SAFETY DATA SHEET

Section 1 - Identification of the Material and Supplier

Product Name: Swan DFF 25 & Brom 250 Selective Herbicide
APVMA Approval No.: 94448
Product Use: Selective herbicide for use as described on the product label.
Company: **Swan Chemical Holdings Pty Ltd.**
U2/9 Glossop St Wangara WA 6065
Phone: 1300 289 520
info@swanchemicalholdings.com
swanchemicalholdings.com
Creation Date: March 2024
Poisons Information Centre: Phone 13 11 26 from anywhere in Australia

Section 2 - Hazards Identification

Statement of Hazardous Nature
Classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and Safe Work Australia criteria.
Not classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)
SUSMP Classification: S5

Toxic To Reproduction 1B: H360 May damage fertility or the unborn child.

Aquatic Acute 1 H400 Very toxic to aquatic life.
Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

Acute Toxicity (Oral) 4 H302 Harmful if swallowed.
Acute Toxcity (Inhalation). 4 H332 Harmful if inhaled.
Skin Corrosion/Irritation 2 H315 Causes skin irritation.
Serious Eye Damage/Irritation 2A H319 Causes serious eye irritation.
Skin Sensitisation1 H317 May cause an allergic skin reaction.

Flammable Liquids 4 H227 Combustible liquid.

Signal Word: Danger

Hazard Statements

H227 Combustible liquid.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H360 May damage fertility or the unborn child.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements Prevention

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from flames and hot surfaces. No smoking.
P264 Wash 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/eye protection/face protection.

Precautionary Statements Response

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330 Rinse mouth.
P302+P352 IF ON SKIN: Wash with plenty of water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P321 Specific treatment (see on this label).
P362+P364 Take off contaminated clothing and wash it before reuse.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
P391 Collect spillage.
P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national regulations.

Section 3 - Composition/Information on Ingredients

Chemical Name	CAS No.	Conc.
Diflufenican	83164-33-4	2.5%
MCPA, 2-ethyl hexyl ester	29450-45-1	25%
N-methyl-2-pyrrolidone	872-50-4	15%
Liquid Hydrocarbons	-	40%
Non-hazardous component(s)	-	Balance

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non-hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5-day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term ‘pea’ is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Section 4 - First Aid Measures

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention if breathing problems develop.

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.

Eye Contact:

In case of eye contact, hold eyelids open and rinse with water for at least 15 minutes. Seek medical attention if symptoms occur.

Ingestion:

If swallowed, do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Do not give anything by mouth to an unconscious person. Seek immediate medical attention.

Symptoms Caused by Exposure:

Inhalation: May cause respiratory irritation.
Skin Contact: Causes skin irritation, itchiness and reddening.
Eye Contact: Causes serious eye irritation, stinging and reddening. Prolonged exposure or delayed treatment may cause permanent eye damage.
Ingestion: Harmful if swallowed. May cause irritation, reddening and burning sensation to mouth and throat.

Section 5 - Fire Fighting Measures

Suitable Extinguishing Media: Water fog, foam, dry chemical or carbon dioxide.

Specific Hazards Arising from the Chemical:

Hazardous combustion products include oxides of carbon, nitrogen, oxides of nitrogen, other nitrogen compounds, hydrogen cyanide, oxides of phosphorous, other phosphorous compounds, hydrogen fluoride, other fluorine compounds and smoke.
Product is combustible.
Closed containers may explode when exposed to extreme heat. Containers close to fire should be removed if safe to do so. Use water spray to cool fire exposed containers.
Prevent run-off from firefighting 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.

Section 6 - Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures:

Wear approved respiratory protection, chemical resistant gloves, protective clothing and safety boots. Evacuate all non-essential personnel from affected area. Do not breathe vapours. Ensure adequate ventilation. Extinguish all sources of ignition. Avoid sparks and open flames. No smoking.

Environmental Precautions: In the event of a major spill, prevent spillage from entering drains or water courses.

Methods and Materials for Containment and Cleaning Up:

Stop leak if safe to do so and absorb spill with sand, earth, vermiculite or some other absorbent material. If absorbent material is not available or spill is too large, create a dike to stop spill from spreading. Collect the spilled .1.5 material and place into a suitable container for disposal.

