



SAFETY DATA SHEET

BOMBACIL

Reg. No. /Nr L 9730, Act/Wet No. /Nr 36 Of Van 1947
N-AR 1785, W 130941

Section 1. Identification of the material and the supplier

Product: **BOMBACIL**
Product Use: Herbicide
Restriction of Use: Refer to Section 15

Supplier: **AgriTech Bioscience (Pty) Ltd. t/a Carabiner**
Address: PO Box 1224
Isando, 1600
South Africa
TEL: 071 546 5077
www.carabiner.co.za

Emergency No: POISON CENTRE (UNITAS HOSPITAL) 012 664 1100
TYGERBERG 021 931 6129
RED CROSS 021 689 5227
RAPID SPILL RESPONSE 0800 775 3305
GRIFFON POISON CENTRE 082 446 8946

Date of SDS Preparation: 19 April 2023

Section 2. Hazards Identification

Classification of the substance or mixture

Globally Harmonised System, EU (GHS) and according to regulation EC No 1272/2008 [CLP]

Acute Tox. Oral Cat. 4
Skin irrit. Cat. 2
Eye Irrit. Cat. 2
STOT SE Cat. 3
Aquatic Acute Cat. 1

For the full text of the H-Statements mentioned in this Section, see Section 16.

Label elements

Globally Harmonised System, EU (GHS) and according to regulation EC No 1272/2008 [CLP]



Pictograms

Signal Word: **WARNING**

Hazard statement(s)

- H302 - Harmful if swallowed.
- H315 - Causes skin irritation
- H319 - Causes serious eye irritation
- H335 - May cause respiratory irritation
- H400 - Very toxic to aquatic life

Precautionary statement(s)

General:

- P101 - If medical advice is needed, have product container or label at hand.
- P102 - Keep out of reach of children.
- P103 - Read carefully and follow all instruction.

Prevention:

- P261 - Avoid breathing dust/fumes/gas/mist/vapours/spray.
- P264 + P265 - Wash hands thoroughly after handling. Do not touch eyes.
- P270 - Do not eat, drink or smoke when using this product.
- P271 - Use only outdoors or in a well-ventilated area.
- P273 - Avoid release to the environment.
- P280 - Wear protective gloves.

Response:

- P301 + P317 - IF SWALLOWED - Get medical help.
- P302+352 - IF ON SKIN - Wash with plenty of water.
- P304+340 - IF INHALED - Remove person to fresh air and keep comfortable for breathing.
- P305+351+338 - IF IN EYES - Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
- P319 - Get medical help if you feel unwell.
- P337+317 - If eye irritation persists get medical help.
- P330 - Rinse mouth.
- P391 - Collect spillage.

Storage:

- P403+233 - Store in a well-ventilated place. Keep container tightly closed.
- P405 - Store locked up.

Disposal:

- P501 - Dispose of contents/container in accordance with local / regional / national / international regulations.

Supplemental Hazard Statements: none

2.3 Other

Other hazards

No other hazards known

Section 3. Composition / Information on Hazardous Ingredients

Suspension Concentrate
Bromacil 500 g/L

Globally Harmonised System, EU (GHS) and according to regulation EC No 1272/2008 [CLP]

Ingredients	Concentration of hazardous ingredient in composition	CAS NUMBER.	Globally Harmonised System, EU (GHS) and according to regulation EC No 1272/2008 [CLP]
Bromacil	> 43%	314-40-9	Acute Tox. Oral Cat. 4. H302 Skin Irrit. Cat. 2. H315 Eye Irrit. Cat. 2. H319 STOT SE 3. H335 Aquatic Acute Cat. 1. H400
Monoethylene Glycol	≥ 5% - <5.5%	107-21-1	Acute Tox. Oral Cat 4. H302
Other non-hazardous ingredients	To balance	-	-

For the full text of the H-Statements mentioned in this Section, see Section 16.

Section 4. First Aid Measures

Remove patient from exposed area. Never give fluids or induce vomiting if patient is unconscious or is having convulsions.

