



SAFETY DATA SHEET RANGEFINDER

Reg. No. / Nr L9929 Act No. 36 of 1947 / Wet Nr 36 van 1947
N-AR 1787, W130939

Section 1. Identification of the material and the supplier

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

Supplier: **Agritech Bioscience (Pty) Ltd. t/a Carabiner**
PO Box 1224
Isando, 1600
South Africa
www.carabiner.co.za

Emergency No: POISON CENTRE (UNITAS HOSPITAL) 012 664 1100
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: 05 February 2026

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 Toxicity Oral Category 4; H302
Skin irritation Category 2; H315
Eye irritation Category 2; H319
STOT SE Category 3; H335
Short-term (Acute) Aquatic hazard Category 1; H400
Long-term (Chronic) Aquatic hazard Category 2; H411

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**

Product Name: Rangefinder
Date of SDS: 05 February 2026

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.
H411: Toxic to aquatic life with long lasting effects.

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 instructions.

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/protective clothing/eye protection/face protection.

Response:

P301 + P317 - IF SWALLOWED: Get medical help.
P302+352 - IF ON SKIN: Wash with plenty of water and soap.
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.
P321 - Specific treatment (see first aid on this label).
P330 - Rinse mouth.
P332+317 - If skin irritation or a rash occurs - Get medical help.
P337+317 - If eye irritation persists get medical help."
P362+364 - Take off contaminated clothing and wash it before reuse.
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 national regulations.

Supplemental Hazard Statements: none

2.3 Other**Other hazards**

No other hazards known

Section 3.	Composition / Information on Hazardous Ingredients
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Mixture
Suspension concentrate
Tebuthiuron 250 g/L
Bromacil 250 g/L

Product Name: Rangefinder
Date of SDS: 05 February 2026

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

Ingredients	Concentration of hazardous ingredient in composition	CAS Number	Classification
Tebuthiuron	≥ 22%	34014-18-1	Acute Tox. Oral Cat. 4.; H302 Aquatic Acute Cat. 1.; H400 Aquatic Chronic Cat. 1.; H410
Bromacil	≥ 22%	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	≥ 4% - <5.5%	107-21-1	Acute Tox. Oral: Cat 4.; H302

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

Section 4. First Aid Measures

If medical advice is needed, have product container or label at hand. Provide medical personnel with the container, label or safety data sheet (SDS) when seeking medical attention.

General Information: 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 immediately with plenty of clean, room temperature water for at least 15 minutes holding eyelids open. Remove contact lenses, if present, after the first 1-2 minutes, then continue rinsing eyes. Seek medical attention. 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. Persons providing first aid must wear gloves to avoid self-contamination. Seek medical attention.
If Swallowed	Rinse mouth immediately with clean water and have the patient sip a glass of water if the patient is alert and able. Do NOT induce vomiting unless instructed to do so by a medical professional. Never induce vomiting or give anything by mouth to a victim who is unconscious or is having convulsions. Seek medical attention.
If Inhaled	Move person to fresh air. Keep patient calm. Keep the patient warm and at rest. Monitor for respiratory distress. If cough or difficulty in breathing develops, evaluate for respiratory tract irritation, bronchitis, or pneumonitis. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Seek medical attention.

Most important symptoms and effects, both acute and delayed

No available data.

Treatment:

