

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

COMPANY ADDRESS: ALBAUGH, LLC
Ankeny, IA 50021

EMERGENCY TELEPHONE NUMBERS:
(800) 424-9300 (CHEMTREC, transportation and spills)

PRODUCT NAME : BROX 2EC
CHEMICAL NAME : Bromoxynil Octanoate
PRODUCT USE : Herbicide
PRODUCT CODE : EPA Reg. No. 42750-48

SECTION 2 - HAZARDS IDENTIFICATION SUMMARY

(As defined by OSHA Hazard Communication Standard, 29 CFR 1910.1200)

Dark amber liquid

HEALTH HAZARDS: Severe eye irritant with corneal injury possible.**PHYSICAL HAZARDS:**
May release toxic fumes if burned.**ENVIRONMENTAL HAZARDS:**
Very toxic to aquatic life.**SECTION 3 - COMPOSITION, INFORMATION OF INGREDIENTS**

COMPONENT	PERCENTAGE	CAS NUMBER
Bromoxynil Octanoate	33.4 %	1689-99-2
Naphthalene (contained in other ingredients)	6.0 – 8.0 %	91-20-3
Other Ingredients	< 70.0 %	n/a

SECTION 4 - FIRST AID MEASURES

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

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.

IF ON THE SKIN: 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 mouth-to-mouth if possible. Call a poison control center or doctor for treatment advice.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Contains petroleum distillates.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

SECTION 5 - FIRE FIGHTING MEASURES

National Fire Protection Rating (NFPA)

HEALTH	2
FLAMMABILITY	1
REACTIVITY	1
4=Severe 3=Serious 2=Moderate 1=Slight 0=Minimal	

FLASHPOINT: > 200°F (98°C)

EXTINGUISHING MEDIA: Use foam, dry chemical, carbon dioxide, or water spray when fighting fires involving this material.

FIRE AND EXPLOSION HAZARD: May decompose in fire releasing irritating and toxic gases.

FIRE FIGHTING INSTRUCTIONS: Evacuate area and fight fire upwind from a safe distance to avoid possible hazardous fumes and decomposition products. Dike and collect water used to fight fire to prevent environmental damage due to run off. Foam or dry chemical fire extinguishing systems are preferred to prevent environmental damage from excessive water runoff. Minimize use of water to prevent environmental contamination

FIRE FIGHTING EQUIPMENT: Self-contained breathing apparatus with full face piece and protective clothing.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILLS OR LEAKS: Clean up spills immediately, observing precautions in Section 8 of this document. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

SMALL SPILL: Absorb small spills on sand, vermiculite or other inert absorbent. Place contaminated material in appropriate container for disposal.

LARGE SPILL: Dike large spills using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible for reuse. Allow absorbed material to solidify, and scrape up for disposal. After removal, scrub the area with detergent and water and neutralize with dilute alkaline solutions of soda ash, or lime. Minimize use of water to prevent environmental contamination

SECTION 7 - HANDLING AND STORAGE

KEEP OUT OF REACH OF CHILDREN!

Keep away from food, feed and drinking water.

HANDLING: Use only in a well-ventilated area. Wear proper safety equipment specified in Section 8 when mixing, loading or otherwise handling concentrate. Do not use or store near heat or open flame.

STORAGE: Do not store near fertilizers or seeds. Store at temperatures above 35° F. If crystallized, warm to 80-90 F and redissolve by shaking container before using product.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION**EXPOSURE LIMITS (8 hour TWA, ppm):**

COMPONENT	OSHA PEL	ACIGH TLV
Bromoxynil octanoate	Not listed	Not listed
Naphthalene	10 ppm	10 ppm

ENGINEERING CONTROLS: Proper ventilation is required when handling or using this product to keep exposure to airborne contaminants below the exposure limit. Local mechanical exhaust ventilation may be required. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

PERSONAL PROTECTIVE EQUIPMENT: Applicators and other handlers must wear.

EYE PROTECTION - Protective eyewear such as safety glasses, face shield or goggles

CLOTHING - Coveralls over long-sleeved shirt and long pants, chemical resistant footwear plus socks, chemical resistant apron for cleaning equipment, mixing, and loading, and chemical resistant headgear for overhead exposure.

GLOVES - Chemical resistant gloves such as barrier laminate or viton gloves

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS:

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible wash thoroughly and change into clean clothing.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Dark amber liquid
Odor:	Naphthenic aromatic hydrocarbon odor
pH:	3.2 – 4.2
Melting Point:	Not applicable
Boiling Point:	No data
Flash Point:	> 200°F (98°C)
Evaporation Rate:	No data
Flammability:	No data
Flammability Limits:	No data
Vapor Pressure:	1.9×10^{-1} mPa (25°C) (bromoxynil octanoate)
Vapor Density:	Not applicable
Density:	1.10 – 1.13 g/ml (9.2 – 9.4 lb/gal)*
Solubility:	Emulsifies
Partition Coefficient:	log Pow = 5.4 (25°C) (bromoxynil octanoate)
Auto-Ignition Temperature:	No data
Decomposition Temperature:	No data
Viscosity:	6.05 cps (20°C)

*Listed density is an approximate value and does not necessarily represent that of a specific batch.

