Section 1 - Identification of The Material and Supplier

Sabakem Pty Ltd **Phone: 03 9629 3979**

Suite 809, Level 8, 2 Queen St **www.sabakem.com**
Melbourne VIC 3000 AUSTRALIA **Emergency: 1800 033 111**

Chemical nature:	Water dispersible granule containing diuron
Trade Name:	**Sabakem Diuron 900 WG Herbicide**
APVMA Code:	**86733**
Product Use:	Agricultural herbicide for use as described on the product label.
Creation Date:	**July, 2019**
This version issued:	**June, 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:

Not subject to the provisions of the Australian Code for the Transport of Dangerous Goods by Road and Rail when transported by road or rail in; packages 500kg(L) or less; or IBCs (refer to SP AU01). However, if transported by Air or Sea, this provision does not apply, and the product is 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
Eye Irritation Category 2
Carcinogenicity Category 2
Specific Target Organ Toxicity - Repeated Exposure Category 2

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: WARNING

HAZARD STATEMENT(S):

H302: Harmful if swallowed.
H319: Causes serious eye irritation.
H351: Suspected of causing cancer.
H373: May cause 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

P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P260: Do not breathe dust, fume, gas, mists, vapours or spray.
P264: Wash contacted areas thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P273: Avoid release to the environment.
P280: Wear protective gloves, protective clothing and eye or face protection.

RESPONSE

P301+P312: IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313: If eye irritation persists: Get medical advice.
P308+P313: If exposed or concerned: Get medical advice.
P330: Rinse mouth.
P391: Collect spillage.

STORAGE

P405: Store locked up.
P410: Protect from sunlight.

DISPOSAL

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

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc. (% w/w)
Diuron	330-54-1	90.0
Anionic surfactant	68439-57-6	1.8

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 ll times. Have this SDS with you when you call.

Inhalation: First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Skin Contact: Gently brush away excess particles. Wash gently and thoroughly with water (use non-abrasive soap if necessary) for 5 minutes or until chemical is removed.

Eye Contact: Quickly and gently brush particles from eyes. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed, while holding the eyelid(s) open. Obtain medical advice immediately if irritation occurs. Take special care if exposed person is wearing contact lenses.

Ingestion: If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre or call a doctor.

Major Health Hazards: limited evidence of a carcinogenic effect, harmful if swallowed, may cause damage to organs through prolonged or repeated exposure.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is little risk of an explosion from this product if commercial quantities are involved in a fire. Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures. Flammability class: No data.

Suitable Extinguishing Media: In case of fire, use carbon dioxide, dry chemical, foam or water fog. 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: In the event of fire and/or explosion do not breathe fumes and wear self-contained breathing apparatus and protective equipment.

Hazchem Code: 2Z (bulk transport only)

Section 6 - Accidental Release Measures

Environmental precautions: In the event of a major spill, prevent spillage from entering drains or water courses. Because of the environmentally hazardous nature of this product, special care should be taken to restrict release to waterways or drains.

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. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. 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 precautions, protective equipment and emergency procedures: Wear full protective chemically resistant clothing including eye/face protection, gauntlets and self-contained breathing apparatus Use impermeable gloves with care. Eye/face protective equipment should comprise, as a minimum, protective goggles. If there is a significant chance that dusts are likely to build up in cleanup area, we recommend that you use a suitable Dust Mask. Use a P1 mask, designed for use against mechanically generated particles eg silica & asbestos. 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.

If a significant quantity of material enters drains, advise emergency services.

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. Avoid dust formation. 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: Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Check packaging - there may be further storage instructions on the label.

Section 8 - Exposure Controls and Personal Protection

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

Ingredients	TWA (mg/m3)	STEL (mg/m3)
Diuron	10	not set

Notation: Carc 2 - Suspected human carcinogens. All contact should be reduced to the lowest possible level.

Exposure limits have not been established by SWA for other significant ingredients in the product.

Engineering Controls: Ensure adequate ventilation of the working area.

Respiratory Protection: Where an inhalation risk exists, wear a dust mask or Class P1 (particulate) respirator. See AS/NZS 1715 and AS/NZS 1716 for further information.

Eye and Face Protection: Eye protection such as protective glasses or goggles must be worn when product is being used. Emergency eye wash facilities are also recommended in an area close to where this product is being used. See Australian/New Zealand Standard Industrial Eye Protection: AS1336 and AS/NZS 1337 for more information.

Skin Protection: 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:	Granules, no data regarding colour.
Odour:	No data.
Boiling Point:	Not available.
Flash Point:	No data.
Freezing/Melting Point:	No specific data. Solid at normal temperatures.
Volatiles:	No data.
Vapour Pressure:	No data.
Vapour Density:	Not applicable.
Specific Gravity:	No data.
Water Solubility:	Dispersible.
pH:	No data.
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	Not applicable.
Coeff Oil/water Distribution:	No data
Viscosity:	Not applicable.
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: Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

Incompatibilities: Strong oxidising agents.

Hazardous Decomposition Products: Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. May form nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. May form hydrogen chloride gas, other compounds of chlorine. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Section 11 - Toxicological Information

Acute toxicity: Available data indicates that this product is toxic via oral route and is harmful if swallowed.
Following is the acute toxicity data available for the active constituent Diuron:
Acute oral toxicity - LD50 (Rat): 3400 mg/kg
Acute dermal toxicity - LD50 (Rat) >2000 mg/kg.