Routes of Exposure:

If in Eyes Flush eyes with plenty of clean, room temperature water for at least 15 minutes holding eyelids open. Remove contact lenses. Call a doctor for treatment advice. Obtain medical attention immediately if irritation persists. If symptoms (e.g., redness, irritation, pain etc.) persist after 15 minutes of irrigation, refer the patient to an ophthalmologist for an eye examination.

If on Skin Immediately remove contaminated clothing and flush body and clothes with large amounts of water. Wash thoroughly with soap and clean running water (including hair, skin and fingernails) for at least

15 minutes. Wash contaminated clothing before re-use. Seek medical assistance if irritation persists. Persons providing first aid must wear gloves to avoid self-contamination.

If Swallowed Seek medical attention. Do not induce vomiting. Rinse the mouth if the patient is conscious and able. Never induce vomiting. Contraindications to emesis induction include signs of oral, pharyngeal, or oesophageal irritation; a depressed gag reflex; or central nervous system excitation or depression. If the above symptoms are experienced, **EMESIS SHOULD NOT BE INDUCED**. Give 1 or 2 glasses of water to drink and induce vomiting if the patient is able and conscious. Emesis is most effective if initiated within 30 minutes of ingestion. Never give anything by mouth to a victim who is unconscious or is having convulsions. **Get medical help.**

If Inhaled Remove victim to fresh air. Keep patient calm. Monitor for respiratory distress. Apply oxygen or artificial respiration if necessary. Keep the patient warm and at rest. Treat symptomatically. Get emergency medical assistance.

Most important symptoms and effects, both acute and delayed

No available data.

Treatment:

Carefully observe patients with inhalation exposure for the development of any systemic signs or symptoms and administer symptomatic treatment, as necessary. There is no specific antidote known.

Ingestions of small amounts (less than 10 mg Bromacil / kg body weight) occurring less than an hour before treatment, are probably best treated as follows:

Syrup of Ipecac, followed by 1 – 2 glasses of water.

Dosage for adults and children over 12 years: 30 mL

Dosage for children younger than 12 years: 15 mL. If effective emesis has already occurred, or if treatment is delayed, administer activated charcoal and sorbitol by mouth.

Ingestions of **large** amounts (more than 10 mg Bromacil / kg body weight) occurring less than an hour before treatment should be treated by gastric lavage:

- a) Intubate the stomach and aspirate the contents.
- b) Lavage the stomach with a slurry of activated charcoal in 0.9% saline.

Leave 30 – 50 g activated charcoal in the stomach before withdrawing the tube.

- c) Use Sodium sulphate at 0.25 g / kg in tap water as a cathartic.

Caution:

Hydrocarbons (kerosene, petroleum distillates) may be included in some formulations of these chemicals. Ingestion of **very large** amounts may cause Central Nervous System depression. In this case, **IPEPAC IS CONTRAINDICATED**. Additionally, gastric intubation incurs a risk of **HYDROCARBON PNEUMONITIS**.

Therefore, observe the following precautions:

- 1) If the victim is unconscious or obtunded and facilities are at hand, insert an **endotracheal tube** (cuffed, if available) prior to gastric intubation.
- 2) Keep the victim's head **below the level of the stomach** during intubation and lavage (Trendelenburg, or left lateral decubitus, with head of table tipped downward). Keep the victim's head turned to the left.
- 3) **Aspirate the pharynx** as regularly as possible in order to remove gagged or vomited stomach contents.

Ingestions occurring more than an hour before treatment are probably best treated only by 30 – 50 g activated charcoal, and 0.25 g/kg Sodium or Magnesium sulphate as described above.

There is no specific antidote. As manifestations of toxicity may occasionally occur in peculiarly predisposed individuals, contact with the victim must be maintained for at least 72 hours so that any unexpected adverse effects can be promptly treated.

Monitoring of blood electrolytes and fluid balance are necessary if serious dehydration due to vomiting or diarrhoea have occurred. The administering of intravenous infusions of glucose, normal saline, Ringer's solution or Ringer's-lactate should be done to restore extracellular fluid volume and electrolytes. This should follow with oral nutrients as soon as fluids can be retained. Fluids serve to support excretion of the toxicants. If the patient's condition deteriorates in spite of good supportive care, the operation of an alternative or additional toxicant should be suspected.

