



Material Safety Data Sheet

Infosafe No. NU017 Issue Date : March 2006 ISSUED by NUFARM

Product Name : **BROMICIDE MA Selective Herbicide**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name BROMICIDE MA Selective Herbicide
Product Code 0220
Product Type Group C I Herbicide
Company Name NUFARM AUSTRALIA LIMITED. (ABN 80 004 377 780)
Address 103-105 Pipe Road Laverton North
Victoria 3026 Australia
Emergency Tel. 24hr 1800 033 498
Telephone/Fax Number Tel: (03) 9282-1000 Fax: (03) 9282-1001
Recommended Use For the control of weeds in wheat, oats, barley, cereal rye, triticale, linseed, grass pastures and turf as per the Directions for Use table on the label.
Other Information This MSDS describes, to the best of our knowledge, the properties of the concentrated product. The physical properties and some of the assessments do not apply to the properties of the product once it has been diluted for application. Acute health effects of the diluted product are likely to be much less severe.

2. HAZARDS IDENTIFICATION

Hazard Classification HAZARDOUS SUBSTANCE.
NON-DANGEROUS GOODS.
Hazard classification according to the criteria of NOHSC.
Dangerous goods classification according to the Australia Dangerous Goods Code.
Risk Phrase(s) R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
R63 Possible risk of harm to the unborn child.
R65 Harmful: may cause lung damage if swallowed.
Safety Phrase(s) S13 Keep away from food, drink and animal feeding stuffs.
S2 Keep out of reach of children.
S36/37 Wear suitable protective clothing and gloves.
S46 If swallowed, seek medical advice immediately and show this container or label.
Other Information Poisons Schedule S6

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization Liquid

Ingredients	Name	CAS	Proportion
	Liquid Hydrocarbon	64742-94-5	343 g/L
	MCPA (present as the ethyl hexyl ester)	26544-20-7	200 g/L
	Bromoxynil present as the n-octanoyl ester	1689-99-2	200 g/L
	Proprietary surfactant mixture		50-100 g/L

4. FIRST AID MEASURES

Inhalation Remove affected person to fresh air until recovered.
If symptoms develop or persist, seek medical advice.



Material Safety Data Sheet

Page 2 of 5

Infosafe No. NU017 Issue Date : March 2006 ISSUED by NUFARM

Product Name : **BROMICIDE MA Selective Herbicide**

Ingestion	If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label or contact the Poisons Information Centre on 13 11 26 (Aust). Make every effort to prevent vomit from entering the lungs by careful placement of the patient. The above first aid instructions are mandated by the Commonwealth Department of Health and Aged Care via the National Drugs and Poisons Schedule. These instructions are suitable for ingestion of spray solution and small amounts of concentrate; however, if SUBSTANTIAL AMOUNTS of the concentrate have been swallowed (more than about 15ml) AND if medical assistance is more than 30 minutes away, the induction of vomiting should be CONSIDERED, preferably based on MEDICAL ADVICE if a physician can be contacted by phone. All care must be taken to prevent vomit from being inhaled. Do not give anything by mouth to a semi-conscious or unconscious person.
Skin	Wash affected areas thoroughly with soap and water.
Eye	If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes. Seek medical advice if irritation develops or persists.
Advice to Doctor	Treat symptomatically. If vomiting occurs, solvent present may cause pulmonary pneumonitis.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media Water fog, foam, carbon dioxide or dry chemical.

Hazards from Combustion Products	Although material is not flammable, the concentrate is combustible. If involved in a fire, it will emit harmful fumes of hydrogen bromide, hydrogen chloride, hydrogen cyanide and possibly other compounds of bromine, chlorine and nitrogen. Keep upwind.
Special Protective Equipment for fire fighters	Breathable air apparatus may have to be worn in confined spaces.
Hazchem Code	None Allocated
Other Information	Hazchem code has not been assigned. Prevent fire water from entering drains or water bodies.

