

1: Identification of the Substance and Supplier

Product Name	PQ200
Recommended Use	Herbicide
Suppliers Details	Orion AgriScience Ltd Unit 1, 15 Sir Gil Simpson Drive, Harewood, Christchurch, 8053 PO Box 39 071, Harewood, Christchurch, 8545
Web Address	www.orionagriscience.co.nz
Email Address	orders@orionagriscience.co.nz
Telephone Number	(03) 928 2386 (office hours), 0800 674 6627 (free phone)
Emergency Telephone	0800 CHEMCALL (0800 243 622) (24 hours)
National Poison Centre	0800 POISON (0800 764 766) (24 hours)
Date of Issue/Revision	May 2020

2: Hazards Identification

Hazard Pictograms



Signal Words

Hazard Classes:

- 6.1A Acute Toxicity (Inhalation Cat. 1)
- 6.1C Acute Toxicity (Oral Cat. 3)
- 6.1E Acute Toxicity (Dermal Cat. 5)
- 6.3A Skin Irritation (Cat. 2)
- 6.4A Eye Irritation (Cat. 2)
- 6.9A Target Organ Systemic Toxicity (Oral Cat. 1)
- 9.1A Aquatic Ecotoxicity (Cat. 1)
- 9.3B Terrestrial Vertebrate Ecotoxicity
- 9.4B Terrestrial Invertebrate Ecotoxicity

Precautionary Statements:

Prevention

Response

Danger

Hazard Statements:

- Fatal if inhaled
- Toxic if swallowed
- May be harmful in contact with skin
- Causes skin irritation
- Causes serious eye irritation
- Causes damage to organs through prolonged or repeated exposure
- Very toxic to aquatic organisms with long lasting effects
- Toxic to terrestrial vertebrates
- Toxic to terrestrial invertebrates

Keep out of reach of children. Read label before use. Avoid contact with eyes and skin. Do not breathe in the spray mist. Do not eat, drink or smoke during use. Wash hands thoroughly after use. When mixing, loading, applying, or entering a treated area, wear personal protection as described in section 8. Take off contaminated clothing and wash before reuse. Use outdoors only. Take all reasonable steps to ensure that this product does not cause any significant adverse effects to the environment beyond the application area. Do not apply directly into or onto water.

First aid measures described in section 4. Contain and collect spillage for disposal. In an emergency call 111, Police or Fire Brigade. For specialist advice in an emergency only, call 0800 CHEMCALL (0800 243 6225) (24 hrs).

3: Composition/ Information on Ingredients

Ingredient	CAS No	Content (% w/v)
Paraquat dichloride (active ingredient)	1910-42-5	28
Stenching agent	Proprietary	<1
Emetic	Proprietary	<1
Other ingredients	Proprietary	Remainder

4: First Aid Measures

If medical advice is needed, have product container or label at hand. For advice call the National Poisons Centre or a Doctor

Ingestion:	Rinse mouth. Seek medical advice immediately.
Skin Contact:	Wash with plenty of soap and water. Seek medical advice if irritation occurs or if feeling unwell.
Eye Contact:	Rinse cautiously with water for several minutes. Remove contact lenses, if easy to do so. Continue rinsing. Seek medical advice immediately.
Inhalation:	Remove to fresh air and keep at rest in a position comfortable for breathing. Seek medical advice immediately.
Workplace Facilities:	Hand wash facility. Eye wash facility
Advice to Doctor:	Rapid treatment is essential. Refer to an authoritative text on treatment, e.g., Recognition and Management of Pesticide Poisonings, US EPA, Chapter 16 Paraquat and Diquat http://www2.epa.gov/pesticide-worker-safety/pesticide-poisoning-handbook-complete-document Eye splashes should be referred to a specialist after initial treatment
National Poison Centre	0800 POISON (0800 764 766) (24 hours)

Symptoms of Exposure which could occur if this material is not handled in accordance with instructions:

