Section 1 - Identification of The Material and Supplier

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Emergency: 1800 033 111

Chemical nature:	Metsulfuron Methyl is a sulfonylurea derivative.
Trade Name:	**Sabakem Metsulfuron 600WG Herbicide**
APVMA Code:	69255
Product Use:	Agricultural herbicide for use as described on the product label.
Creation Date:	**October, 2013**
This version issued:	**March, 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 not classified as hazardous according to the criteria of Safe Work Australia (SWA).
ADG Classification: Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code when transported in Australia 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. Then the product is classed as Dangerous (Class 9 Environmentally Hazardous) by IATA and IMDG/IMSBC respectively. See details below and in Section 14 of this SDS.

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

Chronic Aquatic Toxicity Category 1

GHS Signal word: WARNING

HAZARD STATEMENT(S):

H410 Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENT(S):

PREVENTION

P273 Avoid release to the environment.

RESPONSE

P391 Collect spillage.

DISPOSAL

P501: Dispose of contents and containers to landfill.

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc%
Metsulfuron methyl	74223-64-6	600g/kg

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: Remove affected person to fresh air until recovered. If symptoms develop or persist, contact a Poisons Information Centre or a doctor.
Skin Contact: Gently brush away excess particles. Irritation is unlikely. However, if irritation does occur, flush with lukewarm, gently flowing water for 5 minutes or until chemical is removed.
Eye Contact: Quickly and gently brush particles from eyes. No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed. Obtain medical advice if irritation becomes painful or lasts more than a few minutes. Take special care if exposed person is wearing contact lenses.
Ingestion: If product is swallowed or gets in mouth, do NOT induce vomiting; wash mouth with water and give some water to drink. If symptoms develop, or if in doubt contact a Poisons Information Centre or 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: Systemic poisoning by sulfonylurea based compounds is unlikely, unless large quantities have been ingested. No accounts of poisoning by Metsulfuron-methyl are currently available. No significant risk factors have been found for this product.

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. Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.
Flammability Class: This product is not flammable but may burn or decompose in a fire.
Suitable Extinguishing Media: Not Combustible. Use extinguishing media suited to burning materials. 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: If a significant quantity of this product is involved in a fire, call the fire brigade. There is little danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is full fire kit and breathing apparatus.
Hazchem Code: 2Z (bulk transport only)

Section 6 - Accidental Release Measures

Spills & Disposal: In the event of a major spill, prevent spillage from entering drains or water courses.
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. 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: As a minimum, wear overalls, goggles and gloves. No special recommendations for clothing materials. 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.
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: Store in a cool, dry and well-ventilated area. Protect from direct sunlight. Keep in original container, tightly closed when not in use. Keep away from strong oxidising agents. 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 this 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 Australian/New Zealand Standards AS/NZS 1715 and 1716 for more information.

Eye and Face Protection: Eye protection such as protective glasses or goggles is recommended when product is being used. See Australian/New Zealand Standard Industrial Eye Protection: **AS1336** and **AS/NZS 1337** for more information.

Skin Protection: PVC, PVA, nitrile, neoprene, rubber or vinyl 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:	Off white to tan granulated solid.
Odour:	No odour.
Boiling Point:	Not available.
Freezing/Melting Point:	Solid at normal temperatures. Metsulfuron methyl melts at 158°C.
Volatiles:	No specific data. Expected to be low at 100°C.
Vapour Pressure:	Negligible at normal ambient temperatures.
Vapour Density:	Not applicable.
Specific Gravity/Bulk density:	BD 0.63
Water Solubility:	Partly miscible. Metsulfuron methyl 2.8g/L at pH 7.
pH:	No data.
Volatility:	Negligible at normal ambient temperatures.
Odour Threshold:	No data.
Evaporation Rate:	Not applicable.
Coeff Oil/water Distribution:	No data.
Viscosity:	Not applicable.
Autoignition temp:	Not applicable - does not burn.

