

**Material Safety Data Sheet****BUCTRIL® 4 EC HERBICIDE**

MSDS Number: 102000002168

MSDS Version 2.0

Revision Date: 08/23/2005

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name	BUCTRIL® 4 EC HERBICIDE
Chemical Name	Bromoxynil Heptanoate; Bromoxynil Octanoate
MSDS Number	102000002168
EPA Registration No.	264-540
Product Use	Herbicide for the control of broadleaf weeds in a variety of crops.

Bayer CropScience
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
USA

For MEDICAL, TRANSPORTATION or other EMERGENCY call 1-800-334-7577 (24 hours/day)
For Product Information call 1-866-99BAYER (1-866-992-2937)

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Bromoxynil heptanoate	56634-95-8	27.00
Bromoxynil octanoate	1689-99-2	28.00
Naphthalene	91-20-3	2.00
Trade Secret Ingredient(s)		1.20

SECTION 3. HAZARDS IDENTIFICATION

NOTE: Please refer to Section 11 for detailed toxicological information.

Emergency Overview Warning! May be fatal if swallowed. Harmful if inhaled or absorbed through skin. Moderate eye irritation Avoid contact with skin, eyes and clothing. Avoid breathing spray mist. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Physical State liquid

Odor hydrocarbon-like

Appearance brown

Immediate Effects

Eye Causes redness, tearing. Vapors and mists can cause irritation.

Skin Harmful if absorbed through skin. May cause slight irritation.

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Ingestion	May be fatal if swallowed. May cause nausea, vomiting, abdominal pain, weakness of arms and/or legs, dizziness, loss of coordination. Aspiration of the swallowed or vomited product can cause severe pulmonary complications.
Inhalation	May cause upper respiratory tract irritation, coughing, wheezing, nausea, headache, depression.
Medical Conditions Aggravated by Exposure	Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

SECTION 4. FIRST AID MEASURES

General	Have the product container or label with you when calling a poison control center or doctor or going for treatment.
Eye	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
Skin	Take off all contaminated clothing immediately. Rinse immediately with plenty of water for at least 15 minutes. Call a poison control center or doctor for treatment advice.
Ingestion	Call a poison control center or doctor immediately for treatment advice. Do not induce vomiting without medical advice. Have person sip a glass of water if able to swallow. Do not induce vomiting or give anything by mouth to an unconscious person.
Inhalation	Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
Notes to Physician Hazards	<p>Consideration should be given to the possibility that over exposure to materials other than this product may have occurred.</p> <p>Contains petroleum distillates.</p> <p>May pose an aspiration pneumonia hazard.</p>
Treatment	Treat symptomatically. All treatment should be based on observed signs and symptoms of distress in the patient.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point	89 °C / 192 °F
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Autoignition Temperature 49 °C / 120 °F

Fire and Explosion Hazards

In the event of fire the following can be released:
carbon monoxide (CO)
nitrogen oxides (NOx)
hydrogen bromide (HBr)

Under fire conditions, toxic, corrosive fumes are emitted.
Vapors may travel a considerable distance to a source of ignition and flash back along vapor trail.
Heating can lead to increased pressure with risk of explosion.

Suitable Extinguishing Media

Extinguishing media - small fires, dry chemical, carbon dioxide (CO₂)

Extinguishing media - large fires, foam, water spray

Fire Fighting Instructions

Keep unnecessary people away, isolate hazard area and deny entry. Evacuate residents who are downwind of fire. Dike area to prevent runoff and contamination of water sources. Cool closed containers exposed to fire with water spray. After fire is extinguished, do not turn on any ignition source until the area is determined to be free from explosion or fire hazard. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES**Methods for Cleaning Up**

Recover the product by pumping, suction or absorption using a dry and inert absorbent clay. Take up with absorbent material (e.g. sand, earth or a proprietary absorbent material). Pick up and fill the product into a tightly closed container. When picked up, treat material as prescribed in Ch. 13. "Disposal considerations".

Evacuation Procedures and Safety: Wear appropriate gear for the situation. See Personal Protection information in Section 8. Stay upwind if possible. Eliminate all sources of ignitions until the area is determined to be free from explosion or fire hazards.

Cleanup and Disposal of Spill: Decontaminate tools and equipment following cleanup. Collect washings for disposal. Pump any free liquid into an appropriate closed container.

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Additional Advice

Containment of Spill: Collect and contain contaminated absorbent and dike material for disposal. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Do not empty into drains. Environmental and Regulatory Reporting: If spilled on the ground, the affected area should be scraped clean and placed in an appropriate container for disposal. Do not allow material to enter streams, sewers, or other waterways or contact vegetation.

SECTION 7. HANDLING AND STORAGE**Handling Procedures**

Do not breathe vapours or spray mist. Do not ingest. Do not get in eyes, on skin, or on clothing.

Freezing will affect the physical condition but will not damage the material. Thaw and mix before using.

Storing Procedures

Keep out of the reach of children.

Keep away from open flames, hot surfaces and sources of ignition.

Do not contaminate water, food, or feed by storage or disposal.

Store in an area away from food, feedstuffs, fertilizers and seed.

Work/Hygienic Procedures

Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material.

Wash hands always before eating, drinking, smoking or using the toilet.

Wash exposed skin promptly to remove accidental splashes of contact with this material. Remove contaminated, soaked clothing immediately and dispose of safely.

Before removing gloves clean them with soap and water. Remove Personal Protective Equipment (PPE) immediately after handling this product. As soon as practical, wash thoroughly and change into clean clothing.

Min/Max Storage Temperatures

Do not transport or store below -16 °C / 3 °F

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**General Protection**

Train employees in safe use of the product. Eye wash facility and safety shower should be available. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water.

