

SAFETY DATA SHEET

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

Product Name: BROMOXYNIL-MCPA 225-225

PCP Reg. No.: 32472

Product use: Herbicide

Supplier's name and address:

Albaugh, LLC
1525 NE 36th St.
Ankeny, IA 50021
1-800-247-8013

Emergency Telephone #:

1-800-424-9300 (CHEMTREC)

SECTION 2 — HAZARDS IDENTIFICATION

Physical Hazards: None

Health Hazards: Acute Toxicity (Oral) – Category 4
Acute Toxicity (Inhalation) – Category 4

Environmental Hazards: Hazardous to aquatic environment, acute - Category 1

Signal Word: WARNING

Hazard Statements: Harmful if swallowed. Harmful if inhaled. Very toxic to aquatic life.



Precautionary Statements: Avoid contact with skin, eyes and clothing. Wear goggles or face shield during mixing/loading. Wear coveralls over a long-sleeved shirt, long pants, socks, shoes and chemical-resistant gloves. Rinse gloves before removal. After use, wash hands and other exposed skin. Remove and wash contaminated clothing before reuse. Avoid breathing spray mist. Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product. Harmful if swallowed. This product contains an active ingredient and petroleum distillates which are toxic to aquatic organisms.

SECTION 3 — COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component	CAS No.	Percentage (%)
Bromoxynil (present as octanoate ester)	1689-99-2	30-35
MCPA (present as 2-ethylhexyl ester)	29450-45-1	30-35
Petroleum distillates (contains)*	64742-94-5	30-35
*Naphthalene	91-20-3	4-5

Content Listed on Product Label	
Bromoxynil (present as octanoate ester)	225 g a.e./L
MCPA (present as 2-ethylhexyl ester)	225 g a.e./L

SECTION 4 — FIRST AID MEASURES

If in Eyes: 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 centre or doctor for treatment advice.

If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

If Swallowed: Call a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

Take the container, label or product name and Pest Control Product Registration Number with you when calling a poison control center or doctor or going for treatment.

Do not induce vomiting. This product contains petroleum distillates. Vomiting may cause aspiration pneumonia. Treat symptomatically.

SECTION 5 — FIRE FIGHTING MEASURES

Extinguishing Media: Water fog, alcohol foam, carbon dioxide, dry chemical.

Special Firefighting Procedures: Firefighters should wear self-contained breathing apparatus and full protective clothing when fighting chemical fires. Minimize and contain water runoff.

Flash Point: >100°C

Conditions of Flammability:Not classed as a combustible liquid, but may burn under fire conditions.

Hazardous Decomposition Products: ...Under fire conditions, may produce gases such as hydrogen bromide or other bromine compounds, hydrogen chloride, nitrogen oxides and carbon oxides.

National Fire Protection Association (NFPA) Hazard Rating:

Rating for this product: **Health: 1** **Flammability: 1** **Reactivity: 0**

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Use safety equipment and procedures appropriate to the size of the spill. Keep unnecessary people away. Avoid runoff to natural waters and sewers. Surround and absorb spills with inert material such as perlite, sawdust, clay granules, vermiculite, sand or dirt. Contain all affected material in a closed, labeled container for proper disposal. Isolate from other waste materials. Clean contaminated area such as hard surfaces with detergent and water, collecting cleaning solution for proper disposal. Large spills to soil or similar surfaces may necessitate removal of top soil.

SECTION 7 — HANDLING AND STORAGE

Handling: Avoid contact with skin, eyes and clothing. Wear goggles or face shield during mixing/loading. Wear coveralls over a long-sleeved shirt, long pants, socks, shoes and chemical-resistant gloves. Rinse gloves before removal. After use, wash hands and other exposed skin. Remove and wash contaminated clothing before reuse. Avoid breathing spray mist. Do not eat, drink or smoke when using this product.

Storage: Store the container tightly closed away from seeds, fertilizer, plants and foodstuffs. May be stored at any temperature. Shake well before using.

SECTION 8 — EXPOSURE CONTROLS AND PERSONAL PROTECTION

Control Parameters:

Component	TWA*	STEL*	Note
MCPA 2-ethylhexyl ester	N/E	N/E	None found
Bromoxynil octanoate	0.21 mg/m ³	N/E	Supplier recommendation
Petroleum distillates (contains)*	50 mg/m ³	N/E	Supplier recommendation
*Naphthalene	-	-	-

*Time Weighted Average, 8-hour unless otherwise noted

**Short Term Exposure Level

N/E – Not Established

Refer to approved product label for additional exposure control guidance.