Section 5. Fire Fighting Measures

Hazards from products	In the event of fire toxic oxides of carbon and nitrogen may be released.
Suitable Extinguishing media	Water spray (not preferred), CO ₂ , dry chemical or foam. Small fires: Dry chemical, CO ₂ or foam.
Recommended protective clothing & Precautions for firefighters	<p>Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire.</p> <p>Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Keep upwind. If the area is heavily exposed to fire and if the conditions permit, let the fire burn itself out as water may increase the area contaminated. If conditions permit, a water spray may be used to cool affected containers.</p> <p>Avoid inhaling hazardous vapours and fumes from burning materials.</p> <p>Do not scatter the material. Keep the material away from water sources and sewers.</p> <p>Eliminate all ignition sources in the immediate area.</p>

	<p>Fire generates poisonous and corrosive fumes which may contain carbon oxides, nitrogen oxides and hydrochloric acid.</p> <p>Additional provisions: Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. In the event of a fire, wear full protective clothing and self-contained breathing apparatus with full-face piece operated in the pressure demand or other positive pressure mode.</p> <p>Personal protective equipment: Full protective clothing and self-contained breathing apparatus and turnout gear. For personal protection see Section 8.</p>
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Section 6. Accidental Release Measures

Personal precautions:

Avoid contact with skin and eyes. Do not breathe in dusts, spray mists or fumes. For personal protection see Section 8.

Environmental precautions:

Do not contaminate waterways, drains and groundwater. If contamination of waterways, drains, rivers or lakes is unavoidable, warn the local authorities (Police and Department of Water/Environmental affairs) immediately.

Spill and Disposal procedures:

Cleaning procedure:

Do not eat, drink or smoke during the clean-up process. Clear area of unprotected personnel. Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Sections 7 and 8. For small spillages: Clean the spill promptly. Soak up with a suitable, non-combustible absorbent material (e.g., bentonite, fossil flour, sand, vermiculite or other suitable absorbent such as sawdust). Place the material into a clean, dry, correctly labelled hermetically sealed containers and dispose of according to local regulations. Flush the spilled area with water but do not flush the spilled product into drains or any water system. Contain the spillage and contaminated water for subsequent disposal. Ensure that the contaminant does not come into contact with any desirable vegetation. If the spill area is on any ground near valuable plants or trees, remove the top 50 mm of soil after the initial clean-up.

Large spills: Clean the spill promptly.

Prevent the material from entering sewers, waterways or low-lying areas. Collect all the damaged containers and ensure that no further spillage occurs. Pump all of the excess spillage into sealed containers and dispose of in accordance with local regulations. Soak up the remaining spillage with bentonite, fossil flour, sand, vermiculite or sawdust. Sweep

or vacuum up (using an approved industrial vacuum cleaner) and place into hermetically sealed containers and dispose of in accordance with local regulations. Flush the spill area with water to remove any residue. Ensure that the contaminant does not enter any water system or come into contact with any desirable vegetation. If the spill area is on any ground near valuable plants or trees, remove the top 50 mm of soil after the initial clean-up.

Keep spectators away.

Used absorbent material and washings should be stored in labelled, sealable containers until these can be disposed of according to local regulations. Open burning or dumping of this material is prohibited.

Waste Disposal: Used absorbent material and washings should be stored in labelled, sealable containers until these can be disposed of according to local regulations. Open burning or dumping of this material is prohibited

Container Disposal: Refer to the product label for instructions. DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE. Do not transport if this container is damaged or leaking.

Reference to other sections

Information regarding safe handling, see section 7.

Information regarding personal protective equipment, see section 8.

Information regarding waste disposal, see section 13.

Section 7. Handling and Storage

Precautions for Handling:

Operator should not be alone during handling and application of product.

Harmful if swallowed. Avoid contact with the skin, eyes and clothing. Do not leave the product in the applicator for long periods of time. Avoid inhaling fumes or spray drift.

Use with adequate ventilation.

Wash hands before eating, drinking, chewing gum, smoking or using the toilet.

