



SAFETY DATA SHEET

Section 1 - Identification

Product identifier	Hyvar X Herbicide Wettable Granule
Other means of identification	
Synonyms	Bromacil (5-Bromo-3-sec-butyl-6-methyluracil)
Product registration number	95183
SDS No.	892

Recommended use of the chemical and restrictions on use

Recommended use	Herbicide.
Restrictions on use	No other uses are advised. Keep out of the Reach of Children!

Details of manufacturer or importer

Company name	AgNova Technologies Pty Ltd	
Address	Unit 4, 482 Kingsford Smith Drive Hamilton, Queensland 4007 Australia	
Telephone	AgNova Technologies Pty Ltd	03 9899 8100 (office hours)
Website	agnova.com.au	
E-mail	info@agnova.com.au	
Emergency phone number	IXOM ERS Poisons Information Centre	1800 033 111 (24 hours) 13 11 26

Section 2 - Hazard(s) identification

Classification of the hazardous chemical

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Serious eye damage/eye irritation	Category 2
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1

Label elements, including precautionary statements

Hazard symbol(s)



Exclamation mark Environment mark

Signal word

Warning

Hazard statement(s)

Causes serious eye irritation.
Harmful if swallowed.
Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

Prevention	Wear eye protection/face protection. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Avoid release to the environment.
Response	IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell. Rinse mouth. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Collect spillage.
Storage	Store in a closed container. Store in a dry place. Store in a closed container.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental information This is a pesticide product registered in Australia under the Australian Pesticides and Veterinary Medicines Authority (APVMA) and is subject to certain labeling requirements. These requirements may differ from the classification criteria and hazard information required for GHS compliant safety data sheets (SDS), and for workplace labels of non-pesticide chemicals.

Other hazards which do not result in classification May form combustible dust concentrations in air.

Section 3 - Composition and information on ingredients

Mixture

Identity of chemical ingredients	CAS number and other unique identifiers	Concentration of ingredients
Bromacil 5-Bromo-3-sec-butyl-6-methyluracil	314-40-9	800 g/kg

Section 4 - First aid measures

Description of necessary first aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, get medical attention.
Skin contact	Wash off immediately with plenty of water for at least 15 minutes. Remove contaminated clothing. Wash contaminated clothing before reuse. Get medical attention if irritation develops and persists.
Eye contact	Call a physician or Poison Control Centre immediately. Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses.
Ingestion	If swallowed, do NOT induce vomiting. Call a physician or poison control centre immediately.
Personal protection for first-aid responders	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.
Symptoms caused by exposure	Dusts may irritate the respiratory tract, skin and eyes.
Medical attention and special treatment	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

Section 5 - Firefighting measures

Extinguishing media

Suitable extinguishing equipment	Foam. Dry powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing equipment	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed. In case of fire, decomposition products may occur i.e. carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen oxides, hydrogen chloride gas.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Cool containers exposed to heat with water spray and remove container, if no risk is involved. Do not allow contaminated water to enter drains or waterways.
Hazchem code	2Z
General fire hazards	May form combustible dust concentrations in air.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

Section 6 - Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Do not breathe dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
For emergency responders	Keep unnecessary personnel away. Keep upwind. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Use only non-sparking tools. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Environmental precautions Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

Methods and materials for containment and cleaning up Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Shovel up and place in a container for salvage or disposal. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for reuse. For waste disposal, see section 13 of the SDS.

Section 7 - Handling and storage

Precautions for safe handling Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Minimise dust generation and accumulation. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep away from heat and sources of ignition. Explosion-proof general and local exhaust ventilation. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment.

Conditions for safe storage, including any incompatibilities Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

Section 8 - Exposure controls and personal protection

Control parameters Follow standard monitoring procedures.

Occupational exposure limits

Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)

Components	Type	Value
Bromacil (CAS 314-40-9)	TWA	11 mg/m ³ 1 ppm

US. ACGIH Threshold Limit Values (TLV)

Components	Type	Value
Bromacil (CAS 314-40-9)	TWA	10 mg/m ³

UK. OELs. Workplace Exposure Limits (WELs) (EH40/2005 (Fourth Edition 2020)), Table 1

Components	Type	Value
Bromacil (CAS 314-40-9)	STEL	22 mg/m ³
		2 ppm
	TWA	11 mg/m ³
		1 ppm

Biological limit values	No biological exposure limits noted for the ingredient(s).
Control banding	Not available.
Engineering controls	Explosion-proof general and local exhaust ventilation. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks.
Individual protection measures, such as personal protective equipment (PPE)	
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear suitable protective clothing. The label should be consulted for more detailed instructions on appropriate PPE.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
Hygiene measures	When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Section 9 - Physical and chemical properties

Physical state	Solid.
Form	Granular.
Colour	Grey to brown.
Odour	Not available.
Odour threshold	Not available.
pH	5 - 8 @ 20 g/L (20°C)
Melting point/freezing point	Not available.
Boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Upper/lower explosive limits	
Explosion limit - lower (%)	0.11
Explosion limit - upper (%)	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.

Solubility	
Solubility (water)	Dispersible
Flammability (solid, gas)	Not available.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Particle characteristics	Not available.
Data relevant with regard to physical hazard classes	No relevant additional information available.
Other physical and chemical parameters	
Bulk density	0.53 g/cm ³
Explosive properties	Not explosive. Under dusting conditions, this material may form explosive mixtures in air.
Flammability	May form combustible dust concentrations in air.
Oxidising properties	Not oxidising.