SECTION 10 - STABILITY AND REACTIVITY

PRODUCT REACTIVITY: None known.

CHEMICAL STABILITY: Stable, however may decompose if heated.

HAZARDOUS REACTION/POLYMERIZATION: Product will not undergo polymerization.

CONDITIONS TO AVOID: Avoid temperatures above (115°F, 46°C) and below 35°F (2°C).

INCOMPATIBLE MATERIALS: Acidic and oxidizing materials, halogenated organics, brass, copper, zinc and aluminum metals.

HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen chloride, oxides of nitrogen, chlorinated pyridine.

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute toxicity values from a similar but not identical formulation.

ACUTE TOXICITY:

Oral LD ₅₀ (rat)	750 mg/Kg
Dermal LD ₅₀ (rat)	2,000 mg/Kg
Inhalation LC ₅₀ (rat)	> 1.1 mg/L
Eye Irritation (rabbit)	Moderately irritating
Skin Irritation (rabbit)	Moderately irritating
Sensitization (guinea pig)	Sensitizer

CARCINOGEN STATUS:

OSHA	- Not listed
NTP	- Not listed
IARC	- Group 2B (naphthalene)
EPA	- Class C (possible carcinogen)

TERATOGENICITY: Bromoxynil phenol is considered a possible developmental toxicant. Women of child bearing age should avoid exposure.

MUTAGENICITY: No evidence of mutagenic effects during in vivo or in vitro studies.

SECTION 12 - ECOLOGICAL INFORMATION

ENVIRONMENTAL SUMMARY: This pesticide is toxic to wildlife and fish. 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 the mean high water mark. Do not apply when weather conditions favor drift from target areas. Do not contaminate water when cleaning equipment or disposing of washwaters.

FATE: Bromoxynil octanoate de-estifies rapidly to the parent phenol after application. Bromoxynil phenol is very mobile in soil and slightly persistent with a half-life of 1-35 days depending on soil types and weather conditions.

FISH TOXICITY: (Octanoate)

96 hour LC ₅₀ , Rainbow trout –	0.05 ppm (highly toxic)
96 hour LC ₅₀ , Bluegill –	0.05 ppm (highly toxic)

AVIAN TOXICITY: (Octanoate)Oral LC₅₀, Bobwhite quail – 1,150 ppmOral LC₅₀, Mallard duck – 1,880 ppm**BEE TOXICITY:** (Octanoate) - 14 ug/bee**SECTION 13 - DISPOSAL CONSIDERATIONS**

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

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

CONTAINER: Non-refillable containers: Do not reuse or refill this container. Offer for reconditioning, if appropriate. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Refillable container: Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

Refer to the container label to determine if it is refillable and for complete cleaning and disposal instructions.

SECTION 14 - TRANSPORT INFORMATION**DOT SHIPPING DESCRIPTION:**

(ground transport)

Containers ≤ 134 gallons –

Not regulated

Containers > 134 gallons –

UN3082, Environmentally Hazardous Substances, Liquid, N.O.S., 9, PG III, RQ (naphthalene)

DOT HAZARD CLASS:

Class 9

UN NUMBER:

UN3082

DOT PACKING GROUP:

PG III

SECTION 15 - REGULATORY INFORMATION**CERCLA REPORTABLE QUANTITY:**

Naphthalene – RQ 100 lbs (approx. 134 gallons of Brox 2E)

SARA TITLE III STATUS:

311/312 Hazard Categories –

Immediate & Delayed Health, Fire

313 Toxic Chemicals –

Naphthalene, Bromoxynil

CALIFORNIA PROP 65:

Bromoxynil octanoate

TSCA:

This product is exempted from TSCA because it is solely for FIFRA regulated use.

SECTION 16 - OTHER INFORMATION

HMIS HAZARD RATINGS	HEALTH	2
	FLAMMABILITY	1
	PHYSICAL HAZARD	1
	4=Severe 3=Serious 2=Moderate 1=Slight 0=Minimal	

DISCLAIMER: The information presented herein is based on available data from reliable sources and is correct to the best of Albaugh's knowledge. Albaugh makes no warranty, express or implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions.

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS 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 the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, 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 EPA-approved label.

REVISED DATE: August, 2018

REFERENCE: Revised flash point values in Section 5 and 9