Ingestion:	Burning pain in mouth, throat, chest and upper abdomen. Inflammation or ulceration of the mouth, nose, throat and oesophagus. Vomiting, diarrhoea, giddiness, headache, fever
Skin Contact:	Irritation. Prolonged contact can cause redness, blistering, abrasion, ulceration, cracking of the skin and ridging of fingernails. Can be absorbed via the skin, especially through cuts, blisters, ulcers, etc.
Eye Contact:	Irritation. Splashes of concentrate may cause severe conjunctivitis and corneal damage
Inhalation:	Cough, sore throat, laboured breathing, headache, nosebleeds

5: Fire-Fighting Measures

Fire/Explosion Hazard	Non-Flammable
HAZCHEM Code	2X
ERP Guide No	34
Extinguishing Media	Water spray, foam, dry chemical or CO2. Avoid water jet.
Fire Fighting Instructions	During a fire, toxic fumes may be emitted. Wear self-contained breathing apparatus. Contain runoff.
Specific Hazards Arising from Fire	No data available

6: Accidental Release Measures

Personal Precautions	Caution: Floors may be slippery if wet. Wear personal protective clothing and equipment as described in section 8. Exclude non-essential people from the area.
Environmental Precautions	Prevent further spillage or leakage. Prevent material from entering drains, waterways, etc.
Clean Up	Absorb spillage with inert material such as spill kit, sand or cat litter. Collect and place in a sealable container for disposal. Wash down affected area with water and detergent. Absorb and collect washings for disposal. Dispose of safely to a suitable landfill.

7: Handling and Storage

Storage:	Keep out of reach of children. Store in the original tightly closed container in a locked and secure area. Never put in a drinks container.
Handling and Use:	Refer to Prevention statements in section 2 above. Exclude people and animals from the application area, both during application and for the duration of the REI. Do not use with a mist blower or fogger.
REI	24 hours from application and when sprayed foliage is dry

8: Exposure Controls / Personal Protection

Tolerable Exposure Limit	None established
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SAFETY DATA SHEET

PQ200



Workplace Exposure Standards	Paraquat 0.1 mg/m ³ (8hr TWA)
Engineering Controls	Select spray application equipment to minimize exposure to operator and bystanders
Personal Protection:	
Eye	Safety glasses/goggles or face shield when mixing or applying
Skin	Chemical resistant coveralls with hood tightly fitting at head, wrists and ankles (e.g., Tychem F suit), chemical resistant boots and chemical resistant gloves (e.g. nitrile, neoprene, rubber, barrier multilayer).
Respiratory	Respirator (organic vapour and particulate matter)

Clean protective equipment after use

9: Physical and Chemical Properties

Appearance	Dark Green Liquid
Odour	Characteristic pyridine
Odour Threshold	No data available
pH	2.0 – 6.0
Melting Point/Freezing Point	No data available
Boiling Point	>100°C
Flash Point	Not Applicable
Flammability	Not Applicable
Upper/Lower Flammability Limits	Not Applicable
Vapour Pressure	No data available
Vapour Density	No data available
Relative Density	1.08 g/mL (approx.)
Solubility in Water	Soluble
Partition Coefficient: n-octanol/water	See section 12
Auto ignition Temperature	Not Applicable
Decomposition Temperature	No data available
Kinematic Viscosity	No data available

10: Stability and Reactivity

Stability	Stable under normal conditions
Hazardous Reactions	None Expected
Incompatibility	None Known. Can cause corrosion when in contact with metals such as steel or aluminum.
Hazardous Decomposition Products	None Known

11: Toxicological Information

This section describes effects which could occur if this material is not handled in accordance with this data sheet and label instructions

Acute Oral Toxicity	LD50 > 50 mg/kg
Acute Dermal Toxicity	LD50 > 2000 mg/kg
Acute Inhalation Toxicity	LD50 < 0.05 mg/L
Skin Irritant/Corrosive	Skin Irritant
Eye Irritant/Corrosive	Strongly Irritating
Sensitisation Effects	None
Mutagenic Effects	None
Carcinogenic Effects	None
Reproductive Effects	None
Specific Organ Toxicity	Paraquat has life threatening effects on the lungs, gastrointestinal tract, kidney, liver, heart and other organs