Remove clothing immediately if the herbicide gets inside, then wash skin thoroughly with a non-abrasive soap. Put on clean clothing. Do not apply directly to areas where any surface water is present, or to intertidal areas below the mean high-water mark. The water used to clean the equipment must be disposed of correctly in order to avoid contamination or injury to desired vegetation.

Wash thoroughly (preferably shower) after the work shift.

KEEP OUT OF REACH OF CHILDREN and animals.

Precautions for Storage:

Store in original container only in a well-ventilated, cool, dry, secure, shaded area away from children, foods and animal feeds. Protect from heat, open flames, moisture and direct sunlight.

Store at a temperature not exceeding 40 °C.

Do not leave the product in the applicators for extended periods of time.

This product should only be stored or applied using aluminium, fibreglass or plastic-lined containers. This product is corrosive to stainless steel.

Specific end use(s): Use only according to the label.

Section 8	Exposure Controls / Personal Protection
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Occupational exposure limits:

Component	Value type (Form of exposure)	Control parameters / permissible concentration	Basis
Bromacil	10 hr TWA	10 mg/cu m (1 ppm)	OSHA, NIOSH
Ethylene glycol (vapour)	8 hr TWA	52 mg/m ³ (20 ppm)	Safe Work Australia Workplace Exposure Standards for Airborne Contaminants
Ethylene glycol (vapour)	15 min STEL	104 mg/m ³	Safe Work Australia Workplace Exposure Standards for Airborne Contaminants
Ethylene glycol (particulate)	SK 8hr TWA	10 mg/m ³	Safe Work Australia Workplace Exposure Standards for Airborne Contaminants

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Engineering Controls / Industrial Hygiene

Comply with occupational safety, environmental, fire and other applicable regulations.

It is essential to provide adequate ventilation. The measures appropriate for a particular work site depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

Personal Protection Equipment

Eyes	Chemically resistant safety goggles.
Hands	Protective (impermeable) gloves, Waterproof gloves. Wash the outside of the gloves before removing them.

Skin	Consult supplier to confirm that the equipment is suitable. Must be chosen depending on activity and possible exposure. Long-sleeved shirt, long pants, sock, shoes and protective (impermeable) gloves.
Respiratory	Not normally required for normal use and handling. Where there is a potential for airborne exposure in excess of applicable limits, wear NIOSH / MSHA approved respiratory protection. The limitations of the respirator use specified by the approving agency and the manufacturer must be observed.
General	Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

Section 9 Physical and Chemical Properties

Appearance	Liquid
Colour	Blue/red
Odour	Characteristic
Odour Threshold	No data available
pH	5 - 9
Boiling/Melting Point	No data available
Freezing Point	No data available
Flash Point	No data. Expected to be >93°C
Flammability	Not flammable
Upper and Lower Explosive Limits	No data available
Vapour Pressure	No data available
Vapour Density	No data available
Density	Approximately 1.18
Water Solubility	Suspends in water
Partition Coefficient:	No data available
Ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Particle Characteristics	No data available
Surface tension	No data available

Section 10. Stability and Reactivity

Stability of Substance	Stable under normal use and standard conditions. Stable for 24 months. Thermally and chemically stable.
Possibility of hazardous reactions	None known
Conditions to Avoid	Protect from extreme temperatures, direct sunlight, open flames and sources of ignition.
Incompatible Materials	Always store in original container.
Hazardous Decomposition Products	No decomposition if stored and handled as indicated. Thermal decomposition may release toxic oxides of carbon and nitrogen.

