

MATERIAL SAFETY DATA SHEET



Date of Issue: August 25th 2010

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name **Buctril® MA Selective Herbicide**
Other names None
Product codes and pack sizes 4207555 (20 L), 6519385 (200 L), 79408072 (1000 L)
Chemical group Hydroxybenzoxazole + phenoxy
Recommended use Agricultural herbicide
Formulation Emulsifiable concentrate
Supplier Bayer CropScience Pty Ltd ABN 87 000 226 022
Address 391 - 393 Tooronga Road, East Hawthorn, Victoria 3123, Australia
Telephone (03) 9248 6888
Facsimile (03) 9248 6800
Website www.bayercropscience.com.au
Contact Development Manager (03) 9248 6888
Emergency Telephone Number 1800 033 111 – Orica SH&E Shared Services

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
HAZARDOUS SUBSTANCE (see Risk phrases below) – DANGEROUS GOOD
Combustible liquid.

Hazard classification Hazardous (National Occupational Health and Safety Commission - NOHSC)
Risk phrases R21/22 – Harmful in contact with skin and if swallowed
R23 – Toxic by inhalation
R63 – Possible risk of harm to the unborn child
R43 – May cause sensitisation by skin contact
R65 – Harmful: May cause lung damage if swallowed
Safety phrases See Sections 4, 5, 6, 7, 8, 10, 12, 13
ADG classification See Section 14.
SUSDP classification (Poison Schedule) Schedule 6 (Standard for the Uniform Scheduling of Drugs and Poisons)

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS Number	Concentration (g/L)
Bromoxynil octanoate	[1689-99-2]	291 (≡ 200 g/L bromoxynil)
MCPA ethyl hexyl ester	[29450-45-1]	312 (≡ 200 g/L MCPA)
Hydrocarbon solvent	[64742-94-5]	340
Naphthalene (in hydrocarbon solvent)	[91-20-3]	(< 34)
Other ingredients	(non hazardous)	141

MATERIAL SAFETY DATA SHEET



Date of Issue: August 25th 2010

4. FIRST AID MEASURES

If poisoning occurs, immediately contact a doctor or Poisons Information Centre (telephone 13 11 26), and follow the advice given. Show this Material Safety Data Sheet to the doctor.

Inhalation	If inhaled, remove to fresh air and keep at rest. Obtain medical advice if symptoms persist. If breathing stops or shows signs of failing, start artificial respiration. Call for prompt medical attention.
Skin contact	Carefully remove contaminated clothing. Wash affected areas with soap and water. Seek medical aid if symptoms persist.
Eye contact	Rinse eyes immediately with plenty of clean water and obtain urgent medical aid.
Ingestion	Wash out mouth with water. Do NOT induce vomiting. Give a glass of water. Keep patient at rest and seek medical advice immediately. DO NOT attempt to give anything by mouth to a semi-conscious or unconscious person.
First Aid Facilities	Provide eyewash and safety shower facilities in the workplace.
Medical attention	<u>Symptoms</u> <i>Local:</i> Skin sensitisation, local irritation. <i>Systemic:</i> Lethargy, thirst, sweating, anxiety, hyperventilation, tachycardia, muscle rigidity, hyperthermia, vomiting, abdominal pain, ataxia, liver damage, acidosis, hypotension, circulatory collapse, cough, shortness of breath, nausea, diarrhoea, convulsions. <u>Note for physicians</u> This product contains a hydrocarbon solvent. Care should be taken to prevent pulmonary aspiration. Small amounts of liquid aspirated into the respiratory system during ingestion or from vomiting may cause bronchopneumonia or pulmonary oedema. Monitor respiratory, cardiac, kidney, liver and CNS functions. Gastric lavage should be considered in cases of significant ingestions within the first 2 hours. The application of sodium sulphate is always advisable. Elimination by dialysis – forced alkaline diuresis In case of hyperthermia, physical cooling is advisable. In case of muscle rigidity, muscle relaxants and mechanical ventilation may support in counteracting hyperthermia. There is no specific antidote.