Section 10 - Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Keep away from heat, sparks and open flame. Contact with incompatible materials.
Incompatible materials	Strong oxidizers.
Hazardous decomposition products	No hazardous decomposition products are known.

Section 11 - Toxicological information

Information on possible routes of exposure

Inhalation	Inhalation of dusts may cause respiratory irritation. Prolonged inhalation may be harmful.
Skin contact	Not a skin irritant or skin sensitiser.
Eye contact	Causes serious eye irritation.
Ingestion	Harmful if swallowed.
Early onset symptoms related to exposure	Dusts may irritate the respiratory tract, skin and eyes.
Delayed health effects from exposure	Not available.

Acute toxicity Harmful if swallowed.

Product	Species	Test Results
Hyvar X Herbicide Wettable Granule		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
<i>Dust</i>		
LC50	Rat	> 5.2 mg/l, 4 h
Oral		
LD50	Rat	> 300 mg/kg
Skin corrosion/irritation	Non-irritating (rabbit).	

Serious eye damage/irritation Causes serious eye irritation.

Respiratory or skin sensitisation

Respiratory sensitisation Based on available data, the classification criteria are not met.

Skin sensitisation Animal test did not cause sensitisation by skin contact (Guinea pig).

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Bromacil: Not classifiable as a human carcinogen. The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions. An increased incidence of tumors was observed in laboratory animals. The relevance of the animal data to humans is unknown.

ACGIH Carcinogens

Bromacil (CAS 314-40-9) A3 Confirmed animal carcinogen with unknown relevance to humans.

Reproductive toxicity Based on available data, the classification criteria are not met.

Bromacil: No evidence of reproductive toxicity has been observed.

Bromacil: Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

Section 12 - Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Components	Species	Test Results
Bromacil (CAS 314-40-9)		
Aquatic		
<i>Acute</i>		
Algae	EC50	Pseudokirchnerella subcapitata 0.017 mg/l, 72 hours
	NOEC	Algae 0.001 mg/l
Crustacea	EC50	Daphnia magna 119 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus) 127 mg/l, 96 hours
		Rainbow trout (Oncorhynchus mykiss) 36 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Bromacil 2.11

Mobility in soil Not available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Section 13 - Disposal considerations

Disposal methods Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Residual waste Dispose of in accordance with all applicable regulations. Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.

Section 14 - Transport information

ADG

UN number 3077
UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Bromacil)
Transport hazard class(es)
Class 9
Subsidiary hazard -
Packing group III
Environmental hazards Yes
Hazchem code 2Z
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

RID

UN number 3077
UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Bromacil)
Transport hazard class(es)
Class 9
Subsidiary hazard -
Label(s) 9
Packing group III
Environmental hazards Yes
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

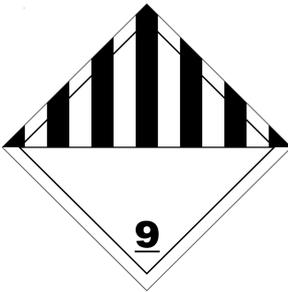
IATA

UN number 3077
UN proper shipping name Environmentally hazardous substance, solid, n.o.s. (Bromacil)
Transport hazard class(es)
Class 9
Subsidiary hazard -
Packing group III
Environmental hazards Yes
ERG Code 9L
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Other information
Passenger and cargo aircraft Allowed with restrictions.
Cargo aircraft only Allowed with restrictions.

IMDG

UN number 3077
UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Bromacil), MARINE POLLUTANT
Transport hazard class(es)
Class 9
Subsidiary hazard -
Packing group III
Environmental hazards
Marine pollutant Yes
EmS F-A, S-F
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

ADG; IATA; IMDG; RID



Marine pollutant



General information

IMDG Regulated Marine Pollutant.

Road and Rail Transport: Not dangerous goods under the ADG7 when being transported in IBCs or other receptacles <500 L (kg) (Special Provision AU01).

Section 15 - Regulatory information

Safety, health and environmental regulations

National regulations

This Safety Data Sheet was prepared in accordance with Australia Model Code of Practice for the preparation of Safety Data Sheets for Hazardous Chemicals.

Australia Medicines & Poisons Appendix B

Bromacil (CAS 314-40-9)

High Volume Industrial Chemicals (HVIC)

Not listed.

Importation of Ozone Depleting Substances (Customs(Prohibited imports) Regulations 1956, Schedule 10, as amended)

Not listed.

National Pollutant Inventory (NPI) substance reporting list

Not listed.

Prohibited Carcinogenic Substances

Not regulated.

Prohibited Substances (National Model Regulation for the control of Workplace Hazardous Substances, Schedule 2 NOHSC:1005 (1994) as amended)

Not listed.

Restricted Carcinogenic Substances

Not regulated.

Restricted Importation of Organochlorine Chemicals (Customs(Prohibited Imports) Regulations 1956, Schedule 9)

Not listed.

International regulations

Stockholm Convention

Not listed.

Rotterdam Convention

Not listed.

Kyoto Protocol

Not listed.

Montreal Protocol

Not listed.

Basel Convention

Not listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Section 16 - Any other relevant information

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