SAFETY DATA SHEET

Section 1: Identification: Product identifier and chemical identity

Product Identifier:	**SPRAY.SEED 250 Herbicide**
Other Means of Identification:	**Proper shipping name:** Bipyridilium Pesticides Liquid, N.O.S. (Paraquat and Diquat) **Applicable only for marine and air transport** **Product code:** A12984A / A12984C / A12984E / A12984G / A12984J
Recommended Use:	Herbicide
Details of manufacturer or importer	**Syngenta Australia Pty Ltd** ABN 33 002 933 717
Address:	**Level 1, 2-4 Lyonpark Road** **MACQUARIE PARK NSW 2113** **AUSTRALIA**
Website:	**syngenta.com.au**
Phone Number:	**(02) 8014 5200**
Emergency Phone Number:	**24 hours - 1800 033 111**

Section 2: Hazards identification

Classification of the Hazardous Chemical:	Corrosive to metals – Category 1 Acute toxicity (Oral) – Category 4 Acute toxicity (Inhalation) – Category 1 Skin irritation – Category 2 Serious eye damage – Category 1 Skin sensitisation – Category 1 Specific target organ toxicity – repeated exposure – Category 1
Signal Word:	Danger
Hazard Statement(s):	H290 May be corrosive to metals. H302 Harmful if swallowed. H311 Toxic in contact with skin. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H330 Fatal if inhaled. H335 May cause respiratory irritation. H372 Causes damage to organs through prolonged or repeated exposure.
Precautionary Statement(s):	P102 Keep out of reach of children. P280 Wear protective gloves/ protective clothing/ eye protection/face protection. P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER or doctor/ physician. P390 Absorb spillage to prevent material damage. P391 Collect spillage. P501 Dispose of contents/ container to an approved waste disposal plant.

Hazard Symbols:



Section 3: Composition and information on ingredients

SUBSTANCE		
Chemical Identity of Pure Substance:	Paraquat dichloride	Diquat dibromide
Synonym:	PP148	PP901
CAS Number:	1910-42-5	85-00-7

MIXTURE		
Chemical Identity of Ingredients:	**CAS No**	**Proportion (% w/v)**
Paraquat ion present as paraquat dichloride	1910-42-5	13.5
Diquat ion present as diquat dibromide	85-00-7	11.5
Pyridine alkyl derivatives	68391-11-7	<1
2-amino-6-methyl-4-propyl-1,2,4-triazolo[1,5-a]pyrimidin-5(4H)-one	27277-00-5	<1
Non-hazardous ingredients	-	to 100

Section 4: First aid measures

Description of Necessary First Aid Measures:

In case of poisoning by any exposure route get to a doctor or hospital quickly.
Phone Poisons Information Centre on 131 126.
Have the product label or SDS with you when calling or going for treatment.

Ingestion: **SPEED IS ESSENTIAL**. Immediate medical attention is required. DO NOT induce vomiting. If available, give an adsorbent such as activated charcoal or bentonite.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

Skin contact: Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If irritation persists, call a physician. Wash contaminated clothing before re-use.

Inhalation: Move person to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a physician or Poisons Information Centre immediately.

Symptoms Caused by Exposure:

Symptoms include inflammation of the mouth, throat and oesophagus, gastrointestinal discomfort and diarrhoea.

Medical Attention and Special Treatment:

Refer to the booklet 'Paraquat Poisoning. A Practical Guide to Diagnosis, First Aid and Hospital Treatment' (www.syngenta.com/pqmedguide/).
Administer either activated charcoal (100 g for adults or 2 g/kg body weight in children).
NOTE: The use of gastric lavage without administration of an adsorbent 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.

Section 5: Fire fighting measures

Suitable Extinguishing Equipment:	**Small fires:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. **Large fires:** Use alcohol-resistant foam or water spray. DO NOT use a solid water stream as it may scatter and spread fire.
Specific Hazards Arising from the Chemical:	As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion. Combustion or thermal decomposition will evolve toxic and irritant vapours. Exposure to decomposition products may be a hazard to health.
Special Protective Equipment and Precautions for Fire Fighters:	Wear full protective clothing and self-contained breathing apparatus. DO NOT allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.
Hazchem Code:	2X

Section 6: Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures:	In case of spillage it is important to take all steps necessary to • Avoid eye and skin contact • Avoid contamination of waterways Wear full length clothing and PVC gloves Keep all bystanders away
Environmental precautions:	Prevent further leakage or spillage if safe to do so. DO NOT flush into surface water or sanitary sewer system.
Methods and Materials for Containment and Clean Up:	**Procedure for spill** (1) Keep all bystanders away (2) Wear full length clothing and PVC gloves (3) Reposition any leaking containers so as to minimise further leakage (4) Dam and absorb spill with an absorbent material (eg sand or soil) (5) Shovel the absorbed spill into drums (6) Disposal of the absorbed material will depend upon the extent of the spill • For quantities up to 50 L of product bury in a secure landfill site • 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 (7) Decontaminate spill area with detergent and water and rinse with the smallest volume of water practicable