12: Ecological Information

This section describes effects which could occur if this material is not handled in accordance with this data sheet and label instructions

The following information is presented in respect of the active ingredient:

	<ul style="list-style-type: none"> Acute Oral LD50 (Bobwhite quail) 175 mg/kg LC50 (96 hr) (Rainbow trout) 26 mg/l LC50 (48 hr) (Daphnia) 6.1 mg/l Algae EC50 (96 hr) 0.10 mg/l Acute Oral LD50 (Bee) 36 µg/bee (moderately toxic)
Persistence/degradability	Biodegradable. DT50 (soil) 2800 days (typical)
Bioaccumulative Potential	Octanol-water partition coefficient LogP = -4.5 (low)
Soil Mobility	Soil organic carbon water partitioning coefficient Koc = 1000000 (none mobile)
Environmental Exposure Limit:	None established

13: Disposal Considerations

Product	Dispose of product by using it in accordance with the label. Waste product should be disposed of to a suitable landfill. For disposal of large quantities contact Orion AgriScience Ltd.
Container	Dispose of to a suitable landfill or via AgRecovery. Do not burn. Do not use packaging for any other purpose.

14: Transport Information

Dangerous Goods	
UN Number	3016
Proper Shipping Name	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC (PARAQUAT DICHLORIDE 28%)
Class	6
Subsidiary Class	None
Packing Group	III
Additional Information	MARINE POLLUTANT
MTQ (Non-Commercial)	250 litres
Passenger Service Vehicle	Must not be carried on passenger service vehicle

15 Regulatory Information

EPA Approval No	HSR000828
ACVM Registration No	P4852
Qualified Person	Required
Certified Handler	Required
Workplace Only	Yes
Tracking	Required
Record Keeping	Required
Site Requirements under EPA Notice and HSWHS Regs:	<ul style="list-style-type: none"> A hazardous substance location compliance certificate is required A hazardous area is not required Separation distances for class 3 and class 6 substances to protected places and public places is applicable Fire extinguishers are not required Signage is required for more than 50 litres An emergency response plan is required for more than 100 litres Secondary containment is required for more than 100 litres Segregation from incompatible substances (classes 1 and 5) is required

Additional Requirements

Responsible Handling Information is available at www.orionagriscience.co.nz and this information should be read and understood before use. Maximum single application rate: 3 L/ha. Maximum annual application rate: 3L/ha. This product must only be used for agricultural or biosecurity purposes. Do not apply when wind speeds are less than 3 km/h or more than 20 km/h. Application must be by a coarse quality spray for ground-based application, and coarse to very coarse droplets for aerial application - as classified by the American Society of Agricultural & Biological Engineers (ASABE) droplet size classification scheme (American National Standard ANSI/ASABE S572.1). Do not transfer this product into food or drinks containers, or into unlabeled containers. Refer to NZS 8409:2004 'Management of Agrichemicals', and relevant local and regional council plans.

Downwind Buffer Zones:

	Aquatic Area		Non-target plants (non-threatened)		Non-target plants (threatened)	
	≤2 L/ha	>2 - ≤3 L/ha	≤2 L/ha	>2 - ≤3 L/ha	≤2 L/ha	>2 - ≤3 L/ha
Ground	Nil	5 m	Nil	5 m	5 m	5 m
Aerial	5 m	15 m	40 m	40 m	60 m	100 m