Section 11 Toxicological Information

Acute Effects:

Oral	GHS: Acute toxicity: oral category 4
Dermal	GHS: Not classified
Inhalation	GHS: Not classified
Eye	GHS: Not classified
Skin	GHS: Not classified

Chronic Effects:

Carcinogenicity	GHS: Not classified
Reproductive Toxicity	GHS: Not classified
Germ Cell Mutagenicity	GHS: Not classified
Aspiration	GHS: Not classified
STOT/SE	GHS: STOT SE Cat. 3
STOT/RE	GHS: Not classified

Section 12. Ecotoxicological Information

Ecological effects information	<p>Aquatic acute toxicity:</p> <p>Formulated product: Based on available data of components. GHS: Aquatic Acute Cat. 1.</p> <p>Birds: Bromacil: Acute oral LD50 for bobwhite quail 2250 mg/kg. Dietary LC50 (8 d) for mallard ducks and bobwhite quail >10000 mg/kg diet.</p> <p>No data available for the formulated product</p> <p>Earthworms: Bromacil: No data available</p> <p>No data available for the formulated product</p> <p>Bees: LD50 µg/bee Bromacil: >193 (contact). Not toxic to bees</p> <p>No data available for the formulated product</p>
Persistence and degradability	<p>Information based on Bromacil active: Plants and animals: Duration of residual activity in soil is c. 5 months. The principal metabolite is 5-bromo-3-sec-butyl-6- hydroxymethyluracil. The major mode for the disappearance of bromacil from most treated soils is</p>

	<p>microbial degradation. Soil dipteroids, <i>Pseudomonas</i> and <i>Penicillium</i> species are among the organisms involved. Tests show that at increased temperatures and long exposures to sunlight, there is very little loss of the herbicide from dry soil. It does not readily volatilize, change into gas, nor does it photo decompose or break down in sunlight. Laboratory studies show that 5-30 % of bromacil is lost six to nine weeks after application to the soil, as carbon dioxide, an odourless, colourless gas.</p> <p>Biodegradability: No data available.</p>
Bioaccumulation	Bioaccumulation: Log POW = 1.87 (pH 5 / pH 7). Bioaccumulation is unlikely.
Mobility in Soil	Bromacil: Highly mobile. Bromacil binds, or absorbs, only lightly to soil particles (Koc = 32 g/ml), is soluble in water and has a relatively lengthy soil half-life (60 days). For these reasons, bromacil is expected to move (leach) quite readily through the soil and it contaminate groundwater.
Other adverse effects	This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Precautions:	Do not allow to enter waterways.

Section 13. Disposal Considerations

Disposal Method:

In accordance with local and national regulations. This product and its container must be disposed of by a waste treatment facility authorised to destroy waste in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) and the relevant waste management regulations.

Do not dispose into, or allow contact with, municipal sewerage systems or open water bodies. Do not bury.

Contaminated packaging:

Contaminated packaging should be emptied as far as possible. Triple or pressure rinse containers before disposal. If recycling, close container and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and take to a waste treatment facility authorised to destroy waste in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) and the relevant waste management regulations for disposal.

Special precautions during disposal:

Waste resulting from the use of this product cannot be reused or reprocessed. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers. Triple rinse containers, add rinsate to the spray tank, then offer the container for recycling/reconditioning, or puncture top, sides and bottom and take to a waste treatment facility authorised to destroy waste in terms of

the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) and the relevant waste management regulations for disposal.

If on-site container disposal is necessary, triple rinse empty container with water, add rinsate to the spray tank. Puncture top, sides and bottom, crush and store appropriately until it can be taken to a waste treatment facility authorised to destroy waste in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) and the relevant waste management regulations for disposal.

Empty containers and product should not be burnt.

Section 14 Transport Information

Rail/road (RID/ADR):

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bromacil)
UN number	3082
Class	9
Packing group	III
Environm. Haz. Mark	Environmentally hazardous

Sea (IMDG code):

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bromacil)
UN number	3082
Class	9
Packing group	III
Marine pollutant	Yes

Air (ICAO/IATA):

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bromacil)
UN number	3082
Class	9
Packing group	III
Environm. Haz. Mark	Environmentally hazardous

Section 15 Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not available.

Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

Section 16 Other Information

Full text of H-Statements referred to under sections 2 and 3.

H302 - Harmful if swallowed

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

H400 - Very toxic to aquatic life

For proper and safe use of this product, please refer to the approval conditions laid down on the product label. The data contained in this safety data sheet is based on our current knowledge and describes the product only with regard to safety requirements. The data does not describe the products properties. Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any existing laws and legislation are observed.

The information herein is given in good faith, but no warranty, express or implied is made.

Issue Date: 19 April 2023

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