Section 1 - Identification of The Material and Supplier

Sabakem Pty Ltd
Suite 809, Level 8, 2 Queen St
Melbourne VIC 3000 AUSTRALIA
Phone: 03 9629 3979
www.sabakem.com
Emergency: 1800 033 111

Chemical nature:	Paraquat and Diquat are Bipyridylium herbicide.
Trade Name	**Sabakem Paraquat Diquat 250**
APVMA Code:	**94419**
Product Use:	Agricultural herbicide for use as described on the product label.
Creation Date:	**May, 2024**
This version issued:	**May, 2024** and is valid for 5 years from this date.
Emergency telephone:	**Poisons Information Centre 13 11 26 (24 hours)**

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and Safe Work Australia criteria.

ADG Classification: Dangerous Goods Class 6.1 BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC
If transported by Air or Sea, the product is additionally classed as Dangerous Class 9 Environmentally Hazardous by IATA and IMDG respectively. See details below and in Section 14 of this SDS.

Classification of the substance or mixture:

Acute Oral Toxicity Category 4

Acute Inhalation Toxicity Category 2

Skin Sensitisation Category 1

Skin Irritation Category 2

Eye Irritation Category 2A

Specific Target Organ Toxicity Single Exposure Category 3
Specific Target Organ Toxicity Repeated Exposure Category 1



The following health hazard categories fall outside the scope of the Workplace Health and Safety Regulations

Acute Aquatic Toxicity Category 1

Chronic Aquatic Toxicity Category 1

GHS Signal word: DANGER

HAZARD STATEMENT(S):

H302: Harmful if swallowed.
H330: Fatal if inhaled.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.
H372: Causes damage to organs through prolonged or repeated exposure.
H400: Very toxic to aquatic life
H410: Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENT(S):

PREVENTION

P102: Keep out of reach of children.
P260: Do not breathe fumes, mist, vapours or spray.
P261: Avoid breathing fumes, mists, vapours or spray.
P264: Wash contacted areas thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P272: Contaminated work clothing should not be allowed out of the workplace.
P273: Avoid release to the environment.
P280: Wear protective gloves, protective clothing and eye or face protection.
P284: [In case of inadequate ventilation] wear respiratory protection.
P314: Get medical advice if you feel unwell.

RESPONSE

P301 + P312: IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.
P302 + P352: IF ON SKIN: Wash with plenty of water.
P304 + P340: IF INHALED: Remove person to fresh air and keep 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 CENTRE or doctor if inhaled.
P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312: Call a POISON CENTRE or doctor if you feel unwell.
P320: Specific treatment is urgent (see the label).
P321: Specific treatment (see the label).
P330: Rinse mouth.
P333+P313: If skin irritation or rash occurs: Get medical advice.
P337 + P313: If eye irritation persists: Get medical advice.
P362 + P364: Take off contaminated clothing and wash it before reuse.
P391: Collect spillage.

STORAGE

P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.

DISPOSAL

P501: Dispose of contents and containers as specified on the registered label.

Section 3 - Composition/Information On Ingredients

Ingredients	CAS No	Conc. (%)
Paraquat dichloride	1910-42-5	13.5
Diquat dibromide	85-00-7	11.5

Other components are not considered hazardous in this formulation and therefore are not required to be disclosed according to the WHS Regulations.
This is a commercial product whose exact ratio of components may vary slightly.

Section 4 - First Aid Measures

General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call.

Inhalation: If inhalation occurs, immediately contact a Poisons Information Centre. Remove affected person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. DO NOT allow victim to move about unnecessarily. Seek medical attention if required.

Skin Contact: In case of skin contact, immediately remove contaminated clothing and wash affected areas with water and soap. Seek medical attention if symptoms occur. Decontaminate clothing before reuse or discard.

Eye Contact: Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. Take special care if exposed person is wearing contact lenses.

Ingestion: Obtain immediate medical attention. If swallowed, do NOT induce vomiting. Rinse mouth with water and immediately contact a Poisons Information Centre.

First Aid Facilities: Eyewash and normal washroom facilities. Safety deluge showers should, if practical, be provided near to where this product is being used.