MATERIAL SAFETY DATA SHEET



Date of Issue: August 25th 2010

5. FIRE FIGHTING MEASURES

Extinguishing media	Foam, dry chemical, carbon dioxide or water spray
Hazards from combustion products	Hydrogen bromide, hydrogen cyanide and oxides of carbon and nitrogen may be generated in a fire.
Precautions for fire fighters	Combustible liquid. Fire fighters should wear full protective gear, including self-contained breathing apparatus (AS/NZS 1715/1716). Toxic decomposition products may be produced in a fire. If possible and without risk, remove intact containers from exposure to fire. Otherwise, spray unopened containers with water to keep cool. Containers may explode in a fire. Keep unnecessary people away. Bund area to prevent contamination of water sources. Dispose of fire control water and spillage safely later.
Hazchem code	-3Z

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled material or contaminated surfaces. Extinguish or remove possible sources of ignition. When dealing with spills do not eat, drink or smoke and wear protective clothing and equipment as described in Section 8 - PERSONAL PROTECTION. Keep people and animals away and upwind. Prevent spilled material from entering drains or watercourses. Contain spill and absorb with earth, sand, clay, or other absorbent material. Collect and store in properly labelled, sealed drums for safe disposal. Deal with all spillages immediately. If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local water authority.

7. HANDLING AND STORAGE

Handling	Keep out of reach of children. Avoid contact with eyes and skin. Do not inhale spray mist. When preparing the spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow-length PVC gloves and face shield or goggles. If product in eyes, wash it out immediately with water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield or goggles, and contaminated clothing. Keep away from all ignition sources.
Storage	Store in the closed, original container in a dry, cool, well-ventilated area out of direct sunlight.
Flammability	Combustible liquid, Class C1 – flashpoint between 61° C and 150° C.

MATERIAL SAFETY DATA SHEET



Date of Issue: August 25th 2010

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure standards The manufacturer of the solvent recommends an Occupational Exposure Limit for solvent naphtha (petroleum), heavy aromatic: TWA: 100 mg/m³ (17 ppm).
For the small amount of naphthalene present in the solvent the NOHSC Occupational Exposure Limits are: TWA: 10 ppm (52 mg/m³), STEL: 15 ppm (79 mg/m³). Skin notation.

Definitions

Exposure standard – Time Weighted Average (TWA) means the average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day working week.

Exposure standard – Short term exposure limit (STEL) means a 15 minute TWA exposure which should not be exceeded at any time during the working day.

Skin notation – Absorption through the skin may be a significant source of exposure.

Biological limit values None allocated

Engineering controls Control process conditions to avoid contact. Use local exhaust ventilation during manufacturing operations. Use in a well-ventilated area only.

Personal Protective Equipment

- Face-shield or goggles.
- Cotton overalls buttoned to the neck and wrist and a washable hat.
- Elbow-length PVC gloves
- If inhalation exposure is likely to exceed the exposure levels above, an AS/NZS 1715/1716 approved respirator suitable for organic vapours should be worn.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Dark brown liquid
Odour: Aromatic hydrocarbon
pH: 3.0 – 5.0 (1% emulsion)
Vapour pressure: 0.3 kPa (at 38° C) – solvent
Vapour density: > 1.00 – solvent
Boiling point: 179 - 213° C (solvent)
Freezing/melting point: Not available
Solubility: Emulsifies in water
Specific Gravity: 1.08 at 20° C
Flash Point: Approximately 70° C (Pensky Martens Closed Cup)
Flammability (explosive) limits: LEL: 0.6; UEL: 7.0 Vol. % in air (hydrocarbon solvent)
Auto-ignition temperature: > 400° C (hydrocarbon solvent)
Partition coefficient (octanol/water): *Bromoxynil octanoate*: Log P_{ow} = 5.9

MATERIAL SAFETY DATA SHEET



Date of Issue: August 25th 2010

10. STABILITY AND REACTIVITY

Chemical stability	Stable under normal conditions of use.
Conditions to avoid	Avoid sources of ignition and extreme heat.
Incompatible materials	Incompatible with strong oxidising agents and strong bases.
Hazardous decomposition products	Hydrogen bromide, hydrogen cyanide, and oxides of carbon and nitrogen may be released in a fire.
Hazardous reactions	None

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

Inhalation	Poisonous if inhaled. Will irritate mucous membranes of nose and mouth, may cause headaches, dizziness, drowsiness, could be anaesthetic, and may have other central nervous system effects.
Skin contact	May irritate the skin. Repeated exposure may cause skin dryness or cracking.
Eye contact	Irritating to the eyes.
Ingestion	Poisonous if swallowed.

