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:	Diclofop methyl is a 2-(4-aryloxyphenoxy) propionic acid derivative.
Trade Name	**Sabakem Diclofop 375EC Selective Herbicide**
APVMA Code:	**69246**
Product Use:	Agricultural herbicide for use as described on the product label.
Creation Date:	**November, 2013**
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

Skin sensitisation Category 1

Aspiration hazard Category 1

Flammable Liquids Category 4

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):

H227: Combustible liquid.
H302: Harmful if swallowed.

H304: May be fatal if swallowed and enters airways.
H317: May cause an allergic skin reaction.
H400: Very toxic to aquatic life
H410: Very toxic to aquatic life with long lasting effects.
AUH066: Repeated exposure may cause skin dryness and cracking.

PRECAUTIONARY STATEMENT(S):

PREVENTION

P102: Keep out of reach of children.
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
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.
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.

RESPONSE

P301 + P310: IF SWALLOWED: Immediately call a POISON CENTRE or doctor.
P301 + P312: IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.
P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P321: Specific treatment (see the label).
P330: Rinse mouth.
P331: Do NOT induce vomiting.
P333+P313: If skin irritation or rash occurs: Get medical advice.
P362 + P364: Take off contaminated clothing and wash it before reuse.
P370+P378: In case of fire, use carbon dioxide, dry chemical, foam, water fog.
P391: Collect spillage.

STORAGE

P403 Store in a well-ventilated place.
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. (% w/v)
Diclofop-methyl	51338-27-3	37.5
Liquid hydrocarbons	64742-94-5	53.4

Other components are not considered hazardous in this formulation and therefore are not required to be disclosed according to the WHS Regulations.

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 inhaled remove to fresh air and observe until recovered. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If irritation becomes painful or persists more than about 30 minutes, seek medical advice.

Skin Contact: Wash gently and thoroughly with warm water (use non-abrasive soap if necessary) for 10-20 minutes or until product is removed. Under running water, remove contaminated clothing, shoes and leather goods (e.g. watchbands and belts) and completely decontaminate them before reuse or discard. If irritation persists, repeat flushing and seek medical attention.

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

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 may irritate eyes and skin, harmful if swallowed, possible skin sensitiser and if aspirated, may cause lung damage.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: There is little risk of an explosion from this product if commercial quantities are involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances. Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.
Flammability Class: C1 combustible product

Suitable Extinguishing Media: Suitable extinguishing media are carbon dioxide, dry chemical, foam, 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: When fighting a major fire wear self-contained breathing apparatus and protective equipment.

Hazchem Code: •3Z (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 with absorbent material. 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. 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. 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. All skin areas should be covered. Suitable materials for protective clothing include PVC, Nitrile. Use impermeable gloves with care. Eye/face protective equipment should comprise, as a minimum, protective goggles. Do not breathe vapours. Ensure adequate ventilation. Usually, no respirator is necessary when using this product however, 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 respirator. It should be fitted with a type G cartridge, suitable for agricultural chemicals. 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.

Evacuate all non-essential personnel from affected area. Extinguish all sources of ignition. Avoid sparks and open flames. No smoking. 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. 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 combustible and therefore may require specific storage requirements in some states. If you store large quantities (tonnes) of such products, we suggest that you consult your state authority in order to clarify your obligations regarding their 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 area out of direct sunlight. Store in a locked room or a place away from children, animals, food, or feedstuffs. 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: Exposure limits have not been established by SWA for any of the significant ingredients in this product.

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: Make sure that all skin areas are covered. Prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. 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:	Light to dark brown liquid.
Odour:	Aromatic hydrocarbon odour.
Boiling Point:	>122°C at 100kPa
Flash point:	92°C
Upper Flammability Limit:	7.0%
Lower Flammability Limit:	0.6%
Freezing/Melting Point:	Below 0°C.
Volatiles:	No specific data. Expected to be low at 100°C.
Vapour Pressure:	Negligible at normal ambient temperatures.
Vapour Density:	No data.
Specific Gravity:	1.098
Water Solubility:	Emulsifiable.
pH:	No data.
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.

Hazardous Decomposition Products: Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Hydrogen chloride gas, other compounds of chlorine. Water. 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: Product causes acute toxicity via oral route and is harmful if swallowed.
Following is the acute toxicity data available for the active constituent Diclofop-methyl:
Acute oral toxicity - LD50 (Rat): 563-693 mg/kg
Acute dermal toxicity - LD50 (Rat, female) > 2000 mg/kg
Acute Inhalation toxicity - LD50 (Rat): 3.83 mg/l, 1 hour
The no effect level (NEL) for a 90day feeding to rats was 12.5 mg/kg and 8 mg/kg for a 15-month feeding to dogs. The acute percutaneous LD_{50} for rats was greater than 5,000 mg/kg. Rats exposed to a formulated product containing Diclofop-methyl had an oral LD_{50} value of greater than 2,000 mg/kg. The acute dermal LD_{50} for exposure to the same product was greater than 5,000 mg/kg. The inhalation LC_{50} in rats for a 36%EC formulation of Diclofop-methyl over a four-hour period was 8.3 mg/l air.
Inhalation: a rate of 4,800 ml of a 5% solution in a 4 cubic meter container for four hours was studied. Deaths occurred with rabbits, but not with rats, guinea pigs or cats at this high rate. The 4-hr LC_{50} for rats was 8,274 mg/m3. The acute dermal LD_{50} for rabbits was reported to be 640 mg/kg. A Diclofop-methyl study on rabbits indicated no skin irritation at 24, 48 and 72 hours. Eye irritation in rabbits was found to be zero at 3, 7, or 24 hours. Other studies have reported eye irritation in rabbits as corneal opacity spots and conjunctival irritation in both rinsed and non-rinsed groups. Reversibility was observed in all but one animal in each group at 7 days. A 10% solution produced corneal opacity in some of the animals that was completely reversible in 72 hours.