Major Health Hazards: This product can irritate eyes and skin, is harmful if swallowed and fatal if inhaled. It may also cause allergic skin reaction and respiratory irritation and can cause damage to organs through prolonged or repeated exposure.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: There is no risk of an explosion from this product if commercial quantities are involved in a fire. During heating or in case of fire oxides of carbon, nitrogen, nitrogen oxides, other nitrogen compounds, hydrogen cyanide, hydrogen chloride, other chlorine compounds, bromine compounds, smoke and water may be produced. Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.
Flammability Class: Not flammable.

Suitable Extinguishing Media: Extinguish fire using media suited to burning material. Water fog or fine spray is the preferred medium for large fires. Try to contain spills, minimise spillage entering drains or water courses.

Special Protective Equipment and Precautions for Fire Fighters: When fighting a major fire wear self-contained breathing apparatus and protective equipment.

Hazchem Code: 2X

Section 6 - Accidental Release Measures

Accidental release: In the event of a major spill, prevent spillage from entering drains or water courses. Evacuate the spill area and deny entry to unnecessary and unprotected personnel. Do not breathe vapours. Stop leak if safe to do so and contain spill. Because of the environmentally hazardous nature of this product, special care should be taken to restrict release to waterways or drains. 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. 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. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this SDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal.
Personal Protection: Wear full protective chemically resistant clothing including eye/face protection, gauntlets, and self-contained breathing apparatus. Suitable materials for protective clothing include PVC, Nitrile. Use impermeable gloves with care. Eye/face protective equipment should comprise, as a minimum, protective goggles. If there is a

significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a suitable respirator. Refer to section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

Section 7 - Handling And Storage

Precautions for Safe Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Conditions for Safe Storage: This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison.
Store in the closed original container in a dry, cool, well-ventilated locked room or a place away from children, animals, food, or feedstuffs. Store out of direct sunlight. Some liquid preparations settle or separate on standing and may require stirring before use. Check packaging - there may be further storage instructions on the label.

Section 8 - Exposure Controls And Personal Protection

Exposure Standards: Following are the exposure standard limits for the individual hazardous components as available and published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

Ingredients	TWA (mg/m3)	STEL (mg/m3)
Paraquat dichloride	0.1	not set
Diquat dibromide	0.5	not set

Engineering Controls: Ensure adequate ventilation of the working area.

Respiratory Protection: Ensure the work environment remains clean and that vapours and mists are minimised. If ventilation is inadequate, suitable respiratory protection should be worn, consult AS/NZS 1715 and AS/NZS 1716 for further information.

Eye and Face Protection: Eye protection such as protective glasses or goggles should be worn when this product is being used. See Australian/New Zealand Standard Industrial Eye Protection: AS1336 and AS/NZS 1337 for more information. Failure to protect your eyes may cause them harm. Emergency eye wash facilities should be provided in an area close to where this product is being used.

Skin Protection: Ensure all skin areas are adequately covered. Prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered. Use PVC or rubber gloves. See Australian/New Zealand Standard AS/NZS 2161 for more information. When selecting gloves for use against certain chemicals, the degradation resistance, permeation rate and permeation breakthrough time should be considered. Occupational protective clothing (depending on conditions in which it has to be used, in particular as regards the period for which it is worn, which shall be determined on the basis of the seriousness of the risk, the frequency of exposure to the risk, the characteristics of the workstation of each worker and the performance of the protective clothing). See Australian/New Zealand Standard Occupational Protective Clothing: AS/NZS 4501 and Occupational Protective Footwear: AS/NZS2210 for more information.

Section 9 - Physical And Chemical Properties

Physical Description & colour:	Dark green to blue coloured Liquid.
Odour:	Obnoxious odour
Boiling Point:	~100 °C
Flash point:	Not flammable.
Freezing/Melting Point:	No Data.
Volatiles:	No data.
Vapour Pressure:	2.37 kPa (water vapour pressure) at 20°C
Vapour Density:	No data.

Specific Gravity:	No data.
Water Solubility:	Soluble in water.
pH:	5-6.5 (1% solution)
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water Distribution:	No data
Autoignition temp:	No data.