Section 7 - Handling and Storage

Precautions for Safe Handing

Obtain special instructions before use. Do not handle until all safety precautions are read and understood.
Use of safe work practices are recommended to avoid eye or skin contact and inhalation of vapours. Use only outdoors or in a well-ventilated area.
Food, beverages and tobacco products should not be stored or consumed where this material is in use. Always wash hands before smoking, eating, drinking or using the toilet.
Wash contaminated clothing and other protective equipment before storage or re-use. Provide eyewash fountains and safety showers in close proximity to points of potential exposure.

Conditions for Safe Storage:

Store in a cool, dry and well-ventilated area. Keep in original container, tightly closed when not in use. Protect from heat, sparks, open flames, hot surfaces and direct sunlight. Keep away from strong oxidising agents, strong acids and strong bases. Store locked up.

Section 8 - Exposure Controls and Personal Protection

Exposure Standards:

CAS: 872-50-4 N methyl-2-pyrrolidone
NES STEL 309 mg/m3, 75 ppm; TWA 103 mg/m3, 25 ppm

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapour below occupational exposure standards.

Respiratory Protection:

Use an approved vapour respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentrations of mist or vapour, inadequate ventilation, development of respiratory tract irritation) and engineering controls are not feasible. See Australian Standards AS/NZS 1715 and 1716 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 AS/NZS 4501 for more information.

Eye and Face Protection:

Eye and face protectors for protection against splashing materials or liquids. See Australian/New Zealand Standard AS/NZS 1337 for more information.

Section 9 - Physical and Chemical Properties:

Physical Description & Colour:	Dark brown coloured liquid.
Odour:	Ester like.
Odour Threshold:	No information available.
pH-Value:	No information available.
Melting point/freezing point:	No information available.
Initial Boiling Point/Boiling Range:	176-200 °C.
Flash Point:	>66 °C.
Flammability:	Product is a combustible liquid.
Auto-ignition Temperature:	321 °C (hydrocarbon solvent).
Decomposition Temperature:	No information available.
Explosion Limits:	
Lower:	0.8 Vol %
Upper:	6.7 Vol %
Vapour Pressure:	No information available.
Relative Density at 20 °C:	0.995
Vapour Density:	No information available.
Evaporation Rate:	No information available.
Solubility in Water:	Emulsifies into water.
Viscosity:	No information available.

Section 10 - Stability and Reactivity

Possibility of Hazardous Reactions:

Hazardous polymerisation will not occur. May produce an exothermic reaction in contact with strong acids or bases.

Chemical Stability: Stable at ambient temperature and under normal conditions of use.
Conditions to Avoid: Heat, sparks, open flames, hot surfaces and direct sunlight.

Incompatible Materials: Strong oxidising agents, strong acids and strong bases.
Hazardous Decomposition Products:
Oxides of carbon, nitrogen, oxides of nitrogen, other nitrogen compounds, hydrogen cyanide, oxides of phosphorous, other phosphorous compounds, hydrogen fluoride, other fluorine compounds and smoke.

Section 11 - Toxicological Information

Toxicity: LD50/LC50 Values Relevant for Classification

	Oral LD50	Dermal LD50	Inhalation LC50/4h
CAS: 872-50-4 N-methyl-2-pyrrolidone	3,914 mg/kg (rat)	8,000 mg/kg (rabbit)	
CAS: 29450-45-1 MCPA, 2-ethylhexyl ester	550-800 mg/kg (mouse) 700-1,160 mg/kg (rat)	>1,000 mg/kg (rat) >4,000 mg/kg (rabbit)	
CAS: 83164-33-4 Diflufenican	>1,000 mg/kg (mice) >2,000 (rat) >5,000 (rabbit)	>2,000 mg/kg (rat) >4,000 mg/kg (rabbit)	>2.34 mg/L (rat)