Section 7: Handling and storage

Precautions for Safe Handling:	MANUFACTURE, PACKAGING AND TRANSPORT: Avoid skin and eye contact and the inhalation of vapour and mist. Wear overalls, face shield, elbow-length impervious gloves, splash apron and rubber boots. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using. If inhalation risk of vapour or spray exists wear organic vapour respirator meeting the requirements of Standards Australia, PREPARATION AND USE OF PRODUCT: Very dangerous, particularly the concentrate. Product is poisonous if absorbed by skin contact, inhaled or swallowed. Will irritate the eyes, nose, throat and skin. Attacks eyes. Protect eyes while using. Avoid contact with eyes, skin and clothing. DO NOT inhale spray mist. When opening the container, preparing product for use and using the prepared spray, wear: • cotton overalls buttoned to the neck and wrist • a washable hat • elbow-length PVC gloves • face shield or goggles • half facepiece respirator or disposable respirator If clothing becomes contaminated with product, or wet with spray, remove contaminated clothing immediately. If product on skin, immediately wash area with soap and water. If product in eyes, wash it out immediately with water. Avoid contact with spray mist. DO NOT inhale spray mist. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, respirator and if rubber wash with detergent and warm water, face shield or goggles and contaminated clothing.
Conditions for Safe Storage, Including any Incompatibilities:	Store in the closed, original container in a dry, cool, well ventilated locked room or place away from children, animals, food, feedstuffs, seed and fertilisers. DO NOT store for prolonged periods in direct sunlight.

Section 8: Exposure controls and personal protection

ALWAYS READ AND FOLLOW THE LABEL INSTRUCTIONS AND WARNINGS

	Component	Exposure limit	Value type
National Exposure Standards:	Paraquat (respirable sizes)	0.1 mg/m^3	TWA
	Diquat	0.5 mg/m^3	TWA
Syngenta Exposure Standards:	Paraquat ion (inhalable particulate)	0.01 mg/m^3	8 h TWA
		0.03 mg/m^3	15 min STEL
	Paraquat dichloride (respirable dust)	0.08 mg/m^3	8 h TWA
	Diquat dibromide	0.5 mg/m^3	8h TWA
		1 mg/m^3	15 min STEL
Biological Limit Values:	No biological limits allocated		
Engineering Controls:	No special requirements. Product is used outdoors.		

Personal Protective Equipment:	MANUFACTURE, PACKAGING AND TRANSPORT: Avoid skin and eye contact and the inhalation of vapour and mist. Wear overalls, face shield, elbow-length impervious gloves, splash apron and rubber boots. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using. If inhalation risk of vapour or spray exists wear organic vapour respirator meeting the requirements of Standards Australia. PREPARATION AND USE OF PRODUCT: Very dangerous, particularly the concentrate. Product is poisonous if absorbed by skin contact, inhaled or swallowed. Will irritate the eyes, nose, throat and skin. Attacks eyes. Protect eyes while using. Avoid contact with eyes, skin and clothing. DO NOT inhale spray mist. When opening the container, preparing product for use and using the prepared spray, wear: • cotton overalls buttoned to the neck and wrist • a washable hat • elbow-length PVC gloves • face shield or goggles • half facepiece respirator or disposable respirator If clothing becomes contaminated with product, or wet with spray, remove contaminated clothing immediately. If product on skin, immediately wash area with soap and water. If product in eyes, wash it out immediately with water. Avoid contact with spray mist. DO NOT inhale spray mist. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, respirator and if rubber wash with detergent and warm water, face shield or goggles and contaminated clothing.

Section 9: Physical and chemical properties

Appearance:	Dark green/blue liquid	**Boiling / Melting Point:**	Approx. 100°C
Odour:	Characteristic of pyridine base	**Freezing Point:**	Not available
pH:	5 - 6	**Solubility:**	Soluble in water
Vapour Pressure:	Not available	**Specific Gravity:**	1.16 g/cm^3 at 20°C
Vapour Density:	Not available		

Flash Point:	Not applicable	**Explosive Properties:**	Not available
Upper and Lower Flammable (Explosive) Limits in Air:	Not applicable	**Oxidising Properties:**	Not available
		Combustibility:	Not combustible
Ignition Temperature:	Not applicable	**Corrosiveness:**	Corrosive

Section 10: Stability and reactivity

Reactivity:	No information available
Chemical Stability:	No information available
Possibility of Hazardous Reactions:	Corrosive in contact with metals
Conditions to Avoid:	No information available
Incompatible Materials:	Aluminium, mild steel, iron
Hazardous Decomposition Products:	Combustion or thermal decomposition will evolve toxic and irritant vapours.