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Engineering Controls	Ensure adequate ventilation, especially in confined areas.
Eye/Face Protection	Safety glasses with side-shields
Hand Protection	Wear suitable gloves.
Body Protection	Wear long-sleeved shirt and long pants and shoes plus socks. Chemical resistant apron when cleaning equipment, mixing or loading. Chemical resistant apron when cleaning equipment, mixing or loading.
Respiratory Protection	When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or Industry recommendations. Under conditions immediately dangerous to life or health, or emergency conditions with unknown concentrations, use a full-face positive pressure air-supplied respirator equipped with an emergency escape air supply unit or use a self-contained breathing apparatus unit.
Exposure Limits	This product contains material which are Trade Secret and may have Occupational Exposure Limits. If more information is required, call the product information number listed in Section 1.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	brown
Physical State	liquid
Odor	hydrocarbon-like
pH	4.1 (1 %) Emulsion in water
Specific Gravity	1.26 at 22 °C
Density	1.26 g/l
Water Solubility	emulsifiable

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions.
Conditions to Avoid	Heat, flames and sparks.



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	static electricity elevated temperatures
Incompatibility	strong acids and strong bases strong oxidizing agents
Hazardous Decomposition Products	Thermal decomposition nitrogen oxides (NOx) hydrogen bromide (HBr)
Hazardous Reactions	No hazardous reactions when stored and handled according to prescribed instructions.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity	rat: LD50: 505 mg/kg
Acute Dermal Toxicity	rabbit: LD50: > 2,000 mg/kg
Acute Inhalation Toxicity	rat: LC50: 1.73 mg/l Exposure time: 4 h
Skin Irritation	rabbit: slight irritation
Eye Irritation	rabbit: moderately irritant
Chronic Toxicity	BROMOXYNILCOMPOUNDS: EPA has classified Bromoxynil as a Class C carcinogen. Based upon the results of rat and rabbit teratogenicity studies, Bromoxynil phenol is considered to be a developmental toxicant. Women of child bearing age should be particularly careful when handling this product to avoid ingestion and skin contact. Although three in vitro genetic toxicity studies were positive for Bromoxynil phenol, four additional in vitro studies and two in vivo studies were negative. Therefore, the weight of evidence indicates that Bromoxynil phenol does not produce genetic toxicity.

Assessment Carcinogenicity

ACGIH

Naphthalene

91-20-3

Group A4

NTP

Naphthalene

91-20-3

IARC

Naphthalene

91-20-3

Overall evaluation: 2B

OSHA

None.

SECTION 12. ECOLOGICAL INFORMATION

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**Environmental
Precautions**

This product is toxic to fish and wildlife. Use with care when applying to areas frequented by wildlife or adjacent to any body of water. For terrestrial uses, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below mean high water mark. Do not apply when weather conditions favor runoff or drift. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.

Ecological Information

No ecological testing was carried out on the product. Data are based on the properties of the individual components. Toxic to fish. Non-hazardous for bees.

SECTION 13. DISPOSAL CONSIDERATIONS**General Disposal
Guidance**

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal

Triple rinse containers. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or incineration, or if allowed by State and Local authorities, by burning. If burned, stay out of smoke.

RCRA Classification:

The RCRA Classifications may be on the individual component(s) and not necessarily on the product as a whole.

91-20-3

Naphthalene

US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261): U165

91-20-3

Naphthalene

US. EPA Resource Conservation and Recovery Act (RCRA) U List of Hazardous Wastes (40 CFR 261.33(f) and 40 CFR 302 [CERCLA]): U165

SECTION 14. TRANSPORT INFORMATION**DOT CLASSIFICATION:****NON-BULK:**

<119 Gallons: Not regulated for Domestic Surface Transportation

BULK:

> 119 Gallons: Combustible Liquid, N.O.S. (Petroleum Distillates) // Marine Pollutant (Bromoxynil)

FREIGHT CLASSIFICATION:

Compounds, Tree or Weedkilling, N.O.I., other than poison, having a density of 20 LBS or greater per cubic foot

SECTION 15. REGULATORY INFORMATION**EPA Registration No.**

264-540



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US Federal Regulations

TSCA list

Bromoxynil octanoate 1689-99-2

Naphthalene 91-20-3

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

Naphthalene 91-20-3

SARA Title III - Section 302 - Notification and Information

None.

SARA Title III - Section 313 - Toxic Chemical Release Reporting

Bromoxynil octanoate 1689-99-2 1.0%

Naphthalene 91-20-3 0.1%

US States Regulatory Reporting

CA Prop65

This product contains a chemical known to the State of California to cause cancer.

Naphthalene 91-20-3

This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Bromoxynil octanoate 1689-99-2 Developmental toxin.

US State Right-To-Know Ingredients

Bromoxynil octanoate	1689-99-2	NJ
Naphthalene	91-20-3	CA, CT, IL, MN, NJ, PA, RI

Canadian Regulations

Canadian Domestic Substance List

Naphthalene 91-20-3

Environmental

CERCLA

Naphthalene 91-20-3 100 lbs

Clean Water Section 307 Priority Pollutants

None.

Safe Drinking Water Act Maximum Contaminant Levels

None.

International Regulations

European Inventory of Existing Commercial Substances (EINECS)

Bromoxynil heptanoate 56634-95-8

Bromoxynil octanoate 1689-99-2

Naphthalene 91-20-3

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

Health - 2 Flammability - 2 Reactivity - 0 Others - none

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard



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Reason to Revise: MSDS REVISION INDICATOR: Revised Sections 2 (Composition/Information on Ingredients); 4(First Aid Measures); 7(Handling and Storage); 8(Exposure Controls/Personal Protection); 12(Ecological Information); 13(Disposal Considerations)

Revision Date: 08/23/2005

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