Skin Corrosion/Irritation: Based on classification principles, the classification criteria are not met.
Product may cause skin irritation. Symptoms may include itchiness and reddening of contacted skin. Other symptoms may also become evident, but all should disappear once exposure has ceased.

Serious Eye Damage/Irritation: Based on classification principles, the classification criteria are not met.
Product may cause eye irritation. Symptoms may include stinging and reddening of eyes and watering which may become copious. Other symptoms may also become evident. If exposure is brief, symptoms should disappear once exposure has ceased. However, lengthy exposure or delayed treatment may cause permanent damage.

Respiratory or Skin Sensitisation: May cause an allergic skin reaction.
Diclofop-methyl is Classed by SWA as a potential sensitiser by skin contact. Exposure to a skin sensitiser, once sensitisation has occurred, may manifest itself as skin rash or inflammation, and in some individuals this reaction can be severe

Germ Cell Mutagenicity: Based on classification principles, the classification criteria are not met.
Ames assay testing revealed no mutagenic effects using four bacterial strains with and without enzyme activation in dose ranges up to 5 milligrams. A micronucleus test in mice indicated no mutagenic effect in a strain with known sensitivity. In a dominant lethal assay, the NOEL was greater than 100 mg/kg. No impairment in fertility of the male mice and no difference in the number of live and dead implantations in the female animals were noted.

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.
Reproductive Effects: The NEL in a three-generation study of technical Diclofop-methyl in rats was greater than 30 ppm.
Teratogenic Effects: In a rat teratology study, the teratogenic No-Observable-Effect-Level (NOEL) was 100 ppm, the highest dose tested. A rabbit teratology study reported a teratogenic NOEL of 3 mg/kg/day, the highest dose tested, and a NOEL for fetotoxicity of 3.0 mg/kg/day.

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

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

Aspiration Hazard: May be fatal if swallowed and enters airways.

Chronic Health Effects: In 2-year feeding trials the NEL for rats was 20 mg/kg diet. The 15-month NEL for dogs was 8 mg/kg diet. Repeated absorption of chlorinated diphenyl ethers has resulted in liver damage in animals.

Additional toxicological information:
The ADI for Diclofop-methyl is set at 0.002mg/kg/day & the corresponding NOEL is set at 0.25mg/kg/day (Values taken from Australian ADI List, June 2013).
Inhalation: Available data indicates that this product is not harmful. However, product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.
Ingestion: Significant oral exposure is unlikely. Because of the low viscosity of this product, it may directly enter the lungs if swallowed, or if subsequently vomited. Once in the lungs, it is very difficult to remove and can cause severe injury or death. The product is an oral irritant. Symptoms may include burning sensation and reddening of skin in mouth and throat. Other symptoms may also become evident, but all should disappear once exposure has ceased.
Organ toxicity: No information was available.
Fate in humans and animals: Diclofop-methyl is metabolized in mammals via hydroxylation. Chlorophenoxy compounds are absorbed across the gut wall, lung and skin. They are not significantly stored in fat and urinary excretion is the principal route of elimination. Elimination as a conjugate is within 96 hours.

Section 12 - Ecological Information

Ecotoxicity: Very toxic to aquatic life with long lasting effects. Avoid contaminating waterways.
Toxicity data on Diclofop-methyl is available:
Acute Toxicity LC50 (Rainbow trout): 0.35 mg/L, 96 hr
Acute Toxicity LD50 (Bobwhite quail) > 4400 mg/kg; (Japanese quail) > 10000 mg/kg
Effects on Aquatic Organisms: The 96-hour LC_{50} in rainbow trout for a formulated product was 1.38 ppm; and 2.60 ppm for carp. The 48-hour LC_{50} in the crustacean Daphnia for a formulated product was 4.03 ppm.
Effects on Birds: The eight-day dietary LC_{50} value for coturnix quail was greater than 20,000 ppm; 13,000 ppm for bobwhite quail; and greater than 20,000 ppm for mallard ducks.
Effects on Other Animals (Nontarget species): The LD_{50} for honeybees in a lab test of a formulated product indicated it was nontoxic at the highest dose tested; 48 kg/ha.

Persistence and Degradability: Half-life in soil is 10- 30 days.
Breakdown in Soil and Groundwater: Under aerobic conditions, Diclofop-methyl hydrolyses in a matter of days in the soil to 2-[4-(2',4'-dichlorophenoxy)phenoxy] propanoic acid which in turn is degraded relatively quickly with a half-life of 10 days in sandy soils and about 30 days in sandy clay soils. Small amounts of 4-(2,4 dichlorophenoxy)phenol are also produced. Field studies of application rates up to 3.4 kg active ingredient per hectare showed very low finite residues in soil. At harvest, small finite residues were present in the 0-7.5 cm soil level and rare small residues were present above the 15 cm level. These studies indicate that Diclofop-methyl does not leach downward or move laterally, and dissipates quickly in soil.
Breakdown of Chemical in Surface Water: No information was available.
Breakdown of Chemical in Vegetation: Diclofop-methyl is absorbed via the leaves and in damp soil there is slight absorption via the roots. The compound inhibits root growth.

Bioaccumulative Potential: No data available.

Mobility in Soil: Low mobility in soil.

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:	3082
Proper Shipping Name or Technical Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (CONTAINS DICLOFOP-METHYL)
Transport Hazard Class:	9
Packaging Group	III
IMDG EMS Fire:	F - A
IMDG EMS Spill:	S - F
Environmental hazards:	Yes. Marine Pollutant: Diclofop-methyl (severe)
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.: 69246

Poison schedule (SUSMP): Schedule 6

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

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