human polymorphonuclear leukocytes; (i) the pathway via sulfite oxidase and (ii) oxidation via an one electron oxidation step with an intermediate formation of sulfur trioxide radicals. Different pathways will substantially effect metabolism and toxicology; individual variation in sulfite oxidase activity with the contribution of the trioxide radical pathway expected to be high in individuals with low sulfite oxidase activity.

**12.0 Ecological Information**

<b>Ecotoxicity (as supplied)</b>	Not classified as ecotoxic
<b>Persistence &amp; Biodegradability</b>	Biodegradable
<b>Bioaccumulative Potential</b>	no potential for bioaccumulation
<b>Mobility in soil</b>	No data identified
<b>Other effects</b>	No relevant data identified

**13.0 Disposal Considerations**

<b>Disposal Containers &amp; Methods</b>	Rinse container; dispose as permitted by local jurisdiction.
<b>Physical/chemical properties that may affect disposal options.</b>	None identified
<b>Effects of sewage disposal.</b>	Diluted solutions are unlikely to contribute to issues of concern
<b>Special precautions for incineration or land fill.</b>	Diluted solutions are unlikely to contribute to issues of concern

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**14.0 Transport Information**

UN Number	Proper Shipping Name / Technical Name	Transport Hazard Class	Packaging Group
nil	nil	nil	nil
Environmental Hazards for Transport Purposes		Special Precautions for user	
nil		nil	

**15.0 Regulatory Information**

Montreal Protocol	Stockholm Convention	Rotterdam Convention	Basel Convention	MARPOL
Not applicable	Not included	Not Included	Not Included	Not Included
<b>SUSMP</b>	Not scheduled			
<b>Prohibitions / Licensing Restrictions</b>	Biological component requires BICON permit. No other restrictions identified			
<b>APVMA</b>	Excluded by purpose			
<b>NICNAS</b>	All ingredients are included in AICS			

**16.0 Other Information**

**16.1 Consumer & General Usage Information**

<b>Directions for use</b>	Dilute and apply as directed on the label.
<b>Directions for Removal</b>	Rinse under running water.
<b>Nano Materials</b>	None identified
<b>Animal Derived Ingredients</b>	None identified

**16.2 SDS Preparation**

<b>Date Prepared</b>	24 <sup>th</sup> May 2018.
<b>Changes Made</b>	First edition for Australia
<b>Reference Standards</b>	Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice February 2016. ISBN 978-0-642-33311-7. GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS) Fourth revised edition
<b>Resources Relied upon include</b>	Hazardous Substances Data Bank (HSDB) <a href="https://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB">https://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB</a> Suppliers' SDS; RTECS Toxicity Database; ECHA; IRAC; CDC NIOSH, HCIS, Safework Australia GHS Hazardous Chemical Information List. Information provided by manufacturer(s).

**Disclaimer:** This SDS provides safety data only for the product and circumstances of use nominated. The SDS summarises our best knowledge of the specific, well-known and equivocally demonstrated health and safety hazard information pertaining to workplace use of the nominated substance(s) however the author expressly disclaims that the SDS is complete, is a representation or is a guarantee. Published and other resources have been relied upon, and in some cases conflicting information has been identified. Each user should read the SDS and consider the information in the context of their specific conditions and circumstances, and in conjunction with other products. If clarification is required or further information sought in order to make a risk assessment the user should contact the nominated sponsor company. The responsibility for products sold is subject to our standard terms and conditions that are available on request.

**16.3 Key abbreviations or acronyms used**

<b>%</b>	Percent (parts per hundred)
<b>*C or °C</b>	degrees Celsius
<b>&lt;</b>	less than
<b>&gt;</b>	greater than
<b>ACCC</b>	Australian Competition and Consumer Commission
<b>ADG</b>	Australian Dangerous Goods
<b>AICS</b>	Australian Inventory of Chemical Substances
<b>APVMA</b>	Australian Pesticides and Veterinary Medicines Authority
<b>AS</b>	Australian Standard
<b>ASCC</b>	Australian Society of Cosmetic Chemists
<b>bw</b>	Body weight (nominally a human adult of 60kg is applied)
<b>BOD</b>	Biochemical Oxygen Demand
<b>CAS</b>	Chemical Abstracts Service (Registry Number)
<b>cc</b>	cubic centimetres (equivalent to mL)
<b>COD</b>	Chemical Oxygen Demand

