

## SAFETY DATA SHEET

### Section 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

<b>Product Name:</b>	<b>GRAMOXONE 250 HERBICIDE</b>
<b>Other names:</b>	<b>Proper Shipping Name:</b> Corrosive Liquid, Toxic N.O.S. (paraquat dichloride)
<b>Recommended Use:</b>	<b>Product code no.:</b> A12983N For the control of a wide range of grasses and broadleaf weeds.
<b>Company Details:</b>	<b>Syngenta Crop Protection Pty Ltd</b> ABN 33 002 933 717
<b>Address:</b>	<b>Level 1, 2-4 Lyon Park Road,</b> <b>NORTH RYDE, NSW, 2113</b> <b>AUSTRALIA</b>
<b>Telephone number:</b>	<b>(02) 9688 0444</b>
<b>Emergency Telephone number:</b>	<b>24 Hours - 1800 033 111</b>
<b>Poisons Information Centre :</b>	<b>131 126</b>

### Section 2: HAZARDS IDENTIFICATION

<b>Hazard Classification:</b>	HAZARDOUS SUBSTANCE DANGEROUS GOODS Classified as hazardous according to the criteria of NOHSC Australia.
<b>Risk Phrases:</b>	R22: Harmful if swallowed R26: Very toxic by inhalation R37: Irritating to respiratory system R48/25: Toxic: danger of serious damage to health by prolonged exposure if swallowed R50/53: Very toxic to aquatic organisms, may cause longterm adverse effects in the aquatic environment
<b>Safety Phrases:</b>	S2: Keep out of reach of children. S13: Keep away from food, drink and animal feeding stuffs. S20/21: When using do not eat, drink or smoke. S35: This material and its container must be disposed of in a safe way. S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S57: Use appropriate container to avoid environmental contamination.

### Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

<b>Active Ingredient:</b>	
<b>Chemical Identity of pure substance:</b>	1,1'dimethyl-4,4'-bipyridinium dichloride
<b>Common Name:</b>	Paraquat (as paraquat dichloride)
<b>Synonyms:</b>	PP 148
<b>CAS number:</b>	1910-42-5 (paraquat ion), 4685-14-7 (paraquat dichloride)
<b>Significant impurities:</b>	Contains < 1 ppm terpyridines

<b>Mixture:</b>		
<b>Chemical Identity of ingredients:</b>		
<b>Ingredient</b>	<b>CAS no.</b>	<b>Content (% w/v)</b>
Paraquat (present as paraquat dichloride)	4685-14-7	24 %
water	7732-18-5	> 25%
other ingredients determined not to be hazardous	-	to 100%

## Section 4: FIRST AID MEASURES

<b>Description of necessary first aid measures:</b>	<p><b>In case of poisoning by any exposure route get to a doctor or hospital quickly. Phone poisons information on 131 126.</b></p> <p>Swallowed: <b>SPEED IS ESSENTIAL.</b> DO NOT induce vomiting. Get to a doctor or hospital immediately.</p> <p>Eye: If product gets in eyes wash it out immediately with water for at least 15 minutes, including under the eyelids. Remove contact lenses. Seek medical attention immediately.</p> <p>Skin: Remove contaminated clothing and wash affected areas thoroughly with plenty of water. If irritation persists, seek medical advice. Wash contaminated clothing before re-use.</p> <p>Inhaled: Move person to fresh air and keep at rest until recovered. Apply artificial respiration if necessary and seek medical attention.</p>
<b>Poisoning symptoms:</b>	Symptoms include inflammation of mouth, throat and oesophagus, gastrointestinal discomfort and diarrhoea.
<b>Notes for Medical Personnel:</b>	<p>Refer to the booklet "Paraquat Poisoning. A Practical Guide to Diagnosis, First Aid and Hospital Treatment." available from <a href="http://www.syngenta.com">www.syngenta.com</a>.</p> <p>Administer either activated charcoal (100 g for adults or 2 g/kg body weight for children) or Fuller's Earth (15% solution, 1 litre for adults or 15 mL/kg body weight in children). Note: the use of gastric lavage without administration of an absorbent has not shown any clinical benefit. Do not use supplemental oxygen. Eye splashes from concentrated material should be treated by an eye specialist after initial treatment. With the possibility of late onset corneal ulceration it is advised that patients with paraquat eye injuries are reviewed by an eye specialist the day after first presentation.</p>