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 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 oxides of sulfur (sulfur dioxide is a respiratory hazard) and other sulfur compounds. Most will have a foul odour. Silicon compounds. 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: Not harmful and does not cause toxicity via oral, dermal and inhalation routes according to available data.
Following is the acute toxicity estimate (ATE) calculated for the formulation:
Acute oral toxicity - LD50 (Rat) > 5,000 mg/kg
Acute dermal toxicity - LD50 (Rabbit) > 2,000 mg/kg
Acute inhalation toxicity - LC50 (Rat) > 5mg/L

Skin Corrosion/Irritation: Based on classification principles, the classification criteria are not met. May cause mild skin irritation.
Serious Eye Damage/Irritation: Based on classification principles, the classification criteria are not met. May cause mild eye irritation.
Respiratory or Skin Sensitisation: Not considered to be a skin sensitiser based on available data.
Germ Cell Mutagenicity: Not considered to be mutagenic based on available data.
Carcinogenicity: Not considered to be carcinogenic based on available data.
Reproductive Toxicity: Not considered to be reproductive toxicant based on available data.
Specific Target Organ Toxicity (STOT)—single exposure: Based on classification principles, the classification criteria are not met. May cause mild respiratory irritation.
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: A 2-year feeding study in rats resulted in a No Observable Effects Level (NOEL) of 25.0 mg/kg/day (or 500 ppm in feed), based on decreased body weights seen at 250 mg/kg/day (5,000 ppm) which was the highest dose tested. EPA has based its reference dose (0.25 mg/kg/day) on this study.
Additional toxicological information: The ADI for Metsulfuron methyl is set at 0.01mg/kg/day. The corresponding NOEL is set at 1mg/kg/day. ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level. Data from Australian ADI List, Dec 2012. No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Section 12 - Ecological Information

Ecotoxicity: Very Toxic to aquatic life with long lasting effects.
Toxic data on Metsulfuron-methyl is available:
Acute Toxicity (Daphnia) EC50 >150 mg/L - 48 hr
Acute Toxicity (Fish) LC50 > 150 mg/L - 96 h r
Acute Toxicity (other organisms): LC50 (Bobwhite quail) > 2250 mg/kg
Metsulfuron-methyl is not toxic to bees.
Persistence and Degradability: Half-life of Metsulfuron-methyl in soil is 14-180 days.
Bioaccumulative Potential: No further relevant information available.
Mobility in Soil: The breakdown of Metsulfuron-methyl in soils is largely dependant on soil temperature, moisture content, and pH. The chemical will degrade faster under acidic conditions, and in soils with higher moisture content and higher temperature. The chemical has a higher mobility potential in alkaline soils than in acidic soils, as it is more soluble under alkaline conditions. Metsulfuron-methyl is stable to photolysis but will break down in ultraviolet light. Half-life estimates for Metsulfuron-methyl in soil are wide ranging from 14 - 180 days, with an overall average of reported values of 30 days. Reported half-life values (in days) for soil include: clay - 178; sandy loam - 102; clay loam - 70, 14-28, 14-105; silty loam - 120-180.
Breakdown in Surface Water: The dissipation time for Metsulfuron-methyl was investigated in a mixed wood/boreal forest lake. The DT_{50} or length of time required for half of the material to dissipate in water was >84 days when high concentrations of Metsulfuron-methyl were applied, and 29.1 days at concentrations that might be expected if the chemical is applied for forestry uses. It is stable to hydrolysis at neutral and alkaline pHs, and has a half-life of 3 weeks at pH 5.0, 25°C and >30 days at 15°C.

Breakdown in Vegetation: Metsulfuron-methyl is rapidly taken up by plants at the roots and on foliage. The chemical is translocated throughout the plant but is not persistent. It is broken down to non-herbicidal products in tolerant plants.

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 METSULFURON-METHYL)
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.: 69255

Poison schedule (SUSMP): Not scheduled.

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: March 2024
Reason(s) for issue: Five-year update and updated the GHS hazard classification. Revised Primary SDS 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 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