6. ACCIDENTAL RELEASE MEASURES

Spills & Disposal	Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite). Collect spilled material and waste in sealable open-top type containers for disposal.
Personal Protection	For appropriate personal protective equipment (PPE), refer Section 8.
Clean-up Methods - Large Spillages	If large liquid spills occur, attempt to recover as much spilt material from sumps and bunded areas before absorbing remaining material into vermiculite or other absorbent.
Environmental Precautions	This product is a herbicide and spills can damage crops, pastures and desirable vegetation.

7. HANDLING AND STORAGE

Precautions for Safe Handling	Do NOT contaminate dams, rivers or streams, or any other water bodies with pesticide or used containers.
Conditions for Safe Storage	Store in the closed, original container in a cool, well ventilated area. Do not store for prolonged periods in direct sunlight.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION



Material Safety Data Sheet

Page 3 of 5

Infosafe No. NU017 Issue Date : March 2006 ISSUED by NUFARM

Product Name : **BROMICIDE MA Selective Herbicide**

National Exposure Standards	No exposure standard has been established for this product. The manufacturer of the solvent has recommended an occupational exposure limit of 100 mg/m ³ ; 17ppm TWA, as total hydrocarbon.
Engineering Controls	Handle in well ventilated areas, generally natural ventilation is adequate.
Respiratory Protection	Do not inhale spray mist.
Personal Protective Equipment	When opening the container, preparing spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves and goggles.
Hygiene Measures	After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash contaminated clothing and safety equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Liquid
Appearance	Dark brown liquid
Odour	Typical solvent odour
Melting Point	<0 C
Boiling Point	190 - 270°C for solvent
Solubility in Water	Disperses in water.
Specific Gravity	1.07 - 1.09
Vapour Pressure	0.19 mPa @ 25°C Bromoxynil octanoate: 0.48 mPa @ 20°C MCPA 2EHE.
Vapour Density (Air=1)	~5 (for solvent present)
Volatile Component	30 - 40%
Octanol/Water Partition Coefficient	Kow Log P is 5.4 for bromoxynil octanoate; 5.7 for MCPA 2EHE
Flash Point	75°C
Flammability	Combustible liquid C1.
Auto-Ignition Temperature	Not determined
Flammable Limits - Lower	0.6% for solvent
Flammable Limits - Upper	7.0% for solvent
Explosion Properties	No information

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions.
Hazardous Reactions	Violent reactions between Bromicide MA and oxidising agents are possible. Avoid chlorates, nitrates, nitric acid, organic peroxides and potassium chlorate.
Hazardous Polymerization	Hazardous polymerisation is not possible.

11. TOXICOLOGICAL INFORMATION

Inhalation	The concentrate is considered harmful by inhalation by Worksafe Australia. High vapour concentrations of the solvent while handling the concentrate are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, and may have other central nervous system effects.
-------------------	---