Significant oral exposure is unlikely. Available data shows that this product is harmful if ingested, but symptoms are not available. However, this product may be irritating to mucous membranes but is unlikely to cause anything more than transient discomfort.
Available data indicates that this product if inhaled is not harmful. In addition, product is unlikely to cause any discomfort or irritation.
Some signs of central nervous system depression have been noted at high levels of Diuron exposure. For humans, the only reported case of acute, oral exposure to the herbicide produced no significant symptoms or toxicity.

Skin Corrosion/Irritation: Based on classification principles, the classification criteria are not met.
It should present no hazards in normal use. However, product may be irritating, but is unlikely to cause anything more than mild transient discomfort.

Serious Eye Damage/Irritation: Causes serious eye irritation.
This product may be irritating to eyes but is unlikely to cause anything more than mild transient discomfort.

Respiratory or Skin Sensitisation: Based on classification principles, the classification criteria are not met.

Germ Cell Mutagenicity: Based on classification principles, the classification criteria are not met.
Diuron does not appear to be mutagenic. The majority of tests have shown that Diuron does not produce mutations in animal cells or in bacterial cells.

Carcinogenicity: Suspected of causing cancer.
Limited evidence indicates that low level exposures to Diuron does not cause cancer.
No significant ingredient is classified as carcinogenic by IARC.

Reproductive Toxicity: Based on classification principles, the classification criteria are not met.
Daily low doses of Diuron fed to female rats through three successive generations caused significantly decreased body weight of offspring in the second and third litters. The fertility rate remained unaffected. It is unlikely that Diuron will cause reproductive effects in humans at expected levels of exposure.
Teratogenic effects: Diuron is teratogenic at high doses. Administered to pregnant rats on days 6 through 15 of gestation, it produced no birth defects in the offspring at doses of up to 125 mg/kg/day. However, doses of 250 mg/kg/day caused wavy ribs, extra ribs, and delayed bone formation. There were also weight decreases in offspring at 500 mg/kg/day. There was no increase in the severity of the rib deformation at this higher dose. Pregnant mice given very high doses of Diuron (nearly 2000 mg/kg/day) exhibited reproductive and embryotoxic effects. Developmental effects were found in their offspring.

Specific Target Organ Toxicity (STOT)—single exposure: Based on classification principles, the classification criteria are not met.

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

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

Chronic Health Effects: Male rats given extremely high doses of Diuron over a 2-week period showed changes in their spleen and bone marrow. Other chronic effects attributed to moderate to high doses of the pesticide over time included changes in blood chemistry, increased mortality, growth retardation, abnormal blood pigment, and anaemia. When fed small amounts of Diuron in food for 2 years, animal species showed no adverse effects.

Additional toxicological information:
The ADI for Diuron is set at 0.007mg/kg/day & the corresponding NOEL is set at 0.7mg/kg/day (Data from Australian ADI List, March 2017). ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level.

Organ toxicity: Low doses of Diuron over extended periods of time can cause enlargement to the liver and the spleen.
Fate in humans and animals: Diuron is excreted in the faeces and urine of test animals. Breakdown of the compound is similar in animals, plants, and soil. Cows fed very low doses of Diuron in their diets had small amounts

of residues in whole milk. Cattle fed small amounts accumulated low levels of Diuron in fat and muscle, liver, and kidney.

Section 12 - Ecological Information

Ecotoxicity: Very toxic to aquatic life with long lasting effects. Avoid contaminating waterways.

Toxicity data on Diuron is available:
Acute Toxicity LC50 (fish): 4.3 - 42 mg/L, 48 hr; LC50 (aquatic invertebrates): 1 – 2.5 mg/L, 48 hr; LC50 (rainbow trout): 3.5 mg/L, 96 hr
Acute oral toxicity LC50 (mallard ducks): approx. 5000 ppm; LD50 (bobwhite quail): 1730 ppm; LD50 (Japanese quail and ring-necked pheasant)> 5000 ppm

Effects on aquatic organisms: Diuron is moderately toxic to fish and highly toxic to aquatic invertebrates.

Effects on birds: Diuron is slightly toxic to birds.
Effects on other organisms: Diuron is non-toxic to bees.

Persistence and Degradability:

Breakdown in soil and groundwater: Diuron is moderately to highly persistent in soils. Residue half -lives are from 1 month to 1 year. Some pineapple fields contained residues 3 years after the last application. Mobility in the soil is related to organic matter and to the type of the residue. The metabolites are less mobile than the parent compound. In California, Diuron has been found in groundwater in the 2 to 3 ppb range. It has also been found in Ontario groundwater where it has been linked with land applications.

Breakdown in water: Diuron is relatively stable in neutral water. Microbes are the primary agents in the degradation of Diuron in aquatic environments.

Breakdown in vegetation: Diuron is readily absorbed through the root system of plants and less readily through the leaves and stems.

Bioaccumulative Potential: No information available.

Mobility in Soil: The mobility of diuron is dependent on organic matter and soil type.

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

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:	3077
Proper Shipping Name or Technical Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (CONTAINS DIURON)
Transport Hazard Class:	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.: 86733

Poison schedule (SUSMP): None allocated.

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: June 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