Carefully observe patients with inhalation exposure for the development of any signs or symptoms and administer symptomatic treatment as needed. There is no specific antidote known. Administer 100% humidified supplemental oxygen with assisted ventilation as needed. Exposed eyes and skin should copiously be flushed with clean water. There are no specific antidotes for poisoning by these herbicides. Particularly in the case of suicidal ingestions, the possibility must always be kept in mind that multiple toxic substances may have been ingested. If large amounts of this herbicide have been ingested, and if the patient is fully alert, induce emesis with Syrup of Ipecac, followed by several glasses of water. For adults and for children over 12 years: 30 mL. For children under 12 years: 15 mL. When the vomiting has stopped, administer activated charcoal. Add sorbitol to the charcoal slurry unless diarrhoea has already commenced. If the patient is not fully alert, place a cuffed endotracheal tube to protect the airway, then aspirate and lavage the stomach with an activated charcoal slurry. Leave a quantity of charcoal, with sorbitol, in the stomach before withdrawing the stomach tube. Repeated administration of the activated charcoal at half or more of the initial dosage every 2-4 hours may be beneficial. If a small amount of this herbicide has been ingested, if effective emesis has already occurred, or if treatment is delayed: administer the activated charcoal and sorbitol by mouth. If serious dehydration and electrolyte depletion has occurred as a result of vomiting and diarrhoea, monitor the blood electrolytes and fluid balance and administer intravenous infusions of glucose, normal saline, Ringer's solution, or Ringer's-lactate in order to restore the extracellular fluid and electrolytes. Follow-up with oral nutrients as soon as fluids can be retained. Fluids lend support in the excretion of the toxicants. Supportive measures are normally sufficient for successive management of excessive exposures to tebuthiuron. If the patient's condition deteriorates despite good supportive care, then the operation of an alternative or additional toxicant should be suspected.

Section 5. Fire Fighting Measures

Hazards from products	There is no fire or explosion hazard.
Suitable Extinguishing media	Small fires: Carbon dioxide, dry powder, halon or alcohol resistant foam. Large fires: Water spray or fog can be used to cool unaffected stock. Avoid the accumulation of polluted run-off from the site. Remove the container from the fire if possible and without risk.
Recommended protective clothing & Precautions for firefighters	Water spray can be used to cool unaffected stock, avoid the accumulation of polluted runoff from the site. Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Keep upwind. Remove containers from the fire if possible and without risk. Avoid inhalation of hazardous vapours. Keep the material away from water sources and sewers. Do not touch the material and avoid breathing dusts and fumes. Do not scatter the material. Fire may generate poisonous and irritating vapours (oxides of carbon and nitrogen), mists and other products of combustion. Eliminate all ignition sources in the immediate area. 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.

	Personal protective equipment: Full protective clothing and self-contained breathing apparatus and turnout gear. For personal protection see Section 8.
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Section 6. Accidental Release Measures

Personal precautions:

Wear appropriate safety clothing and eye/face protection. Avoid contact with skin and eyes. Do not breathe in dusts, spray mists or fumes. For personal protection see Section 8. Keep unnecessary and unprotected personnel from entering the area. No smoking in the area.

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.

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 transport if this container is damaged or leaking.

DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE.

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:

KEEP OUT OF SIGHT AND REACH OF CHILDREN and animals. The operator should not be alone during handling and application of the product. Remove all sources of naked flames. Toxic if swallowed and by skin contact and harmful if inhaled. Avoid contact with the skin, eyes, and inhalation of fumes. Avoid exposure to the spray. Use this product 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. Operators should change and wash their clothing daily. 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.

Precautions for Storage:

Store in compliance with local regulations. Store in original container only in an isolated, well-ventilated, cool, dry, secure, shaded area away from foods, animal feeds and water supplies. Protect from heat, open flames, other sources of ignition, moisture and direct sunlight. Avoid cross contamination with other pesticides and fertilisers. Keep under lock and key out of reach of children, animals and unauthorised persons. Store away from incompatible substances. Store at a temperature not exceeding 32 °C. Do not leave the product in the applicators for extended periods of time.