Engineering Controls: Use only outdoors or in a well-ventilated area.

Personal Protective Equipment: Wear a long-sleeved shirt, long pants, socks, shoes and chemical-resistant nitrile gloves which are in good condition when mixing/loading, spraying and during clean-up and repair. In addition, wear a chemical-resistant apron during mixing/loading activities.

For aerial application: Wear coveralls over long pants, a long-sleeved shirt, socks, shoes and chemical-resistant nitrile gloves which are in good condition, during mixing, loading, clean-up and repair activities. Aerial applicators must wear long pants and a long-sleeved shirt. Aerial applicators and applicators using a closed cab are not required to wear chemical-resistant gloves.

The field crew and the mixer/loaders must wear long pants, a long-sleeved shirt, chemical resistant gloves, coveralls and goggles or face shield during mixing/loading, cleanup and repair. Aircraft must be closed cab. The mixer/loader and applicator must be different individuals.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical data are typical values but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification. If no value is determined for the formulation, the value listed is the most relevant value of the predominate ingredients(s).

Physical state and appearance:	Liquid
Odor:	Slight amine like
Odor Threshold:	No data
pH:	2.7-3.7
Melting Point:	No applicable
Freezing Point:	No data
Boiling Point:	No data
Flash Point:	>100 C (200 °F)
Evaporation Rate:	No data
Flammability:	No data
Explosive Limits:	No data
Vapor Pressure:	<1 x 10 ⁻⁴ mPa (40°C) (bromoxynil octanoate)
Vapor Density:	No data
Density:	1.12 – 1.16 g/mL (9.4-9.7 lb/gl)
Solubility:	Emulsifiers
Partition Coefficient:	log Pow = 5.9 (pH 7) (25°C) (bromoxynil octanoate)
Auto Ignition Temperature:	No data
Decomposition Temperature:	No data
Viscosity:	8.82 cSt

SECTION 10 — STABILITY AND REACTIVITY

Reactivity: Not reactive

Chemical Stability: Stable under normal handling and storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: **Excessive heat.** Do not store near heat or flame

Incompatible Materials: Avoid contact with strong acidic, basic or oxidizing agents.

Hazardous Decomposition Products: Under fire conditions, may produce gases such as hydrogen bromide or other bromine compounds, hydrogen chloride, nitrogen oxides and carbon oxides.

SECTION 11 — TOXICOLOGICAL INFORMATION

This section is intended for use by toxicologists and other health professionals. Data obtained on similar products and on components are summarized below.

Acute oral toxicity Rat, LD50:	>700 mg/kg
Acute dermal toxicity Rabbit, LD50:	>5,050 mg/kg
Acute inhalation toxicity Rat, LD50:	2.34 mg/L (4-hr)
Skin irritation Rabbit:	Slightly irritating
Eye irritation Rabbit:	Moderately irritating
Skin sensitization Guinea Pig:	Not a skin contact sensitizer

Mutagenicity:

There have been some positive and some negative studies, but the weight of evidence is that bromoxynil and MCPA are not mutagenic.

Chronic effects/carcinogenicity: Bromoxynil phenol has been classified by U.E. EPA in Group C, limited evidence of carcinogenicity in animals. The international Agency for Research of Cancer (IARC) list exposure to chlorophenoxy herbicides as a class 2B carcinogen, the category for limited evidence for carcinogenicity in humans.

Toxicity to reproduction/fertility: Animal studies on bromoxynil phenol did not indicate a pattern of reproductive toxicity, but a study on bromoxynil octanoate indicated possible mild male reproductive toxicity at high doses. For MCPA, testicular effects and lower male fertility have been noted in animal studies.

Developmental toxicity/teratogenicity: Based on the results of studies in laboratory animals, bromoxynil phenol is considered to be a developmental toxicant. Women of childbearing age should avoid excessive exposure. MCPA studies in laboratory animals have shown decreased fetal body weights and delayed development in the offspring at doses toxic to mother animals.

SECTION 12 — ECOLOGICAL INFORMATION

This section is intended for use by eco-toxicologists and other environmental specialists. Data obtained on similar products and on components are summarized below.

Ecotoxicity:

Data are from laboratory studies conducted on MCPA-2-ethylhexyl technical.