## Section 5: FIRE-FIGHTING MEASURES

<b>Type of Hazard:</b>	This product is water based and is non-combustible, however, following evaporation of aqueous component residual organic components may burn and decompose during a fire.
<b>Fire Hazard Properties:</b>	Combustion products are toxic and or irritant. Measures have to be taken to prevent the contaminated extinguishing agent from seeping into the ground, entering drains or water courses or from spreading uncontrollably.
<b>Extinguishing Media and methods:</b>	<p>Extinguish small fires using alcohol-resistant foam, dry chemical, carbon dioxide extinguisher or fine-water spray. DO NOT use direct jet of water.</p> <p>Extinguish large fires using alcohol-resistant foam or water spray. DO NOT use direct jet of water.</p>
<b>Recommended Protective Clothing:</b>	When fighting a major fire wear self-contained breathing apparatus and protective equipment.
<b>Hazchem code:</b>	2X

## Section 6: ACCIDENTAL RELEASE MEASURES

<b><i>Emergency Procedures:</i></b>	
<b>Personal Precautions:</b>	Ensure suitable personal protection during removal of spillages. This means wearing eye protection, chemically resistant gloves, boots and overalls.
<b>Environmental Precautions:</b>	Washings must be prevented from entering surface water drains or waterways.
<b>Procedure for Spill:</b>	<ol style="list-style-type: none"> <li>(1) Keep all bystanders away.</li> <li>(2) Wear goggles, half face-piece respirator with combined dust and vapour cartridge, full length clothing and PVC gloves.</li> <li>(3) Reposition any leaking containers so as to minimise further leakage.</li> <li>(4) Dam and absorb spill with an absorbent material (e.g. sand, soil, diatomaceous earth or vermiculite).</li> <li>(5) Shovel the absorbed spill into drums.</li> <li>(6) Decontaminate the spill area with detergent and water and rinse with the smallest volume of water practicable.</li> </ol>
<b>Procedure for Disposal:</b>	<p>Disposal of the absorbed material will depend upon the extent of the spill. Contaminated material must be disposed of in accordance with all local authority requirements.</p> <ul style="list-style-type: none"> <li>• For quantities up to 50 L of product bury in a secure approved landfill site.</li> <li>• For quantities greater than 50 L seek advice from the manufacturer (use emergency contact number below) before attempting disposal. Contain in a secure location until disposal method is established.</li> </ul>

## Section 7: HANDLING AND STORAGE

<b><i>Handling:</i></b>	
<b>Handling Practices:</b>	<p>This product can only be purchased by authorised persons holding a current certificate in the safe and responsible use of agricultural chemicals, eg. Chemcert Certificate.</p> <p>Avoid contact with skin, eyes and clothing. Avoid contact with spray mist. DO NOT inhale spray mist. When opening the container and preparing product for use, wear protective clothing, including elbow-length PVC gloves, face shield or goggles and footwear. If clothing becomes contaminated with product, remove immediately. DO NOT eat, drink or smoke while using. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. Wash protective clothing daily after work.</p>
<b><i>Storage:</i></b>	
<b>Conditions for Safe Storage and Store Site Requirements:</b>	<p>Keep out of reach of children. Store in original containers with lid tightly closed. Store in a cool, well ventilated area. DO NOT store for prolonged periods in direct sunlight. Keep locked up. Keep away from food, drink and animal feeding stuffs. Do not put into drink containers.</p>

## Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

ALWAYS READ AND FOLLOW THE LABEL INSTRUCTIONS AND WARNINGS

<b>Workplace Exposure Guidelines:</b>	
<b>National Exposure Standards:</b>	Paraquat dichloride: 8 hr TWA: 0.1 mg/m <sup>3</sup> (respirable sizes)
<b>Syngenta Exposure Standards:</b>	Paraquat dichloride: 8 hr TWA: 0.5 mg/m <sup>3</sup> (total dust), 0.08 mg/m <sup>3</sup> (respirable dust) Emetic: 8 hr TWA: 0.02 mg/m <sup>3</sup>
<b>Biological Limit Values:</b>	Not applicable

<b>Engineering Controls:</b>	
<b>Exposure Control Measures:</b>	No special requirements. Product is used outdoors. If used according to label directions exposure of workers will not exceed the above exposure standards. Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. If airborne mists or vapours are generated use local exhaust ventilation controls to ensure levels are below workplace exposure standards. Follow precautionary statements on the label. Keep containers closed when not in use.

<b>Personal Protective Equipment (PPE):</b>	
<b>Detail Specifications for Equipment:</b>	Use only protective equipment bearing the mark of the Standards Association with Australia/ New Zealand. In case of heavy exposure, wear dust mask, goggles, chemical resistant gloves and heavy duty cotton overalls.
<b>Specific Route of Exposure:</b>	Swallowing is unlikely under normal conditions of usage. Inhalation of spray mist is a possible route of exposure, however as < 1% of spray droplets are small enough to enter the lungs the risk of exposure via inhalation is negligible. Skin and eye are possible routes of exposure, however, human skin is an effective barrier to paraquat absorption. This product is diluted with water prior to use as a spray. The diluted form is less toxic by all exposure routes.
<b>General Hygiene:</b>	Avoid contact with skin, eyes and clothing. Avoid contact with spray mist. DO NOT inhale spray mist. When opening the container and preparing product for use, wear protective clothing, including elbow-length PVC gloves, face shield or goggles and footwear. If clothing becomes contaminated with product, remove immediately. DO NOT eat, drink or smoke while using. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. Wash protective clothing daily after work.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Dark bluish green liquid	<b>Flash Point:</b>	> 103°C
<b>Odour:</b>	Pungent, slightly fruity	<b>Flammability:</b>	Not flammable
<b>pH:</b>	4 – 8	<b>Surface tension:</b>	5% solution: 64.2 mN/m
<b>Bulk density:</b>	1.10 – 1.14 g/mL	<b>Solubility in water:</b>	Soluble
<b>Vapour pressure:</b>	1x10 <sup>-9</sup> mmHg at room temperature	<b>Boiling Point:</b>	Approx. 100°C

<b>OTHER PROPERTIES</b>		<b>Combustibility:</b>	Not combustible
<b>Explosive properties:</b>	Not explosive	<b>Corrosiveness:</b>	Not corrosive to stainless steel
<b>Oxidising properties:</b>	Not oxidising		

## Section 10: STABILITY AND REACTIVITY

<b>Stability of the Substance:</b>	Stable under standard conditions.
<b>Conditions to Avoid:</b>	Not applicable
<b>Incompatible Materials:</b>	Aluminium, iron, mild steel
<b>Hazardous Decomposition Products</b>	Following evaporation of aqueous component, combustion or thermal decomposition will evolve toxic and irritant vapours
<b>Hazardous Reactions:</b>	Not applicable

## Section 11: TOXICOLOGICAL INFORMATION

### ACUTE HEALTH EFFECTS FROM LIKELY ROUTES OF EXPOSURE

This product is hazardous (WHO Hazard Class III)

<b>Swallowing:</b>	<b>HARMFUL</b> This formulation contains safening agents which significantly reduce the oral toxicity in vomiting species. Standard rat acute oral toxicity tests indicate the substance is harmful following a single dose of the undiluted product. Rat acute oral LD <sub>50</sub> = 310 mg/kg
<b>Skin contact:</b>	<b>LOW TOXICITY</b> Tests on rats indicate a low toxicity due to skin contact with the undiluted product. Rat acute dermal LD <sub>50</sub> > 2000 mg/kg <b>NON-IRRITANT</b> (rabbit) according to NOHSC criteria <b>NOT A SKIN SENSITISER</b> (guinea pig)
<b>Eye contact:</b>	<b>NON-IRRITANT</b> (rabbit) according to NOHSC criteria
<b>Inhalation:</b>	<b>TOXIC</b> Tests on rats indicate the active ingredient, paraquat, is highly toxic if inhaled. However, unlikely to be hazardous by inhalation because of low vapour pressure at ambient temperature. Rat acute inhalation LC <sub>50</sub> (4 hr) = 0.5 – 1.5 µg/L