Section 10 - Stability And Reactivity

Possibility of Hazardous Reactions: This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf-life properties.
This product will not undergo polymerisation reactions.

Conditions to Avoid: Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

Incompatibilities: Strong acids, strong bases, strong oxidising agents. Paraquat is highly corrosive to most metals e.g. Aluminium, zinc, iron.

Hazardous Decomposition Products: Oxides of carbon, nitrogen, nitrogen oxides, other nitrogen compounds, hydrogen cyanide, hydrogen chloride, other chlorine compounds, bromine compounds and smoke. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death. Hydrogen cyanide poisoning signs and symptoms are weakness, dizziness, headache, nausea, vomiting, coma, convulsions, and death.

Section 11 - Toxicological Information

Acute Toxicity: Product causes acute toxicity via oral and inhalation route and is harmful if swallowed and fatal if inhaled.
If ingested it may cause irritation, reddening and burning sensation of the mouth and throat, vomiting, abdominal discomfort, diarrhoea, ulceration of the lips, throat and intestines, inflammation of the throat and difficulty swallowing.
If inhaled it may cause respiratory irritation, nose bleeding and a sore throat. May cause pulmonary oedema, which can be fatal.
Following is the acute toxicity data available for the active constituent Paraquat (present as paraquat dichloride):
Acute oral toxicity - LD50 (Rat): 157 mg/kg; LD50 (Mouse): 104 mg/kg; LD50 (Guinea Pig): 22-42 mg/kg
Acute dermal toxicity - LD50 (Rat): 236-500 mg/kg

Skin Corrosion/Irritation: Causes skin irritation. May cause itchiness and reddening. May be absorbed through broken skin, causing symptoms like ingestion.

Serious Eye Damage/Irritation: Causes Serious eye irritation. May cause ulceration, corneal oedema and temporary blurred vision.

Respiratory or Skin Sensitisation: May cause an allergic skin reaction and dermatitis.

Germ Cell Mutagenicity: Based on classification principles, the classification criteria are not met.

Carcinogenicity: Based on classification principles, the classification criteria are not met.

No significant ingredient is classified as carcinogenic by IARC.

Reproductive Toxicity: Based on classification principles, the classification criteria are not met.

Specific Target Organ Toxicity (STOT)—single exposure: May cause respiratory irritation.

Specific Target Organ Toxicity (STOT)—repeated exposure: Causes damage to organs through prolonged or repeated exposure.

Aspiration Hazard: Based on classification principles, the classification criteria are not met.

Chronic Health Effects: Repeated or prolonged skin exposure may cause irritation and allergic dermatitis. May cause kidney and liver damage.

Additional toxicological information:

The ADI for Paraquat (as cation) is set at 0.004mg/kg/day & the NOEL is set at 0.45mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. (Data from Australian Acceptable Daily Intake (ADI) List, March 2024).
The ADI for Diquat ion is set at 0.006mg/kg/day & the NOEL is set at 0.6mg/kg/day (Data from Australian Acceptable Daily Intake (ADI) List, March 2024).

Section 12 - Ecological Information

Ecotoxicity: Very toxic to aquatic life with long lasting effects. Avoid contaminating waterways.
Toxicity data on Paraquat dichloride is available:
Acute Toxicity LC50 (Rainbow trout): 55 mg/L, 96 hr
Acute Toxicity LD50 (Bobwhite quail): 981 mg/kg; (Japanese quail): 970 mg/kg
LC50 (mallard Duck): 4048 ppm, 5-8 days
Effects on Aquatic Organisms: Paraquat is harmful to many species of aquatic life, including rainbow trout, bluegill, and channel catfish. In rainbow trout exposed for 7 days to paraquat, the chemical was detected in the gut and liver, but not in the meat of the fish. Aquatic weeds may bioaccumulate the compound. At high levels, paraquat inhibits the photosynthesis of some algae in stream waters.
Effects on Birds: Paraquat is harmful to birds.
Effects on Other Animals: Paraquat is nontoxic to honeybees.