Aquatic Toxicity:

Rainbow trout:	96-Hour LC ₅₀ (mg/L)	3.2
Bluegill sunfish:	96-Hour LC ₅₀ (mg/L)	>3.2
Daphnia:	48-Hour EC ₅₀ (mg/L)	0.28
Algae: Selenastrum	120-Hour EC ₅₀ (mg/L)	0.25
Algae: Navicula	120-Hour EC ₅₀ (mg/L)	1.2
Algae: Skeletonema	120-Hour EC ₅₀ (mg/L)	0.085

Avian toxicity

Bobwhite quail:	Oral LD ₅₀ (mg/kg)	>2250
	Dietary LDD ₅₀ (mg ae/kg bw/d)	>3800
Mallard duck:	Dietary LDD ₅₀ (mg ae/kg bw/d)	>930
Bees:	>100 µg/bee (MCPA ester technical)	

Data are from laboratory studies conducted on bromoxynil octanoate technical.

Aquatic Toxicity:

Rainbow trout:	96-Hour LC ₅₀ (mg/L)	0.041
Bluegill sunfish:	96-Hour LC ₅₀ (mg/L)	0.06
Daphnia:	48-Hour EC ₅₀ (mg/L)	0.46
Algae: Selenastrum	120-Hour EC ₅₀ (mg/L)	0.22
Algae: Navicula	120-Hour EC ₅₀ (mg/L)	0.043

Avian toxicity

Bobwhite quail:	Oral LD ₅₀ (mg/kg)	170
	5-d Dietary LC ₅₀ (ppm)	1315
Mallard duck:	Dietary LD ₅₀ (mg/kg).....	2350
	5-d Dietary LC ₅₀ (ppm)	2150
Bees:	Contact LD ₅₀ >100 µg/bee (48 h contact)	

Persistence and Degradability: MCPA 2EH rapidly hydrolyzes to parent MCPA acid. MCPA is microbially degraded with typical half-life (ester and acid) of 5 to 20 days. Persistent in anaerobic environments. Bromoxynil octanoate degrades readily to bromoxynil phenol by abiotic hydrolysis, photolytic degradation, and

microbially-mediated metabolism, in both aerobic and anaerobic environments. Representative soil half-lives are 2 days for the octanoate and 14 days for the phenol.

Bioaccumulation Potential: MCPA has negligible potential. Bromoxynil octanoate can bioaccumulate but will deplete.

Mobility in Soil: Moderate to high mobility potential, but rapidly degraded.

Other Adverse Effects: No data.

SECTION 13 — DISPOSAL CONSIDERATIONS

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Disposal should be made in accordance with federal, provincial and local regulations.

Do not reuse container for any purpose. If applicable, return container in accordance with return program. If a recyclable container, dispose of at a container collection site. Contact local distributor, dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site, triple or pressure rinse the empty container adding rinsings to spray tank, and make container unsuitable for further use. If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

SECTION 14 — TRANSPORTATION INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

CANADA:

TDG Classification – Road/Rail:

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (MCPA Ester, bromoxynil), Class 9, PG III, Marine Pollutant.

Section 1.45.1 of the TDG Regulations provides an exemption from documentation and safety marks only for this product and only when transported by a road or railway vehicle.

UNITED STATES:

DOT Classification:

Containers ≤ 270 gallons – Not regulated

Containers > 270 gallons – UN3082, Environmentally Hazardous Substances, Liquid, N.O.S., 9, PG III, RQ (Naphthalene)

IMDG:

UN 3082, Environmentally hazardous substance, liquid, n.o.s., (MCPA Ester, bromoxynil), 9, III, Marine Pollutant

IATA:

UN 3082, Environmentally hazardous substance, liquid, n.o.s., (MCPA Ester, bromoxynil), 9, III, Marine Pollutant

SECTION 15 — REGULATORY INFORMATION

This chemical is a pest control product registered by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act. These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets. Following is the hazard information required on the pest control product label:



WARNING

POISON

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is designed to comply with the Globally Harmonized System (GHS) of chemical hazard classification. The information given here is not necessarily exhaustive but is representative of relevant, reliable data. Follow all local/regional/national/international regulations.

HMIS Rating: 1 Health; 1 Flammability; 1 Reactivity

0 = Minimal hazard, 1 = Slight hazard, 2 = Moderate hazard, 3 = Severe hazard, 4 = Extreme hazard

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE Pest Management Regulatory (PMRA)- APPROVED PRODUCT LABELING (attached to and accompanying the product container). This MSDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products are regulated by product labeling and provincial legislation, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of federal law to use a pesticide product in any manner not prescribed on the PMRA-approved label.

Prepared by: Albaugh, LLC

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Revised For: Modified section 3 and 8 to include solvent amount.