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<b>CMR</b>	CMR substances: Article 15 of the EU Cosmetics Regulation 1223/2009 contains provisions on the use of CMR in cosmetic products. Typically substances classified as CMR substances Cat 1A, 1B, or 2 under Part 3 of Annex IV Regulation (EC) No 1272/2008 are banned for use in cosmetic products
<b>COSING</b>	The European Commission database with information on Cosmetic Ingredients & Substances Dangerous Goods
<b>EINECS</b>	European Inventory of Existing Commercial Chemical Substances (Identifying Number)
<b>dw</b>	Dry weight
<b>DNEL</b>	Derived No effect level
<b>EU</b>	Europe / European
<b>FSANZ</b>	Food Standards Australia New Zealand
<b>g</b>	gram
<b>GHS</b>	Globally Harmonised System (safety symbols and labelling)
<b>GMO</b>	Genetically modified organism
<b>h or hr</b>	Hour
<b>HAZCHEM</b>	Emergency action code of numbers and letters that provide information to emergency services especially fire fighters
<b>HSIS</b>	The Safe Work Australia Hazardous Substances Information System
<b>IATA</b>	The International Air Transport Association
<b>IMAP</b>	NICNAS Inventory Multi-tiered Assessment and Prioritisation
<b>ICAO</b>	The International Civil Aviation Organization
<b>IFA</b>	The International Fragrance Association
<b>INCI</b>	The International Nomenclature of Cosmetic Ingredients
<b>kg</b>	kilogram
<b>L</b>	Litre
<b>LC<sub>50</sub></b>	LC <sub>50</sub> is the average concentration of a material (by a defined route) that causes the death of 50% (one half) of a group of (defined) test animals. Normally quoted in mg/kg body weight.
<b>LD<sub>50</sub></b>	LD <sub>50</sub> is the average dose of a material, given all at once, which causes the death of 50% of a group of (defined) test animals. Normally quoted in mg/kg body weight. Products with a LD <sub>50</sub> of less than 5000mg/kg are scheduled poisons in Australia (see SUSMP)
<b>LD<sub>Lo</sub></b>	Lethal Dose Low, is the minimum amount of a material shown to be lethal to a specified type of animal. Typically quoted in mg/kg body weight.
<b>m or min</b>	minute
<b>m<sup>3</sup></b>	cubic metre
<b>Max or max</b>	maximum
<b>mg</b>	milligram
<b>Min or min</b>	minimum
<b>mL</b>	millilitre
<b>mm</b>	millimetre
<b>mm Hg</b>	millimetre of Mercury
<b>MOS</b>	Margin of Safety
<b>MRL</b>	Maximum Residue Limit
<b>MSDS</b>	Material Safety Data Sheet (see also SDS)
<b>Nano</b>	Nano(sized) material / Nano Technology; ...industrial materials (including a cosmetic ingredient) comprising 10% or more by composition that has been intentionally produced, manufactured or engineered to have either an internal or external property that is a size range typically between 1 nm and 100 nm.
<b>ng</b>	nanogram
<b>LD<sub>50</sub></b>	LD <sub>50</sub> is the average dose of a material, given all at once, which causes the death of 50% of a group of (defined) test animals. Normally quoted in mg/kg body weight. Products with a LD <sub>50</sub> of less than 5000mg/kg are scheduled poisons in Australia (see SUSMP)
<b>LD<sub>Lo</sub></b>	Lethal Dose Low, is the minimum amount of a material shown to be lethal to a specified type of animal. Typically quoted in mg/kg body weight.
<b>m or min</b>	minute
<b>m<sup>3</sup></b>	cubic metre
<b>Max or max</b>	maximum
<b>mg</b>	milligram
<b>Min or min</b>	minimum
<b>mL</b>	millilitre
<b>mm</b>	millimetre
<b>mm Hg</b>	millimetre of Mercury
<b>MOS</b>	Margin of Safety

