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## SAFETY DATA SHEET

### Section 1 : IDENTIFICATION

<b>Product identifier</b>	<b>GROWTH Total Ag Leafex Defoliant</b>
<b>Other means of identification</b>	Water solution of inorganic salts.
<b>Recommended use and restrictions on use</b>	Cotton defoliant spray for use as described on product label.
<b>Details of manufacturer</b>	Growth Agriculture Pty Ltd. PO Box 444, Wee Waa, NSW 2388, Australia. Freecall 1800 440 438 Phone (02) 6795 3787 Fax (02) 6795 3707
<b>Emergency phone number</b>	Growth Agriculture 1800 440 438 or Poisons Information Centre (Australia) 13 11 26 Poisons Information Centre (NZ) 0800 764 766

### Section 2 : HAZARDS IDENTIFICATION

<b>Classification of the hazardous chemical</b>	Classified as a Dangerous Good according to the Australian Dangerous Goods [ADG] Code 7 <sup>th</sup> edition. Classified as hazardous according to the criteria of SWA. Classified as hazardous under GHS hazardous chemical information list.
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**Label elements, including precautionary statements**



**(Sodium chlorate)**

**OXIDISING LIQUIDS** - Hazard category: 1

Signal word: Danger.

Hazard statement: H271 May cause fire or explosion; strong oxidiser.

**PRECAUTIONARY STATEMENTS:**

P210 Keep away from heat.

P220 Keep/Store away from clothing and other



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combustible materials.

P221 Take any precaution to avoid mixing with combustibles. Manufacturer/supplier or the competent authority to specify other incompatible materials.

P280 Wear protective gloves /eye protection/face protection. Manufacturer/supplier or the competent authority to specify type of equipment.

P283 Wear fire/flame resistant/ retardant clothing.

P501 Dispose of contents/container in accordance with local regulations.



**(Sodium chlorate)**

**ACUTE TOXICITY – ORAL** - Hazard category: 4

Signal word: Warning.

Hazard statement: H302 Harmful if swallowed

**PRECAUTIONARY STATEMENTS:**

P264 Wash affected body parts thoroughly after handling.

P270 do not eat, drink, or smoke when using this product.

P301+P312 IF SWALLOWED: call a poison centre or doctor/physician if you feel unwell.

P330 Rinse mouth.

P501 Dispose of contents/container in accordance with local regulations.



**(Calcium chloride)**

**EYE IRRITATION** - Hazard category: 2A

Signal word: Warning.

Hazard statement: H319 Causes serious eye irritation.

**PRECAUTIONARY STATEMENTS:**

P264 Wash affected body parts thoroughly after handling.

P280 Wear eye protection / face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if



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present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists: Get medical advice/attention.

**Other hazards which do not result in classification**



**(Sodium chlorate)**

**HAZARDOUS TO THE AQUATIC ENVIRONMENT – CHRONIC** - Hazard category: 2

Hazard statement: H411 Toxic to the aquatic environment with long lasting effects.

### Section 3 : COMPOSITION AND INFORMATION ON INGREDIENTS

<b>Identity of chemical ingredients</b>	Contains Sodium chlorate Contains Calcium chloride Contains water
<b>CAS Number and other unique identifiers</b>	7775-09-9 <i>Sodium chlorate.</i> 10043-52-4 <i>Calcium chloride</i> 7732-18-5 <i>Water.</i>
<b>Concentration of ingredients</b>	Sodium chlorate 30% Calcium chloride 30% Water to 100%

### Section 4 : FIRST AID MEASURES

<b>Description of necessary first aid measures</b>	<b>If product is swallowed or gets in mouth</b> , do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre (phone Australia 13 11 26) or a doctor.  <b>If product gets in eyes</b> , quickly and gently blot or brush away product. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water until the product is removed or until a few minutes after irritation has ceased, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical advice if irritation becomes painful or lasts more than a few minutes.
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**If skin contact occurs**, quickly and gently, blot or brush away excess chemical. Irritation is unlikely. However, if irritation does occur, flush with lukewarm, gently flowing water for 5 minutes or until chemical is removed. If in doubt obtain medical advice.

**If inhalation occurs**, no first aid measures normally required. However, if inhalation has occurred, and irritation has developed, remove to fresh air and observe until recovered. If irritation becomes painful or persists more than about 30 minutes, seek medical advice.