Acute Health Effects
Inhalation: May cause respiratory irritation.
Skin: Causes skin irritation, itchiness and reddening.
Eye: Causes serious eye irritation, stinging and reddening. Prolonged exposure or delayed treatment may cause permanent eye damage.
Ingestion: Harmful if swallowed. May cause irritation, reddening and burning sensation to mouth and throat.
Skin Corrosion / Irritation: Causes skin irritation.
Serious Eye Damage / Irritation: Causes serious eye damage.
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.
Carcinogenicity: This product does NOT contain any IARC listed chemicals.
Reproductive Toxicity: Suspected of damaging fertility or the unborn child.
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: Based on classification principles, the classification criteria are not met.
Chronic Health Effects: Prolonged exposure or delayed treatment may cause permanent eye damage. May cause liver, kidney and skin damage.
Existing Conditions Aggravated by Exposure: No information available.
Additional toxicological information:
The Australian Acceptable Daily Intake (ADI) for MCPA for a human is 0.01 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 1.1 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species.
The Australian Acceptable Daily Intake (ADI) for diflufenican for a human is 0.2 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 16.3 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Australian Pesticides and Veterinary Medicines Authority, 'Acceptable Daily Intakes for Agricultural and Veterinary Chemicals', August 2020).

Section 12 - Ecological Information

Ecotoxicity:
Diflufenican:
LD50 > 2150 mg/kg (Bobwhite quail)
LD50 > 4000 mg/kg (Mallard duck).

Aquatic Toxicity:
MCPA, 2- ethylhexyl ester
EC50/48 h 0.29 mg/L (Daphnia)
EC50/72 h 0.11 mg/L (*Skeletonema costatum)*
LC50/96h 117-232mg/L (Rainbow Trout)
Diflufenican
LC50/96h 105 mg/L (Carp)
56-100 mg/L (Rainbow Trout)
LC50/48h >10 mg/L (Daphnia)
Very toxic to aquatic life with long lasting effects.

Persistence and Degradability:
Product is biodegradable.
MCPA is biodegradable: Half-life in soil: <7 days.
Diflufenican is not easily biodegradable: Half-life in soil: 85.6-282 days, depending on soil type.
1-methly-2-pyrrolidone is biodegradable.
Bio-accumulative Potential: Diflufenican bioconcentration factor: 1.596
Mobility in Soil: No information available
Other adverse effects: No information available.

Section 13 - Disposal Considerations

Disposal Methods and Containers:
Dispose according to applicable local and state government regulations.
Special Precautions for Landfill or Incineration:
Please consult your state Land Waste Management Authority for more information.

Section 14 - Transport Information

UN Number:	Not regulated.
Proper Shipping Name:	Not regulated.
Dangerous Goods Class:	Not regulated.
Packing Group:	Not regulated.

Section 15 - Regulatory Information

Australian Inventory of Chemical Substances:
CAS: 29450-45-1 MCPA, 2- ethylhexyl ester
CAS: 872-50-4 N-methyl-2-pyrrolidone
CAS: 83164-33-4 Diflufenican
Standard for the Uniform Scheduling of Drugs and Poisons (SUSMP) - Poison Schedule:
Poisons Schedule: 5

Section 16 - Other Information

This SDS contains only safety-related information. For other data see product literature.
Abbreviations and acronyms:
ADG: Australian Dangerous Goods
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
IARC: International Agency for Research on Cancer
STEL: Short Term Exposure Limit
TWA: Time Weighted Average
NES: National Exposure Standard (Safe Work Australia - Workplace Exposure Standards For Airborne Contaminants)
Flammable Liquids 4: Flammable liquids – Category 4

Acute Toxicity (Oral) 4: Acute toxicity - oral – Category 4
Skin Corrosion/Irritation 2: Skin corrosion/irritation – Category 2
Serious Eye Damage/Irritation 2A: Serious eye damage/eye irritation – Category 2A
Toxic To Reproduction 1B: Reproductive toxicity – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Aquatic Acute 1: Hazardous to the aquatic environment, short-term (Acute). Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment, long-term (Chronic). Category 1
Aquatic Chronic 3: Hazardous to the aquatic environment, long-term (Chronic). Category

This SDS 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.

Please read all labels carefully before using product.
This SDS is prepared in accord with the Safe Work Australia document “Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals - May 2018