UNIVERSAL BROMACIL 800 WP MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE

Product name: **BROMACIL 800 WP**
Herbicide
Common name: **Bromacil**
Chemical Name: 5-bromo-3-*sec*-butyl-6-methyluracil (**IUPAC**)
CAS №.: 314-40-9
Chemical family: Uracil (Substituted uracil herbicide)
Chemical formula: $C_9H_{13}BrN_2O_2$ (Mol. Wt.: 261.1)
Use: Selective herbicide with long residual action.
Formulation: **Bromacil** 800 g/kg
Wettable Powder
UN No.: **3077**
Supplier: **Universal Crop Protection (Pty) Ltd.**
Co. Reg. No.: 1983/008184/07
PO Box 801,
Kempton Park, 1620, South Africa
Telephone: (011) 396 2233
Fax: (011) 396 4666
Website: www.villacrop.co.za

Emergency telephone numbers:
24 Hr Transport / Spill emergency no:
Envirosure. +27 31 205 4918
(Hazcall24) +27 86 044 4411
(Client: Villa Crop Protection)
Griffon Poison Information Centre +27 82 446 8946
(Client: Villa Crop Protection)
Poisoning Emergency telephone numbers:
Griffon Poison Information Centre +27 82 446 8946
Poisons Information Centre +27 861 555 777
Villa Crop Protection Emergency number:
National Safety, Health and Environmental Manager:
+27 63 698 0668

2. COMPOSITION / INFORMATION ON INGREDIENTS

Active Ingredient: **Bromacil**
SYMBOLS: X_i
Indication of danger: Irritating substance.

RISK-PHRASE(S): R22 - R36/37/38

3. HAZARD IDENTIFICATION

Toxicity class: WHO Table 5; EPA IV
Likely routes of exposure: Eye contact, skin contact, ingestion, and inhalation.

4. FIRST AID MEASURES AND PRECAUTIONS

Inhalation: Remove source of contamination, or leave contaminated area to fresh air as rapidly as possible. Treat symptomatically and supportively.
Skin and Eye contamination:
1. Skin contamination should be removed promptly by washing with soap and water. Contamination of the eyes should be treated immediately by flushing of the eyes with gently flowing lukewarm water for 15 minutes, holding the eyelids open. If dermal or ocular irritation persists, medical attention should be obtained without delay.
2. Ingestions of these herbicides are likely to be followed by vomiting and diarrhea due to the irritant properties of most of the toxicants. Management depends on:
   a) the best estimate of quantity originally ingested,
   b) time elapsed since ingestion,
   c) effectiveness of vomiting, and
   d) the clinical status of the subject.
   Activated charcoal is probably effective in limiting irritant effects and reducing absorption of most or all of these herbicides. Aluminum hydroxide gels may be useful in neutralizing the irritant actions of the more acidic agents. Sorbitol should be given to induce catharsis if bowel sounds are present and if spontaneous diarrhea has not already commenced. Dehydration and electrolyte disturbances may be severe enough to require oral or intravenous fluids.

Advice to the physician:
There are no specific antidotes for poisoning by these herbicides. In the case of suicidal ingestions, particularly, the possibility must always be kept in mind that multiple toxic substances may have been swallowed.
1. If large amounts of herbicide have been ingested, and if the patient is fully alert, induce emesis with **Syrup of Ipecac**, followed by several glasses of water. Dosage for adults and children over 12 years: 30 mℓ; dosage for children under 12 years: 15 mℓ. When vomiting has stopped, give activated charcoal. Add **sorbitol** to the charcoal slurry unless diarrhea has already commenced. If, for some reason, the patient is not fully alert, put in place a cuffed endotracheal tube to protect the airway, then aspirate and lavage the stomach with a slurry of activated charcoal. Leave a quantity of charcoal, with sorbitol, in the stomach before withdrawing the stomach tube. Repeated administration of charcoal at half or more the initial dosage every 2 to 4 hours may be beneficial.
2. If the amount of ingested herbicides was small, if effective emesis has already occurred, or if treatment

is delayed, administer the activated charcoal and sorbitol by mouth.
3. If serious dehydration and electrolyte depletion have occurred as a result of vomiting and diarrhea, monitor blood electrolytes and fluid balance and administer intravenous infusions of glucose, normal saline, Ringer's solution, or Ringer's-lactate to restore extracellular fluid volume and electrolytes. Follow this with oral nutrients as soon as fluids can be retained. Fluids serve to support excretion of the toxicants.
4. Supportive measures are ordinarily sufficient for successful management of excessive exposures to these herbicides. If the patient's condition deteriorates in spite of good supportive care, the operation of an alternative or additional toxicant should be suspected.

5. FIRE FIGHTING MEASURES

Fire and explosion hazard: The material does not burn or burns with difficulty. It is not explosive. Airborne **Bromacil** dust may ignite. Should the chemical be involved in a general fire, ensure chemical protective clothing is used and self-contained breathing apparatus. Use water to cool containers, but water will be ineffective on fire. See point **6.**
Extinguishing media: Carbon dioxide, dry chemical powders, foam and water spray.

6. ACCIDENTAL RELEASE MEASURES (SPILLAGE)

Occupational spill: Keep spectators away. Isolate hazard area and deny entry. Stay upwind, out of low-lying areas, and ventilate closed spaces before entering. Do not wash with water. Cover spill with absorbent material. Sweep into disposal container. Do not allow spill to contaminate water supplies. Dike far ahead of liquid spills for later disposal.
If spill area is on ground near trees/plants, remove top two inches of soil after initial cleaning.
Personal precautions: Chemical protective clothing usage is advised, i.e. wear neoprene gloves, cotton overalls and safety goggles.

