



Infosafe No™ NU017 Issue Date :December 2008 ISSUED by NUFARM CS: 1.4.21

Product Name **BROMICIDE MA Selective Herbicide**

Classified as hazardous

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. 1800 033 498 (24hr Australia)
Telephone/Fax Number Tel: +61 3 9282-1000
Fax: +61 3 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 Classified as hazardous
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) Classified as hazardous
R21 Harmful in contact with skin.
R22 Harmful if swallowed.
R23 Toxic by inhalation.
R43 May cause sensitization by skin contact.
R63 Possible risk of harm to the unborn child.
R65 Harmful: may cause lung damage if swallowed.
R66 Repeated exposure may cause skin dryness and cracking.
R67 Vapours may cause drowsiness and dizziness

Safety Phrase(s) S1/2 Keep locked up and out of reach of children.
S13 Keep away from food, drink and animal feeding stuffs.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S45 In case of accident or if you feel unwell seek medical advice immediately
S51 Use only in well ventilated areas.

Other Information Poisons Schedule S6

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization Liquid

| Ingredients | Name | CAS | Proportion |
|--------------------|--|------------|-------------------|
| | Bromoxynil present as the n-octanoyl ester | 1689-99-2 | 200 g/L |
| | MCPA (present as the ethyl hexyl ester) | 94-74-6 | 200 g/L |
| | Proprietary surfactant mixture | | 50-100 g/L |
| | Liquid Hydrocarbon | 64742-94-5 | 343 g/L |

4. FIRST AID MEASURES



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

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| 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. |
| Other Information | STOP FIRE WATER FROM ENTERING DRAINS OR WATER BODIES. |

6. ACCIDENTAL RELEASE MEASURES

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| 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

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| 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

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| 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. |

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| 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. |
| Requirements Concerning Special Training | After each day's use, wash contaminated clothing and safety equipment. NSW regulations require that people who use pesticides in their job or business must have training in the application of the materials. |

9. PHYSICAL AND CHEMICAL PROPERTIES

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| 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

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| 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

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| Inhalation | 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. |
| 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. |

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| 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) 238 mg/kg for bromoxynil octanoate LD50 (rat) 1300 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 | Bromoxynil octanoate 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 Office of Chemical Safety, 'ADI List', September 2007). ADI for MCPA is 0.01 mg/kg/day, NOEL 1.1 mg/kg/day. |

12. ECOLOGICAL INFORMATION

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|---|---|
| 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 (96hr) for rainbow trout is 1.15 mg/l for MCPA 2EHE LC50 (48hr) for daphnia is 0.046 mg/l for bromoxynil octanoate. |
| Acute Toxicity - Daphnia | |
| Acute Toxicity - Other Organisms | Bees: Not toxic to bees. LD50 >100 µg/bee. |

13. DISPOSAL CONSIDERATIONS

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| 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 (ChemClear®). |
| 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. |



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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

Transport Information Not classified as Dangerous Goods, according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

Storage and Transport Exempt from classification as a Dangerous Good in packs less than 3,000 kg or L as per ADG7, SP no. AU01.
For bulk shipments as Class 9, use UN 3082, HazChem code •3Z.

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 octanoate)

15. REGULATORY INFORMATION

Poisons Schedule S6

Packaging & Labelling POISON
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Hazard Category Toxic, Irritant

AICS (Australia) All of the components in this product are listed on the Australian Inventory of Chemical Substances.

16. OTHER INFORMATION

Date of preparation or last revision of MSDS Revised 10/12/2008

Contact Person/Point Normal Hours: Mr Volker Maier Phone: +61 3 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. Various changes were made to the information.
In particular, see R & S phrases.
...End Of MSDS...

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