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
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	Safety goggles with side-shields consistent with EN 166 or equivalent..
Hands	Protective (impermeable) gloves, Waterproof gloves. Wash the outside of the gloves before removing them.
Skin	Avoid contact with skin, eye and clothing. Closed working clothes are recommended. Take off contaminated clothing immediately. Store work clothing separately. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke at the place of work. Wash hands and/or face before breaks and at the end of the shift. Consult supplier to confirm that the equipment is suitable The employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this product.
Respiratory	Approved respirator suitable for protection from dusts and mists of pesticides. The limitations of respirator use as specified by the approving agency and the manufacturer must be observed. Avoid inhaling fumes or spray drift.
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	Viscous liquid
Colour	White
Odour	Characteristic
Odour Threshold	No data available
pH	7.3
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 1.16
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. Stable in aqueous media between pH 5 and 9. Hydrolysed at higher temperatures by strong alkalis and strong acids.
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, nitrogen and sulphur.
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Section 11 Toxicological Information

Acute Effects:

Oral	GHS: Category 4
Dermal	GHS: Not classified
Inhalation	GHS: Not classified
Eye	GHS: Category 2
Skin	GHS: Category 2

Chronic Effects:

Carcinogenicity	GHS: Not classified
Reproductive Toxicity	GHS: Not classified
Germ Cell Mutagenicity	GHS: Not classified
Aspiration	GHS: Not classified
STOT/SE	GHS: Category 3 respiratory tract
STOT/RE	GHS: Not classified

Section 12. Ecotoxicological Information

Ecological effects information	Aquatic acute toxicity: Formulated product: Based on available data of components. GHS: Aquatic Acute Cat. 1. GHS: Aquatic Chronic Cat. 2 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. Tebuthiuron: Acute oral LD₅₀ for chickens, bobwhite quail and mallard ducks >500 mg/kg. No data available for the formulated product Earthworms: Bromacil: No data available Tebuthiuron: No data available No data available for the formulated product Bees: LD₅₀ µg/bee Bromacil: >193 (contact). Not toxic to bees Tebuthiuron: >100 (contact). Not toxic to bees. No data available for the formulated product
Persistence and degradability	Information based on Tebuthiuron active: Animals The major metabolites in mammals were formed by N-demethylation of the substituted urea sidechain (D. M. Morton & D. G. Hoffman, J. Toxicol. Environ. Health, 1976, 1, 757–768). Plants In plants, the principal metabolic pathways involve N-demethylation and hydroxylation of the tert-butyl sidechain.

	Soil/Environment Some microbial breakdown occurs in soil, but this is not the predominant mode of degradation. Loss due to photodecomposition and volatilisation is negligible. Half-life in soil is considerably greater in soils with low moisture content, and in high organic soils. Adsorption K_f values range from 0.11 in sand (pH 7.7, o.m. 0.5%) to 1.82 in clay loam (pH 6.9, o.m. 2.0%). Tebuthiuron is highly persistent in soil. Reported field half-lives are from 12 to 15 months in areas with over 40 inches annual rainfall, with longer half-lives expected in drier areas or in soils with high organic matter content. Material can potentially penetrate soil and reach ground water. No appreciable volatilization from water to air is expected. Biodegradability: No data available. 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 microbial degradation. Soil diptheroids, <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. Biodegradability: No data available.
Bioaccumulation	Tebuthiuron: Bioaccumulation: No data available. Bioaccumulation is unlikely. Bromacil: Bioaccumulation: Log POW = 1.87 (pH 5 / pH 7). Bioaccumulation is unlikely.
Mobility in soil	Tebuthiuron is highly persistent in soil. Reported field half-lives are from 12 to 15 months in areas with over 40 inches annual rainfall, with longer half-lives expected in drier areas or in soils with high organic matter content. Material can potentially penetrate soil and reach ground water. No appreciable volatilization from water to air is expected. Bromacil: Highly mobile. Bromacil binds, or absorbs, only lightly to soil particles (K_{oc} = 32 g/m^l), 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. Tebuthiuron is highly persistent in soil.
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 + Tebuthiuron)
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 + Tebuthiuron)
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 + Tebuthiuron)
UN number	3082
Class	9
Packing group	III

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.

H411: Toxic to aquatic life with long lasting effects.

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: 05 February 2026

Review Date:

05 February 2031