### CHRONIC HEALTH EFFECTS

Studies have shown that repeated doses of paraquat do not produce carcinogenic, mutagenic or teratogenic effects or cause adverse reproductive effects in animals. There is no chronic toxicity information on the formulated product.

## Section 12: ECOLOGICAL INFORMATION

The following information is based on paraquat dichloride technical material.

<b>Acute toxicity to fish:</b>	96hr LC <sub>50</sub> = 55 mg/L in rainbow trout ( <i>Oncorhynchus mykiss</i> )
<b>Acute toxicity to algae(growth inhibition):</b>	96hr EC <sub>50</sub> = 0.60 mg/L in green algae ( <i>Selenastrum capricornutum</i> )
<b>Acute toxicity to aquatic invertebrates:</b>	26 hr EC <sub>50</sub> = 11 mg/L in water flea ( <i>Daphnia magna</i> )
<b>Toxicity to soil dwelling organisms:</b>	14 day LC <sub>50</sub> >1000 mg/kg in earthworm ( <i>Eisenia foetida</i> )
<b>Persistence/degradability:</b>	Paraquat is rapidly and strongly bound to soil particles, however it is biodegradable in soil pore water and will not accumulate in soils.
<b>Mobility:</b>	Paraquat is immobile in soil and will not leach into ground water.
<b>Bioaccumulative potential:</b>	Paraquat does not bioaccumulate.

## Section 13: DISPOSAL CONSIDERATIONS

<b>Product Disposal:</b>	Dispose of this product only by using according to the label. Do not contaminate drains, streams, rivers or waterways with the chemical or used container. Add rinsings to spray tank.
<b>Container Disposal:</b>	<p>Do not re-use container for any other purpose.</p> <p><b>Non-returnable containers:</b> Triple rinse or preferably pressure rinse containers with water. Add the rinsings to the spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point.</p> <p>If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.</p> <p><b>Returnable containers:</b> Empty contents fully into application equipment. Do not rinse. Close all valves and return to designated collection point for re-use.</p>

## Section 14: TRANSPORT INFORMATION

<b>Transport Classification – Road &amp; Rail (ADR/RID), Sea (IMDG) and Air (IATA-DGR):</b>			
<b>UN No.:</b>	2922	<b>Proper Shipping Name:</b>	CORROSIVE LIQUID, TOXIC N.O.S.
<b>Class:</b>	8		(PARAQUAT DICHLORIDE)
<b>Subsidiary risk:</b>	6.1	<b>Hazchem:</b>	2X
<b>Packing Group:</b>	III	<b>Marine pollutant:</b>	No

## Section 15: REGULATORY INFORMATION

<b>APVMA Approval Number:</b>	46531
<b>Poisons Schedule (SUSDP):</b>	S7

## Section 16: OTHER INFORMATION

**Source of Data:**  
The information provided in this SDS is sourced from Syngenta internal studies which have been conducted according to Regulatory requirements including OECD and CIPAC Guidelines and EC Directives. A comprehensive package of toxicological and environmental data for the active ingredients of this product has been submitted to the government health and environment authorities and has been evaluated by expert toxicologists and environmental scientists.

**Note:** This product is a registered agricultural chemical and must therefore be used in accordance with the container label directions.

**CONTACT POINT:** Regulatory Affairs Manager – Syngenta Crop Protection - (02) 8876 8444  
**24 HOURS EMERGENCY CONTACT: 1 800 033 111**

This Material Safety Data Sheet summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

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