ANIMAL TOXICITY DATA

Acute:	
Oral toxicity	LD ₅₀ rat: 782 mg/kg (<i>similar formulation</i>)
Dermal toxicity	LD ₅₀ rat: > 2300 mg/kg (<i>similar formulation</i>)
Inhalation toxicity	LC ₅₀ (4 h) rat: > 5.0 mg/L (<i>similar formulation</i>)
Skin irritation	Slightly irritating (<i>similar formulation</i>)
Eye irritation	Slightly irritating (<i>similar formulation</i>)
Sensitisation	Sensitising (<i>derived from properties of individual components</i>)

Chronic:

Bromoxynil is classified by NOHSC as a Category 3 teratogen – substances which cause concern for man owing to possible teratogenic effects but in respect of which the information is not adequate for making a satisfactory assessment. In long term toxicity studies with MCPA (acid) at high doses, the target organs were the liver, kidneys and skin. This product contains naphthalene. The International Agency for Research on Cancer evaluated naphthalene and concluded that there was sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans. Accordingly, IARC classified naphthalene as a possible human carcinogen. (Group 2B).

MATERIAL SAFETY DATA SHEET



Date of Issue: August 25th 2010

12. ECOLOGICAL INFORMATION

Dangerous to fish. Harmful to aquatic life. Harmful to bird life. Low hazard to bees. Sprayed weeds may become more palatable to stock and a higher intake of some weeds may result in stock poisoning and death from causes such as nitrate poisoning.

DO NOT contaminate streams, rivers or waterways with Buctril MA or the used containers.

Ecotoxicity

Bromoxynil octanoate:

Fish toxicity: LC₅₀ (96 h) bluegill sunfish 0.06 mg/L
Bird toxicity: LD₅₀ bobwhite quail 170 mg/kg; mallard duck 2350 mg/kg
Daphnia toxicity: LC₅₀ (48 h) *Daphnia magna* 0.046 mg/L
Algae toxicity: EC₅₀ (96 h) *Desmodesmus subspicatus* 1 mg/L

MCPA-2-ethylhexyl:

Fish toxicity: LC₅₀ (96 h) rainbow trout 50-560 mg/L, bluegill sunfish > 150 mg/L
Bird toxicity: LC₅₀ (96 h) bobwhite quail 377 mg/kg
Daphnia toxicity: LC₅₀ (48 h) > 190 mg/L
Algae toxicity: EC₅₀ *Selenastrum capricornutum* > 392 mg/L

Environmental fate, persistence and degradability, mobility

Bromoxynil: Not readily biodegradable. Bioconcentration factor (BCF): 230. In soil DT₅₀ is < 1 day, in laboratory test. Degraded by hydrolysis and debromination. Not readily biodegradable.

MCPA-ethylhexyl: Hydrolyses rapidly in natural waters and soil water mixtures. DT₅₀ in soil < 7 days after initial lag phase (acid form).

13. DISPOSAL CONSIDERATIONS

Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose, clear of waterways, vegetation and roots. Empty containers or product should not be burnt. Dispose of waste material via a reputable waste disposal contractor.

14. TRANSPORT INFORMATION

UN number	UN 3082
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (contains bromoxynil)
Class and Subsidiary Risk	Class 9
Packing Group	Packing Group III
Hazchem code	-3Z
Marine Pollutant	Yes – Bromoxynil is a Marine Pollutant, Class “P” (on IMDG list).
Note for Road and Rail Transport	According to AU01, Environmentally Hazardous Substances in packagings, IBCs or any other receptacle not exceeding 500 kg or 500 L are not subject to the ADG Code

MATERIAL SAFETY DATA SHEET



Date of Issue: August 25th 2010

15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994.
Australian Pesticides and Veterinary Medicines Authority approval number: 31466
See also Section 2.

16. OTHER INFORMATION

Trademark information Buctril® is a Registered Trademark of Bayer.

Preparation information Replaces June 2nd 2009 edition.
Reasons for revision: Hazards identification, fire fighting measures.

This MSDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

END OF MSDS