### Symptoms caused by exposure

**Eyes:** This product is an eye irritant. Symptoms may include stinging and reddening of eyes and watering which may become copious. Other symptoms may also become evident. If exposure is brief, symptoms should disappear once exposure has ceased. However, lengthy exposure or delayed treatment may cause permanent damage.

**Skin:** Product should present no hazards in normal use. However product is a skin irritant. Symptoms may include itchiness and reddening of contacted skin. Other symptoms may also become evident, but all should disappear once exposure has ceased.

**Ingestion:** This product, while believed to be not harmful, is likely to cause headache and gastric disturbance such as nausea and vomiting if ingested in significant quantities. However, this product is an oral irritant. Symptoms may include burning sensation and reddening of skin in mouth and throat. Other symptoms may also become evident, but all should disappear once exposure has ceased.

**Inhalation:** Significant inhalation exposure is considered to be unlikely. Available data indicates that this product is harmful but symptoms are not available. This product is unlikely to cause any irritation problems in the short or long term.

### Medical attention and special treatment

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The contact numbers are in Section 1 in this SDS. Have this SDS with you when you call.



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## Section 5 : FIRE FIGHTING MEASURES

### Suitable extinguishing media

Water fog or fine spray is the preferred medium for large fires. Try to contain spills, minimise spillage entering drains or water courses.

### Specific hazards arising from the chemical

There is no risk of an explosion from this product under normal circumstances if it is involved in a fire, however if a significant quantity of this product is involved in a fire, call the fire brigade. There is a danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. The presence of this product in a fire is likely to intensify the fire due to its oxidising properties.

This product is likely to decompose only after heating to dryness, followed by further strong heating. Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

**Note:** This product as supplied is unlikely to contribute significantly to a fire. However, once water has evaporated, either if left in the open, or as a result of heating in a fire, it will promote combustion and is likely to intensify the nature of any fire in which it is involved. Calcium chloride (which is deliquescent) is present to reduce these risks.

### Special protective equipment and precautions for fire fighters

Recommended personal protective equipment is full fire kit and and breathing apparatus.

HAZCHEM code: 2Y

## Section 6 : ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Wear full protective clothing including eye/face protection. Suitable materials for protective clothing include rubber, PVC. Eye/face protective equipment should comprise as a minimum, protective goggles. Failure to protect your eyes may result in serious harm.

Prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered.

Usually, no respirator is necessary when using this product.

Eyebaths or eyewash stations and safety deluge showers should be provided near to where product is being used.



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**Environmental precautions**

In the event of a major spill, prevent spillage from entering drains or water-courses. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. After spills, wash area, preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services.

**NOTE:** Sodium chlorate is highly toxic to aquatic environments with long lasting effects.

**Methods and materials for containment and cleaning up**

Stop leak if safe to do so, and contain spill. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Consider vacuuming if appropriate. Recycle containers wherever possible after careful cleaning.

Usually, no respirator is necessary when using this product. However, if there is a significant chance that vapours or mists are likely to build up in the clean-up area, we recommend that you use a respirator.

***NOTE :** Please read the product label for additional information. Instructions on the label must take precedence over this SDS.*

**Section 7 : HANDLING & STORAGE**

**Precautions for safe handling**

Keep exposure to this product to a minimum, and minimise the quantities kept in work areas.

Carefully read other sections of this SDS for details on personal protective measures, and make sure that those measures are followed. Also check the measures for storage.

**Conditions for safe storage, including any incompatibilities**

This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this class of poison. Store in a cool, well ventilated area. Check containers periodically for corrosion and leaks. Containers should be kept closed in order to minimise contamination, especially from combustible or reducing materials. Make sure that the product does not come into contact with or substances listed under "Incompatible materials and possible hazardous reactions" in Section 10. If you keep more than 50kg of Oxidising Substances of Packaging Groups II or III, you will require a license to do so. If you have any doubts, we suggest you contact your licensing authority in order to clarify your obligations. Check packaging - there may be further storage instructions on the label.