Material Safety Data Sheet

Page 4 of 5

Infosafe No. NU017 Issue Date : March 2006 ISSUED by NUFARM

Product Name : **BROMICIDE MA Selective Herbicide**

Ingestion	Possible symptoms of exposure include: headache, nausea, dizziness and weakness. If aspirated into the lung, e.g. from vomiting, the presence of solvent may result in chemical pneumonitis or other lung damage.
Skin	May irritate the skin. Prolonged contact with the concentrate can cause defatting of the skin and may result in dermatitis.
Eye	May irritate the eyes.
Chronic Effects	Chronic Overexposure: Weight loss and damage to liver and kidneys may be expected if exposure is excessive.
Reproductive Toxicity	Bromoxynil octanoate has been assigned R63 on the basis of studies, in rats, rabbits and mice which show reduced ossification and increased incidence of supernumerary ribs at doses (range 5-15 mg/kg/day) which are not toxic maternally. Supernumerary ribs are seen in control animals and are often seen in reproductive toxicity studies. The ribs disappear during subsequent development with rats, but not with mice. The significance of supernumerary ribs as an indicator of developmental toxicity and extrapolation to other species remain problematical. (1)
Acute Toxicity - Oral	LD50 (rat) 365 mg/kg for bromoxynil octanoate LD50 (rat) 2235 mg/kg for MCPA 2EHE
Acute Toxicity - Dermal	LD50 (rat) >2000 mg/kg for bromoxynil octanoate LD50 (rat) >2000 mg/kg for MCPA 2EHE
Acute Toxicity - Inhalation	LC50 (rat) (4hr) 0.72 mg/l for bromoxynil octanoate LC50 (rat) (4hr) >3.1 mg/l for MCPA 2EHE
Eye Irritation	The product is an eye irritant.
Skin Irritation	Mild to moderate skin irritant.
Skin Sensitisation	MCPA 2EHE is a skin sensitiser.
Other Information	The Australian Acceptable Daily Intake (ADI) for bromoxynil for a human is 0.003 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 0.3 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Ageing, 'ADI List', TGA, September 2005). The Australian Acceptable Daily Intake (ADI) for MCPA for a human is 0.01 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 1.1 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Ageing, 'ADI List', TGA, September 2005).

12. ECOLOGICAL INFORMATION

Known Harmful Effects on the Environment	Harmful to fish and other aquatic organisms.
Other Precautions	Do not contaminate dams, waterways or sewers with this product or the containers which have held this product.
Environ. Protection	Marine pollutant. Spray drift can cause damage, read the label for more information.
Acute Toxicity - Fish	The following is data for the active ingredient, bromoxynil octanoate. Toxic to fish. LC50 (96hr) for rainbow trout is 0.041 mg/l. LC50 (96 hr) for bluegill sunfish is 1.66 mg/l for MCPA 2EHE LC50 (96 hr) for rainbow trout is 1.15 mg/l for MCPA 2EHE
Acute Toxicity - Daphnia	LC50 (48 hr) for daphnia is 0.046 mg/l for bromoxynil octanoate.
Acute Toxicity - Other Organisms	Bees: Not toxic to bees. LD50 >100 µg/bee.

13. DISPOSAL CONSIDERATIONS



Material Safety Data Sheet

Page 5 of 5

Infosafe No. NU017 Issue Date : March 2006 ISSUED by NUFARM

Product Name : **BROMICIDE MA Selective Herbicide**

Product Disposal On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemCollect).

Container Disposal Do not use this container for any other purpose. Triple rinse containers, add rinsate to the spray tank, then offer the container for recycling/reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations. drumMUSTER is the national program for the collection and recycling of empty, cleaned, non returnable crop production and on-farm animal health chemical containers. If the label on your container carries the drumMuster symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program. If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Returnable containers: empty contents fully into application equipment. Replace cap, close all valves and return to the point of supply for refill or storage. Empty containers and product should not be burnt.

14. TRANSPORT INFORMATION

U.N. Number None Allocated
Proper Shipping Name None Allocated
DG Class None Allocated
Hazchem Code None Allocated
Packing Group None Allocated
Storage and Transport Considered non dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.
UN Number (Sea Transport) 3082
IMO Class/Packing Group Class 9; Packing Group III
IMO Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains Bromoxynil)

15. REGULATORY INFORMATION

Poisons Schedule S6
Packaging & Labelling POISON
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING
Hazard Category Harmful
AICS (Australia) All of the components in this product are listed on the Australian Inventory of Chemical Substances.

16. OTHER INFORMATION

Contact Person/Point Normal Hours: Mr Volker Maier Phone: (03) 9282 1000
After Hours: Shift Supervisor Phone: 1800 033 498
Literature References (1) Krieger ed. (2001), Handbook of Pesticide Toxicology Second Edition Vol.2 Agents - Academic Press
Revisions Highlighted The MSDS was reviewed. Minor changes were made to the information.
...End Of MSDS...