Persistence and Degradability: Diquat dibromide and paraquat dichloride are both highly persistent in water and soil.
Breakdown in Soil and Groundwater: Paraquat is highly persistent in the soil environment, with reported field half-lives of greater than 1000 days. Ultraviolet light, sunlight, and soil microorganisms can degrade paraquat to products which are less toxic than the parent compound. Paraquat does not present a high risk of groundwater contamination.
Breakdown of Chemical in Surface Water: Paraquat will be bound to suspended or precipitated sediment in the aquatic environment and may be even more highly persistent than on land due to limited availability of oxygen.
Breakdown of Chemical in Vegetation: Paraquat dichloride droplets decompose when exposed to light after being applied to maize, tomato, and broad-bean plants. Small amounts of residues were found in potatoes treated with paraquat as a desiccant, and boiling the potatoes did not reduce the residue.

Bioaccumulative Potential: No data available.

Mobility in Soil: Reported half- life of Paraquat in soil is 1000 days.

Section 13 - Disposal Considerations

Disposal: Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 http://www.chemclear.com.au/ and for help with the disposal of empty drums, contact DrumMuster http://www.drummuster.com.au/ where you will find contact details for your area.

Section 14 - Transport Information

Road and Rail Transport

Classified as Dangerous Goods Class 6.1 BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC (Paraquat present as Paraquat dichloride & Diquat present as Diquat dibromide)
Australian Special Provisions; AU01: Environmentally Hazardous Substances meeting the description of UN 3077 or UN 3082 are not subject to this Code when transported by road or rail in;
(a) packaging's that do not incorporate a receptacle exceeding 500 Kg (L); or
(b) IBCs.

Marine Transport:

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN Number:	3016, 3082
Proper Shipping Name or Technical Name:	BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC; ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (CONTAINS PARAQUAT PRESENT AS PARAQUAT DICHLORIDE & DIQUAT PRESENT AS DIQUAT DIBROMIDE)
Transport Hazard Class:	6.1; 9
Packaging Group	III
IMDG EMS Fire:	F - A
IMDG EMS Spill:	S - F
Environmental hazards:	Yes.
Additional Information:	The marine pollutant mark is not required when transported in sizes of ≤ 5 L or ≤ 5 kg.

Air Transport:

IATA provision SP A197: Environmentally Hazardous Substances meeting the description of UN 3077 or UN 3082 are not subject to this Code when transported air in; packages that have inner packages (plastic bottles, glass bottles, plastic bags) of 5 L for UN3082 and 5 kg for UN3077 or less.

Section 15 - Regulatory Information

APVMA Approval no.: 94419

Poison schedule (SUSMP): Schedule 7

AICIS: All the constituents of this material are either listed on the Australian Inventory of Industrial Chemicals (AIIC), not required due the nature of the chemical as they are excluded as an industrial chemical or have been assessed under the Industrial Chemicals Act 1989 as amended.

Section 16 - Other Information

This SDS contains only safety-related information. For other data see product literature.

Issue Date: May 2024

Reason(s) for issue: Five-year update and updated to latest GHS requirements.

Key abbreviations or acronyms:

ADG Code - Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition)
AICIS – Australian Industrial Chemicals Introduction Scheme (formerly NICNAS)
AIIC - Australian Inventory of Industrial Chemicals
APVMA – Agricultural Pesticides and Veterinary Medicines Australia
CAS number - Chemical Abstracts Service Registry Number
GHS - Globally Harmonised System of Classification and Labelling of Chemicals (7th revised edition) 2017
Hazchem Code - Emergency action code of numbers and letters that provide information to emergency services especially firefighters.
IARC - International Agency for Research on Cancer
Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice (June 2023)
STEL - Short term exposure limit means the average airborne concentration of a substance calculated over a 15-minute period. The STEL should not be exceeded at any time during a normal eight hour working day.
SUSMP - Standard for the Uniform Scheduling of Medicines & Poisons
SWA - Safe Work Australia, formerly ASCC and NOHSC
TGA – Therapeutic Goods Australia
TWA - Time-weighted average means the average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.
UN Number - United Nations Number
WHS – Workplace Health and Safety

THIS SDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD STATEMENT: INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS SDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

This SDS is prepared in accord with the SWA document “Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice” ((June 2023) and GHS Revision 7