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<b>MRL</b>	Maximum Residue Limit
<b>MSDS</b>	Material Safety Data Sheet (see also SDS)
<b>Nano</b>	Nano(sized) material / Nano Technology; ...industrial materials (including a cosmetic ingredient) comprising 10% or more by composition that has been intentionally produced, manufactured or engineered to have either an internal or external property that is a size range typically between 1 nm and 100 nm.
<b>ng</b>	nanogram
<b>NICNAS</b>	The National Industrial Chemicals Notification and Assessment Scheme (AUSTRALIA)
<b>NIOSH</b>	The National Institute for Occupational Safety and Health (USA)
<b>NOAEL</b>	No observed Adverse Effects Limit
<b>NOHSC</b>	National Occupational Health and Safety Commission (AUSTRALIA)
<b>NOS</b>	Not otherwise specified
<b>NZS</b>	New Zealand Standard
<b>OECD</b>	Organization for Economic Co-operation and Development (Test Method number)
<b>OSHA</b>	The Occupational Safety and Health Administration (USA)
<b>Perm.</b>	Permethrin (Active ingredient of this formulation)
<b>PEL</b>	Permissible Exposure Limit
<b>pH</b>	(pH) A measure of acidic (less than 7) or alkalinity (above 7); extreme values represent extreme acidic or alkaline conditions. Typically products with a pH less than three or greater than 11 are scheduled poisons (SUSMP)
<b>PNEC</b>	Predicted no effect concentration
<b>ppb</b>	parts per billion
<b>PPE</b>	Personal Protective Equipment
<b>ppm</b>	parts per million
<b>RTECS</b>	The Registry of Toxic Effects of Chemical Substances
<b>S2</b>	Schedule 2, SUSMP <b>Pharmacy Medicine</b> – Substances, the safe use of which may require advice from a pharmacist and which should be available from a pharmacy or, where a pharmacy service is not available, from a licensed person.
<b>S3</b>	Schedule 3, SUSMP <b>Pharmacist Only Medicine</b> – Substances, the safe use of which requires professional advice but which should be available to the public from a pharmacist without a prescription.
<b>S4</b>	Schedule 4, SUSMP <b>Prescription Only Medicine</b> , or <b>Prescription Animal Remedy</b> – Substances, the use or supply of which should be by or on the order of persons permitted by State or Territory legislation to prescribe and should be available from a pharmacist on prescription.
<b>S5</b>	Schedule 5, SUSMP <b>Caution</b> – Substances with a low potential for causing harm, the extent of which can be reduced through the use of appropriate packaging with simple warnings and safety directions on the label.
<b>S6</b>	Schedule 6, SUSMP <b>Poison</b> – Substances with a moderate potential for causing harm, the extent of which can be reduced through the use of distinctive packaging with strong warnings and safety directions on the label.
<b>S7</b>	Schedule 7, SUSMP <b>Dangerous Poison</b> – Substances with a high potential for causing harm at low exposure and which require special precautions during manufacture, handling or use. These poisons should be available only to specialised or authorised users who have the skills necessary to handle them safely. Special regulations restricting their availability, possession, storage or use may apply.
<b>S8</b>	Schedule 8, SUSMP <b>Controlled Drug</b> – Substances which should be available for use but require restriction of manufacture, supply, distribution, possession and use to reduce abuse, misuse and physical or psychological dependence.
<b>S9</b>	Schedule 9, SUSMP <b>Prohibited Substance</b> – Substances which may be abused or misused, the manufacture, possession, sale or use of which should be prohibited by law except when required for medical or scientific research, or for analytical, teaching or training purposes with approval of Commonwealth and/or State or Territory Health Authorities.
<b>S10</b>	Schedule 10, SUSMP <b>Substances of such danger to health as to warrant prohibition of sale, supply and use</b> - Substances which are prohibited for the purpose or purposes listed for each poison.
<b>SCCP</b>	Scientific Committee on Cosmetic Products and Non-Food Products (EUROPE)
<b>SDS</b>	Safety Data Sheet, (previously called MSDS) now SDS under GHS
<b>STEL</b>	Short Term Exposure Limit
<b>SUSMP</b>	Standard for the Uniform Scheduling of Medicine & Poisons (AUSTRALIA) also Poisons Standard. Poisons are not scheduled on the basis of a universal scale of toxicity. Although toxicity is one of the factors considered, and is itself a complex of factors, the decision to include a substance in a particular Schedule also takes into account many other criteria such as the purpose of use, potential for abuse, safety in use and the need for the substance.
<b>T1 or TI</b>	NICNAS IMPA Framework Low risk; chemicals that are not expected to pose a concern to workers, public health or the environment

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<b>T2 or TII</b>	NICNAS IMPA Framework Assessable risk; products not classified as T1 risk information on a substance-by-substance or chemical category-by-category
<b>TGA</b>	Therapeutic Goods Administration (AUSTRALIA)
<b>TLV</b>	Threshold Limit Value
<b>TWA</b>	Time Weighted Average
<b>ug</b>	microgram
<b>uL</b>	microlitre
<b>UN</b>	United Nations (number)
<b>US or USA</b>	The United States of America

**End of SDS**