

## MATERIAL SAFETY DATA SHEET

### SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**COMPANY ADDRESS:**

ALBAUGH, INC.  
Ankeny, IA 50021

**EMERGENCY TELEPHONE NUMBERS:**

(800) 424-9300 (CHEMTREC, transportation and spills)

**PRODUCT NAME** : **BROX 2EC**  
**CHEMICAL NAME** : Bromoxynil Octanoate  
**CHEMICAL FAMILY** : Benzonitrile herbicide  
**PRODUCT CODE** : EPA Reg. No. 42750-48

### SECTION 2 - COMPOSITION, INFORMATION OF INGREDIENTS

COMPONENT	PERCENTAGE	CAS NUMBER	OSHA PEL	ACIGH TLV
Bromoxynil Octanoate	33.4 %	1689-99-2	Not listed	Not listed
Naphthalene (contained in other ingredients)	6.0 – 8.0 %	91-20-3	10 ppm	10 ppm
Other Ingredients	< 70.0 %	n/a	n/a	n/a

### SECTION 3 - HAZARDS IDENTIFICATION SUMMARY

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

**HEALTH HAZARDS:** Severe eye irritant with corneal injury possible.

**PHYSICAL HAZARDS:** May release toxic fumes if burned.

**ENVIRONMENTAL HAZARDS:** Toxic to wildlife and fish.

### SECTION 4 - FIRST AID MEASURES

**IF IN EYES:** Hold eye open and flush with a steady, gentle stream of water for 15 minutes. Get medical attention.

**IF SWALLOWED:** Call a poison control center or doctor immediately for treatment advice. Do not induce vomiting. Drink promptly a large quantity of milk, egg whites, gelatin solution, or, if these are not available, drink large quantities of water. Avoid alcohol.

**IF ON SKIN:** Wash with plenty of soap and water. Get medical attention.

**NOTE TO PHYSICIAN:** Probable mucosal damage may contraindicate the use of gastric lavage.

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

**FLASH POINT(method):** >200 F, (Pensky-Martens closed cup)

**FLAMMABLE LIMITS:** Unknown.

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

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

### SECTION 6 - ACCIDENTAL RELEASE MEASURES

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.

Wear appropriate personal protection equipment. (See Section 8 Exposure Controls, Personal Protection.)

## **SECTION 7 - HANDLING AND STORAGE**

KEEP OUT OF REACH OF CHILDREN!

**HANDLING:** Use only in a well-ventilated area. Wear appropriate safety equipment when handling.

**STORAGE:** Store in original container with lid tightly closed. Keep away from food, feed and drinking water. Combustible liquid, store in a well ventilated, dry place away from heat and sources of ignition. Store 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):** Refer to Section 3.

**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:**

**EYE PROTECTION** - Safety goggles or full face respirator if vapors cause eye discomfort.

**CLOTHING** - Long-sleeved shirt and long pants, Shoes plus socks. Chemical resistant apron when mixing or loading.

**GLOVES** – Chemical resistant gloves made of any waterproof material.

**RESPIRATOR** - When handling in enclosed areas where exposure limits may be exceeded, use a respirator with either an organic vapor removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G)

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**

**PHYSICAL DESCRIPTION:** Clear dark amber liquid

**ODOR:** Aromatic

**SPECIFIC GRAVITY:** 1.08 – 1.14 g/ml (9.05 – 9.55 #/gl)\*

**pH:** 3.5 – 4.0

**VAPOR PRESSURE:** Unknown

**VAPOR DENSITY:** Unknown

**WATER SOLUBILITY:** Emulsifies.

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

### SECTION 10 - STABILITY AND REACTIVITY

**CHEMICAL STABILITY:** Stable, however may decompose if heated.

**CONDITIONS TO AVOID:** Avoid temperatures above (115°F, 46°C) and below 25°F (-5°C).

**INCOMPATIBILITY WITH OTHER MATERIALS:** Acidic and oxidizing materials, halogenated organics, brass, copper, zinc and aluminum metals.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Hydrogen chloride, Oxides of nitrogen, Chlorinated pyridine.

**HAZARDOUS POLYMERIZATION:** Product will not undergo polymerization.

### SECTION 11 - TOXICOLOGICAL INFORMATION

#### **ACUTE TOXICITY: (Technical octanoate)**

Oral LD <sub>50</sub> (rat)	- 300 mg/kg
Dermal LD <sub>50</sub> (rat)	- >2,000 mg/kg (male)
Inhalation LC <sub>50</sub> (rat)	- 0.7 mg/L
Eye Irritation (rabbit)	- Moderate
Skin Irritation (rabbit)	- Moderate
Sensitization (guinea pig)	- Sensitizer

#### **CARCINOGEN STATUS:**

OSHA - Not listed

NTP - Not listed

IARC - Group 2B (naphthalene)

**MUTAGENIC DATA:** No evidence of mutagenic effects during *in vivo* or *in vitro* studies.

**ADDITIONAL DATA:** Bromoxynil phenol is considered a possible developmental toxicant. Women of child bearing age should avoid exposure. EPA classifies bromoxynil as a Class C carcinogen.

### SECTION 12 - ECOLOGICAL INFORMATION

**ENVIRONMENTAL SUMMARY:** Bromoxynil is toxic to wildlife and fish. Use with care when applying to areas frequented by wildlife or near any body of water. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply when conditions favor drift from target area. Do not contaminate water when disposing of equipment washwaters. Do not contaminate water used for irrigation or domestic purposes.

#### **FISH TOXICITY: (Octanoate acid)**

96 hour LC<sub>50</sub>, Rainbow trout – 0.05 ppm (highly toxic)

96 hour LC<sub>50</sub>, Bluegill – 0.05 ppm (highly toxic)

#### **AVIAN TOXICITY: (Octanoate acid)**

Oral LD<sub>50</sub>, Bobwhite quail – 145 mg/Kg

Oral LD<sub>50</sub>, Mallard duck – 2,050 mg/Kg

### SECTION 13 - DISPOSAL CONSIDERATIONS

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

**WASTE:** Pesticide wastes are toxic. Dispose of in accordance with applicable Federal, state and local laws and regulations at an approved facility.

**CONTAINER:** Do not reuse container. Triple rinse (or equivalent). Then offer for recycling, reconditioning, or

puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### SECTION 14 - TRANSPORT INFORMATION

#### DOT SHIPPING DESCRIPTION:

Containers ≤ 115 gallons – Not regulated  
 Containers > 115 gallons – UN3082, Environmentally Hazardous Substances, Liquid, N.O.S., 9, PG III, RQ (naphthalene)

DOT HAZARD CLASS: Class 9  
 IDENTIFICATION NUMBER: UN3082  
 DOT PACKING GROUP: PG III  
 DOT PRIMARY/SECONDARY LABEL: Class 9  
 DOT PRIMARY/SECONDARY PLACARD: Class 9 (> 115 gallons)  
 DOT EMERGENCY RESPONSE GUIDE #: 171

### SECTION 15 - REGULATORY INFORMATION

CERCLA REPORTABLE QUANTITY: Naphthalene – RQ 100 lbs (approx. 115 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

### SECTION 16 - OTHER INFORMATION

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

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REVISED DATE: September, 2008  
 REFERENCE: Revised DOT description in Section 14