***NOTE :** Please read the product label for additional information. Instructions on the label must take precedence over this SDS.*



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## Section 8 : EXPOSURE CONTROLS AND PERSONAL PROTECTION

<b>Control parameters – exposure standards, biological monitoring</b>	Make sure that the work environment remains clean and that vapours and mists are minimised. Exposure limits have not been set by SWA for any of the significant ingredients in this product.
<b>Appropriate engineering controls</b>	Use in a cool, well-ventilated space. Have spillage kits available on site. Use adequate exhaust ventilation to avoid inhalation of product mists and vapours.
<b>Personal protective equipment (PPE)</b>	<p>No special equipment is normally needed for the routine handling of small amounts of this product. However good practice suggests that you should have eye protection available in the form of safety glasses, goggles or a face mask, as this product contains substances known to cause eye irritation. Do not wear contact lenses.</p> <p>When handling bulk amounts of this product, wear full protective clothing including eye/face protection. Suitable materials for protective clothing include rubber, PVC. Eye/face protective equipment should comprise as a minimum, protective goggles. Prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered.</p> <p>Usually, no respirator is necessary when using this product.</p>

## Section 9 : PHYSICAL & CHEMICAL PROPERTIES

<b>Appearance</b>	Clear yellow liquid.
<b>Odour</b>	No odour.
<b>Odour threshold</b>	No data available.
<b>pH</b>	No data available
<b>Melting point/Freezing point</b>	Approx 0 °C.
<b>Boiling point</b>	Approximately 105 °C. (100 kPa).
<b>Flash point</b>	Does not burn.
<b>Evaporation rate</b>	No data available.
<b>Flammability</b>	Not flammable.
<b>Upper &amp; lower flammability limits</b>	Not flammable.



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<b>Vapour pressure</b>	No data available.
<b>Vapour density</b>	2.37 kPa at 20°C (water vapour pressure).
<b>Relative density</b>	1.35
<b>Solubility</b>	Completely soluble in water
<b>Partition coefficient (n.octanol:water)</b>	No data available.
<b>Auto-ignition temperature</b>	Will not auto-ignite.
<b>Decomposition temperature</b>	No data available.
<b>Viscosity</b>	No data available.
<b>Specific heat value</b>	No data available.
<b>Particle size</b>	This product is an aqueous solution / suspension.
<b>Volatile organic compounds content</b>	No data available.
<b>% volatile</b>	No data available.
<b>Saturated vapour concentration</b>	No data available.
<b>Release of invisible flammable vapours and gases</b>	No data available.

### **ADDITIONAL PARAMETERS**

<b>Shape and aspect ratio</b>	Not applicable.
<b>Crystallinity</b>	Not applicable.
<b>Dustiness</b>	Not applicable.
<b>Surface area</b>	Not applicable.
<b>Surface area</b>	Not applicable.
<b>Degree of aggregation or agglomeration</b>	Not applicable.
<b>Ionisation (redox potential)</b>	No data available.
<b>Biodurability or biopersistence</b>	No data available.





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## Section 10 : STABILITY & REACTIVITY

<b>Reactivity</b>	<p>This product is unlikely to react under normal storage conditions. However, if you have any doubts, contact the supplier for shelf life properties.</p> <p>This product will not undergo polymerisation reactions.</p>
<b>Chemical stability</b>	<p>This product is stable and unlikely to decompose under normal storage conditions. However, if you have any doubts, contact the supplier for shelf life properties.</p>
<b>Conditions to avoid</b>	<p>Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.</p>
<b>Incompatible materials and possible hazardous reactions</b>	<p>Reducing agents, combustible materials.</p>
<b>Hazardous decomposition products</b>	<p>This product is likely to decompose only after heating to dryness, followed by further strong heating. Hydrogen chloride gas, other compounds of chlorine, sodium compounds, calcium compounds.</p>

## Section 11 : TOXICOLOGICAL INFORMATION

<b>Information on routes of exposure</b>	<p>Eye, skin and mucous membranes.</p>
<b>Symptoms related to exposure</b>	<p><b>Eyes:</b> This product is an eye irritant. Symptoms may include stinging and reddening of eyes and watering which may become copious. Other symptoms may also become evident. If exposure is brief, symptoms should disappear once exposure has ceased. However, lengthy exposure or delayed treatment may cause permanent damage.</p> <p><b>Skin:</b> Product should present no hazards in normal use. However product is a skin irritant. Symptoms may include itchiness and reddening of contacted skin. Other symptoms may also become evident, but all should disappear once exposure has ceased.</p> <p><b>Ingestion:</b> This product, while believed to be not harmful, is likely to cause headache and gastric disturbance such as nausea and vomiting if ingested in significant quantities. However, this product is an oral irritant. Symptoms may include burning sensation and reddening of skin in mouth and throat. Other symptoms may also become evident, but all should disappear once exposure has ceased.</p>



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**Inhalation:** Significant inhalation exposure is considered to be unlikely. Available data indicates that this product is harmful but symptoms are not available. This product is unlikely to cause any irritation problems in the short or long term.