Section 11: Toxicological information

Health Effects from Likely Routes of Exposure:

Acute	**Oral toxicity:**	**TOXIC** Tests on rats indicate this product is toxic following single doses of active ingredient. Paraquat dichloride: LD_{50} = 93.4 mg/kg Diquat dibromide: LD_{50} = 214 mg/kg
	Dermal toxicity:	**LOW TOXICITY** Tests on rats indicate this product has a low toxicity following skin contact with active ingredient. Paraquat dichloride:LD_{50} > 2,000 mg/kg Diquat dibromide: LD_{50} > 2,000 mg/kg
	Inhalation:	(Humans): Assessment: The substance/mixture is not toxic on inhalation as defined by dangerous goods regulations. Remarks: Nose bleeding and soreness of the throat may result from spray mist or dust trapped on the nasal mucosa. Acute toxicity estimate: 0.03 mg/L Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
	Skin irritation:	**IRRITANT**
	Eye irritation:	**IRRITANT**
	Sensitisation:	**SENSITISER**
Chronic	**Paraquat dichloride technical** has been extensively tested on laboratory mammals and in test-tube systems. No evidence was obtained of mutagenic, carcinogenic, or teratogenic effects. Ocular effects (cataracts) have been reported following long term oral exposure of laboratory animals. **Diquat dibromide technical** has been extensively tested on laboratory mammals and in test-tube systems. No evidence was obtained of mutagenic, carcinogenic, teratogenic or reproductive effects. Ocular effects (cataracts) have been reported following long term oral exposure of laboratory animals.	

Section 12: Ecological information

Ecotoxicity	The following are based on tests conducted with the active ingredients	
	Toxicity to fish:	**Slightly toxic to fish** Paraquat *Oncorhynchus mykiss* (rainbow trout): LC_{50} = 55 mg/L, 96 h Diquat dibromide *Oncorhynchus mykiss* (rainbow trout): LC_{50} = 21 mg/L as diquat ion, 96 h (static)
	Toxicity to daphnia and other aquatic invertebrates:	**Moderately toxic to aquatic invertebrates** Paraquat *Daphnia magna* (Water flea): EC_{50} = 6.1 mg/L, 48 h Diquat *Daphnia magna* (Water flea): EC_{50} = 5.9 mg/L as diquat ion, 48 h
	Toxicity to algae:	**Highly toxic to algae** Paraquat dichloride *Pseudokirchneriella subcapitata* (green algae): EC_{50} = 0.60 mg/L, 72 h *Navicula pelliculosa* (freshwater diatom): E_rC_{50} = 0.00103 mg/L as diquat ion, 72 h Diquat *Navicula pelliculosa* (freshwater diatom): E_rC_{50} = 0.003 mg/L as diquat ion, 72 h
Persistence and Degradability:	Paraquat is persistent in water (Degradation half-life: > 30 d). Diquat is persistent in water (Degradation half-life: > 30 d) Paraquat is persistent in soil (Degradation half-life: ca. 20 y). Diquat is persistent in soil (Degradation half-life: 11 - 41 y). Paraquat is rapidly and strongly bound to soil particles, however it is biodegradable in soil pore water and will not accumulate in soils.	
Mobility in Soil:	Paraquat and diquat are immobile in soil.	
Bioaccumulative Potential:	Paraquat and diquat do not bioaccumulate	

Section 13: Disposal considerations

Disposal Methods:	**Non-refillable containers:** 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. 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. **Refillable containers:** Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.
Special Precautions for Incineration or Landfill:	Not applicable

Section 14: Transport information

LAND TRANSPORT ADG			
UN Number:	3016	**Packing Group:**	III
UN Proper Shipping Name:	Bipyridilium Pesticides Liquid, N.O.S. (Paraquat and Diquat)	**Special Precautions for User:**	None allocated
Transport Hazard Class:	6.1	**Hazchem or Emergency Action Code:**	2X
Subsidiary Risk:	None allocated		

SEA TRANSPORT IMDG			
UN Number:	3016	**Subsidiary Risk:**	None allocated
UN Proper Shipping Name:	Bipyridilium Pesticides Liquid, N.O.S. (Paraquat and Diquat)	**Packing Group:**	III
Transport Hazard Class:	6.1	**Environmental hazards for Transport Purposes:**	Marine pollutant

AIR TRANSPORT IATA - DGR			
UN Number:	3016	**Subsidiary Risk:**	None allocated
UN Proper Shipping Name:	Bipyridilium Pesticides Liquid, N.O.S. (Paraquat and Diquat)	**Packing Group:**	III
Transport Hazard Class:	6.1		

Section 15: Regulatory information

APVMA Product Number:	46516
Poisons Schedule (SUSMP):	7

Section 16: Any other relevant information

Date of preparation or last revision: 20 October 2021

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 Australia Pty Ltd
(02) 8876 8444
24 HOURS EMERGENCY CONTACT: 1800 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.

DISCLAIMER
This product complies with the specifications in its statutory registration. Implied terms and warranties are excluded. Syngenta's liability for breach of the express or any non-excludable implied warranty is limited to product replacement or purchase price refund. The purchaser must determine suitability for intended purpose and take all proper precautions in the handling, storage and use of the product including those on the label and/or safety data sheet failing which Syngenta shall have no liability.

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