16: Other Information

Glossary

ADE	Acceptable Daily Exposure – A daily dose, received via any route, below which no adverse effects are expected over a lifetime of exposure
ACVM	Agricultural Compounds and Veterinary Medicines group of the Ministry of Primary Industries
Agricultural Purposes	Includes use for agricultural and production horticulture purposes, but does not include use for forestry plantation or biosecurity purposes. Production horticulture includes commercial cropping systems and commercial ornamental horticulture production, but excludes amenity horticulture in publicly accessible areas or horticulture areas which would otherwise be considered domestic properties. This definition of agricultural purposes also includes commercial forestry nurseries.
Biosecurity Purposes	Use for operations carried out under the Biosecurity Act 1993, for which permission under S95A must be obtained
Cat.	GHS category
Ceiling	A concentration that should not be exceeded at any time during any part of the working day
Certified Handler	A qualification issued by a Compliance Certifier to handle and use particularly toxic substances (6.1A and 6.1B)
DT50	Time (days) for 50% reduction in concentration
EC50	Concentration required to produce an effect in 50% of organisms
Environmental Exposure Limit	Maximum concentration limit of a substance in an environmental medium, e.g., water, soil.
EPA Notice	Hazardous Property Controls Notice 2017
ERP Guide	Dangerous Goods – Initial Emergency Response Guide SNZ HB 76:2008
GHS	Globally harmonized system of classification and labelling of chemicals
Hazardous Substance Location	For locations storing hazard substances of certain classes above threshold quantities
Compliance Certificate	
Hazardous Area	A designated area designed for the presence of flammable substances - Refer AS/NZS 60079.10.1:2009
HAZCHEM Code	Emergency action code for emergency services
HSWHS Regs	Health and Safety at Work (Hazardous Substances) Regulations 2017
LC50	Concentration that will kill 50% of organisms
LD50	Dose that will kill 50% or organisms
MTQ	Maximum Transport Quantity. The maximum amount of dangerous goods that can be transported by road by the user

Notification	Advance notice given to neighbours and other affected parties, of details of proposed application, and other details as described
Octanol-Water Partition Coefficient	The partition coefficient of a substance between n-octanol and water, used as the Logarithm base 10 form, as an indicator that a substance may bioaccumulate
Protected Place	Residential properties, schools, hospitals, kindys, factories, shops, warehouses, etc., and other places where people assemble
Public Place	A place frequented by the public, including roads (does not include private property)
Qualified Person	A requirement for the loader, contractor or person applying the product to hold a qualification such as a GROWSAFE Certificate, Unit Standard 21563, etc.
Record Keeping	Includes a spray diary or other record of application
REI	Restricted Entry Interval – The length of time after application before entry into the treated area is permitted without the use of protective equipment. For indoor environments, this time period commences once ventilation after treatment begins.
Segregation	Certain classes of substances must not be in contact with, and must be stored separately from, certain other classes as specified in HSWHS Regs
Separation Distances	The distances specified in Part 11 and Part 13 of HSWHS Regs between storage and/or use of hazardous substances and protected places and/or public places
Signage	Positioned at entrances to commercial premises providing information on the hazardous substances present
Soil Adsorption Coefficient (Kd)	The ratio of the concentrations of a substance adsorbed onto a solid sorbent to that dissolved in a liquid phase. The higher the value the less mobile the chemical is in soil
Soil Organic Carbon-Water Partitioning Coefficient (Koc)	The ratio of the mass of a chemical that is adsorbed in the soil per unit mass of organic carbon in the soil
STEL	Short term exposure level – 15 minute time weighted average
Tolerable Exposure Limit	Maximum concentration limit of a substance above which persons must not be exposed
Tracking	For some particularly hazardous substances, a record must be kept of the transport, storage, sale and use of the product
TWA	Time weighted average calculated over an 8 hour working day
Workplace Exposure Standard	An occupational health standard limiting concentrations of specified substances to which persons are exposed
Workplace Only	A product that is restricted to a workplace only and under the supervision of a certified handler

Please Note

Users must ensure that the most up to date version of this safety data sheet is used.

This Safety Data Sheet summarises information on this product, and how to safely handle and use the product. Each user should familiarise themselves with the product label and Safety Data Sheet, and consider the information in the context of how the product will be handled and used, including in conjunction with other products. Orion AgriScience Ltd assumes no responsibility for the accuracy, completeness or suitability of this information. The user is responsible for determining the suitability and accuracy of this information for their particular purposes.

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