7. HANDLING AND STORAGE REQUIREMENTS

Handling: Relatively safe to handle. Handle with the care and caution due crop protection chemicals. Avoid breathing in dust. Do not spill.

Storage: Store in a dry, cool covered warehouse in well-labeled containers. Store away from food, feedstuffs, fertilizers, seed and agricultural chemicals. Avoid contact with heat and ignition sources. Keep away from children and animals. Local regulations should be complied with.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Personal protective equipment:

Respiratory:	in case of insufficient ventilation, wear adequate respiratory protection.
Hand:	gloves of synthetic material.
Eye:	safety goggles.
Skin and body:	wear suitable protective clothing, e.g. cotton overalls.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Beige powder.
Odour: Odourless.
Flash point: Not applicable.
Explosive properties: Not explosive.
Oxidizing properties: No oxidizing properties. Non-corrosive.
Solubility in other solvents:

Xylene:	3.2 g/100 mℓ
Acetone:	16.7 g/100 mℓ
Acetonitrile:	7.1 g/100 mℓ

Foaming properties: 9 mℓ (distilled H_2O, 5 minutes).
Solubility in water: Suspendable – 815 ppm

10. STABILITY AND REACTIVITY

Storage stability: Stable at elevated temperatures and at low temperatures. Do not store near crop protection chemicals, feed, fertilizers or seed. Stable for up to 2 years when stored in a dry, cool covered warehouse in original, well-labelled containers. Store at low temperature conditions, below 50^{O}C, preferably below 30 ^{O}C and not for prolonged periods in direct sunlight.
Decomposition properties: Decomposes in the presence of strong acids and poses a fire and explosion hazard in the presence of strong oxidizers. Stable in aqueous solutions.

11. TOXICOLOGICAL INFORMATION

Acute oral LD_{50}: 6 500 mg/kg in rats.
Acute dermal LD_{50}: 6 250 mg/kg in rats.
Inhalation: LC_{50}: 6 mg/ℓ/hr in rats.
Acute skin irritation: Moderate irritation.
Acute eye irritation: Moderate irritation.
Skin sensitization: Non-sensitizing.
Teratogenicity: No evidence was found to prove that this product is teratogenitic.
Carcinogenicity: Although **Bromacil** has not been determined to cause cancer, it is considered by the EPA to be a possible human carcinogen.
Mutagenicity: Not mutagenic.

12. ECOLOGICAL INFORMATION

Degradability: The principal metabolite is 5-bromo-*sec*-butyl-6-hydroxymethyluracil. Duration of residual activity in soil is *c.* 5 months.
ECOTOXICOLOGY (*technical material*):
Birds:

Oral LD_{50}:	bobwhite quail:	2250 mg/kg

Fish:

LC_{50} (48 hours):	rainbow trout:	75 mg/ℓ
	carp:	164 mg/ℓ

Daphnia magna:

LC_{50}:	48 hours:	119 mg/ℓ

Bees:
Not toxic to bees.

Other Aquatic organisms:

LC_{50}:	mysid shrimp:	112.9 mg/ℓ

13. DISPOSAL CONSIDERATION

Product disposal: Incineration at high temperatures (1000°C) with sufficient residence time leads to complete detoxification and destruction and is the most environmentally acceptable method for disposal. If buried, use an area far away from roots of trees and plants. Disposal site should be on level of ground and not near to streams, ponds, lakes, wells or ditches. Comply with local, state and/or federal regulations!
Package product wastes: Combustible containers should be disposed of in pesticide incinerators or in specified landfill sites. Non-combustible containers must be triple rinsed with water, punctured and disposed of in specified landfill areas. Containers are not to be reused and should be punctured, flattened and transported to a facility for recycling or disposal in approved landfill site. Comply with any local legislation applying to disposal.

14. TRANSPORT INFORMATION

UN NUMBER: 3077
Road Transport ADR/IRD:

Class:	9
Packing group:	III
Shipping name:	Environmentally hazardous substance, Solid, N.O.S. (herbicide - Substituted uracil herbicide glyphosate)

Air Transport ICAO/IATA:

Class:	9
Packing group:	III
Shipping name:	Environmentally hazardous substance, Solid, N.O.S. (herbicide - Substituted uracil herbicide)

Maritime Transport IMDG/IMO:

Class:	9
Packing group:	III
Shipping name:	Environmentally hazardous substance, Solid, N.O.S. (herbicide - Substituted uracil herbicide)

15. REGULATORY INFORMATION

Symbol: X_i
Risk phrases:

R22	Harmful if swallowed.
R36/37/38	Irritating to eyes / respiratory system / skin

Safety phrases:

S2	Keep out of reach of children.
S13	Keep away from food, drink, and animal feedstuffs.
S20/21	When using do not eat, drink or smoke.
S45	In case of accident or if you feel unwell, seek medical advice immediately

Indication of danger: Irritant

16. PACKING AND LABELING

Packed in 2, 5, 10, 20, 25, 50 kg paper lined bags and/or containers and labeled according to the South African regulations and guidelines.

17. OTHER INFORMATION

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the PRODUCT AS SUCH. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear.
It is the responsibility of persons in receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces formulations(s) containing this product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.

18. REFERENCES

- Applicable own physical and chemical, toxicity and ecotoxicity research studies.
- *The Pesticide Manual*; Tenth Edition; Editor Clive Tomlin; Crop Protection Publications, 1994.
- *The Pesticide Manual*; Eleventh Edition; Editor Clive Tomlin; Crop Protection Publications, 1997.
- *Pestline*; Material Safety Data Sheets for Pesticides and Related Chemicals; Volume II; Occupational Health Services Inc., 1991.

END OF DOCUMENT

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For detailed information on revisions, contact the Registration holder.