<b>Numerical measures of toxicity</b>	No data available
<b>Immediate, delayed and chronic health effects from exposure</b>	Short term effects as listed above. No data available for health effects associated with long-term exposure.
<b>Exposure levels</b>	Exposure limits have not been established by SWA for any of the significant ingredients in this product.
<b>Data limitations</b>	No data available.

**Section 12 : ECOLOGICAL INFORMATION**

**Ecotoxicity**



**(Sodium chlorate)**


**HAZARDOUS TO THE AQUATIC ENVIRONMENT – CHRONIC** - Hazard category: 2

Hazard statement: H411 Toxic to the aquatic environment with long lasting effects.

<b>Persistence and degradability</b>	No data available.
<b>Bioaccumulative potential</b>	No data available.
<b>Mobility in soil</b>	No specific data but being an aqueous solution, this product is likely to be mobile.
<b>Other adverse effects</b>	No data available.

**Section 13 : DISPOSAL CONSIDERATIONS**

<b>Safe handling and disposal methods</b>	This product should be suitable for landfill. However, check with local Waste Disposal Authority before sending there. Note that product properties may have been changed in use; significantly altering its suitability for landfill. Always check local regulations. Do not dispose into sewers or waterways.
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**Disposal of any contaminated packaging**

Containers should be emptied as completely as practical before disposal. If possible, recycle containers either in-house or send to recycle company. If this is not practical, send to a commercial waste disposal site.

**Environmental regulations**

Do not dispose into sewers or waterways.  
Sodium chlorate toxic to aquatic systems with long-lasting effects.

***NOTE :** Please read the product label for additional information. Instructions on the label must take precedence over this SDS.*

**Section 14 : TRANSPORT INFORMATION**

**UN Number**

3210.

**Proper shipping name**

Not specified in the Australian Dangerous Goods Code 7<sup>th</sup> edition.

**Transport hazard class**

Class 5.1, oxidising agents.  
ADG code 3210 (CHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.)

**Packaging group**

II

**Environmental hazards**



**(Sodium chlorate)**

**HAZARDOUS TO THE AQUATIC ENVIRONMENT – CHRONIC** - Hazard category: 2

Hazard statement: H411 Toxic to the aquatic environment with long lasting effects.

**Special precautions during transport**

Packaging method P504, IBC02  
Class 5.1 Oxidising Agents shall not be loaded in the same vehicle or packed in the same freight container with Classes 1 (Explosives), 2.1 (Flammable Gases), 2.3 (Toxic Gases), 3 (Flammable Liquids), 4.1 (Flammable Solids), 4.2 (Spontaneously Combustible Substances), 4.3 (Dangerous When Wet Substances), 5.2 (Organic Peroxides), 6 (Toxic Substances, where the Toxic Substance is a fire risk substance), 7 (Radioactive Substances), 8 (Corrosive Substances), 9 (Miscellaneous Dangerous Goods, where the substance is a fire risk substance), Fire risk substances other than Dangerous Goods. They may however be loaded in the same vehicle or packed in the same freight container with Classes 2.2



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(Non-Flammable, Non-Toxic Gases), 6 (Toxic Substances except where the substances are fire risk substances), 9 (Miscellaneous Dangerous Goods except where the goods are fire risk substances) Foodstuffs and foodstuff empties.

**Hazchem code** 2Y.

**Section 15 : REGULATORY INFORMATION**

**Safety, health and environmental regulations specific for the product** See precautionary statements in section 2.

**Poisons schedule number** S5

**Section 16 : OTHER INFORMATION**

**Date of preparation or review** May 2015

**Key abbreviations or acronyms used** Where relevant, full wording followed by [square bracketing] abbreviations are provided in this SDS.

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**END OF DOCUMENT**