

## SAFETY DATA SHEET

Version 4.5  
Revision Date 06/27/2014  
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1. PRODUCT AND COMPANY IDENTIFICATION

## 1.1 Product identifiers

Product name : Bromoxynil-octanoate

Product Number : 45356  
Brand : Sigma-Aldrich  
Index-No. : 608-017-00-0

CAS-No. : 1689-99-2

## 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

## 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832  
Fax : +1 800-325-5052

## 1.4 Emergency telephone number

Emergency Phone # : +1-703-527-3887 (CHEMTREC)

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2. HAZARDS IDENTIFICATION

## 2.1 Classification of the substance or mixture

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Acute toxicity, Oral (Category 3), H301  
Acute toxicity, Inhalation (Category 3), H331  
Acute toxicity, Dermal (Category 4), H312  
Skin sensitisation (Category 1), H317  
Reproductive toxicity (Category 2), H361  
Acute aquatic toxicity (Category 1), H400  
Chronic aquatic toxicity (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word : Danger

Hazard statement(s)

H301 + H331 : Toxic if swallowed or if inhaled  
H312 : Harmful in contact with skin.  
H317 : May cause an allergic skin reaction.  
H361 : Suspected of damaging fertility or the unborn child.  
H410 : Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P201 : Obtain special instructions before use.

|             |  |
|-------------|--|
| P202        | Do not handle until all safety precautions have been read and understood.                        |
| P261        | Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.   |
| P264        | Wash skin thoroughly after handling.   |
| P270        | Do not eat, drink or smoke when using this product.  |
| P271        | Use only outdoors or in a well-ventilated area.  |
| P272        | Contaminated work clothing should not be allowed out of the workplace.                           |
| P273        | Avoid release to the environment.  |
| P280        | Wear protective gloves/ protective clothing.   |
| P301 + P310 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.                             |
| P302 + P352 | IF ON SKIN: Wash with plenty of soap and water.  |
| P304 + P340 | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| P308 + P313 | IF exposed or concerned: Get medical advice/ attention.  |
| P322        | Specific measures (see supplemental first aid instructions on this label).                       |
| P330        | Rinse mouth.   |
| P333 + P313 | If skin irritation or rash occurs: Get medical advice/ attention.                                |
| P363        | Wash contaminated clothing before reuse.   |
| P391        | Collect spillage.  |
| P403 + P233 | Store in a well-ventilated place. Keep container tightly closed.                                 |
| P405        | Store locked up.   |
| P501        | Dispose of contents/ container to an approved waste disposal plant.                              |

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

|                  |   |
|------------------|---|
| Formula          | : C <sub>15</sub> H <sub>17</sub> Br <sub>2</sub> NO <sub>2</sub> |
| Molecular Weight | : 403.11 g/mol  |
| CAS-No.          | : 1689-99-2   |
| EC-No.           | : 216-885-3   |
| Index-No.        | : 608-017-00-0  |

#### Hazardous components

| Component                   | Classification   | Concentration |
|-----------------------------|--|---------------|
| <b>Bromoxynil octanoate</b> |  |               |
|                             | Acute Tox. 3; Acute Tox. 4;<br>Skin Sens. 1; Repr. 2; Aquatic<br>Acute 1; Aquatic Chronic 1;<br>H301 + H331, H312, H317,<br>H361, H410 | -             |

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### **4.2 Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### **4.3 Indication of any immediate medical attention and special treatment needed**

no data available

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### **5. FIREFIGHTING MEASURES**

#### **5.1 Extinguishing media**

##### **Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### **5.2 Special hazards arising from the substance or mixture**

Carbon oxides, nitrogen oxides (NO<sub>x</sub>), Hydrogen bromide gas

#### **5.3 Advice for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

#### **5.4 Further information**

no data available

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### **6. ACCIDENTAL RELEASE MEASURES**

#### **6.1 Personal precautions, protective equipment and emergency procedures**

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.  
For personal protection see section 8.

#### **6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

#### **6.3 Methods and materials for containment and cleaning up**

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

#### **6.4 Reference to other sections**

For disposal see section 13.

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### **7. HANDLING AND STORAGE**

#### **7.1 Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

#### **7.2 Conditions for safe storage, including any incompatibilities**

Keep container tightly closed in a dry and well-ventilated place.

#### **7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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### **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

#### **8.1 Control parameters**

##### **Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

#### **8.2 Exposure controls**

##### **Appropriate engineering controls**

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

##### **Personal protective equipment**

###### **Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Body Protection**

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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**9. PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties**

|   |  |
|---|--|
| a) Appearance                                   | Form: crystalline<br>Colour: off-white |
| b) Odour  | no data available                      |
| c) Odour Threshold                              | no data available                      |
| d) pH   | no data available                      |
| e) Melting point/freezing point                 | no data available                      |
| f) Initial boiling point and boiling range      | no data available                      |
| g) Flash point                                  | no data available                      |
| h) Evaporation rate                             | no data available                      |
| i) Flammability (solid, gas)                    | no data available                      |
| j) Upper/lower flammability or explosive limits | no data available                      |
| k) Vapour pressure                              | no data available                      |
| l) Vapour density                               | no data available                      |
| m) Relative density                             | no data available                      |
| n) Water solubility                             | insoluble                              |
| o) Partition coefficient: n-octanol/water       | no data available                      |
| p) Auto-ignition temperature                    | no data available                      |
| q) Decomposition temperature                    | no data available                      |
| r) Viscosity                                    | no data available                      |
| s) Explosive properties                         | no data available                      |
| t) Oxidizing properties                         | no data available                      |

**9.2 Other safety information**

no data available

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## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Strong oxidizing agents

### 10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - rat - 250 mg/kg

LC50 Inhalation - rat - female - 720 mg/m<sup>3</sup>

LD50 Dermal - rabbit - 1,675 mg/kg

no data available

#### Skin corrosion/irritation

no data available

#### Serious eye damage/eye irritation

no data available

#### Respiratory or skin sensitisation

Causes sensitisation.

#### Germ cell mutagenicity

no data available

#### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

#### Reproductive toxicity

Possible risk of congenital malformation in the fetus.

Suspected human reproductive toxicant

no data available

#### Specific target organ toxicity - single exposure

no data available

#### Specific target organ toxicity - repeated exposure

no data available

**Aspiration hazard**

no data available

**Additional Information**

RTECS: DI3325000

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**12. ECOLOGICAL INFORMATION****12.1 Toxicity**

Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 0.1 mg/l - 96.0 h

Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 0.11 mg/l - 48 h

Toxicity to algae EC50 - Pseudokirchneriella subcapitata (green algae) - 0.21 mg/l - 5 d

**12.2 Persistence and degradability**

no data available

**12.3 Bioaccumulative potential**

no data available

**12.4 Mobility in soil**

no data available

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Very toxic to aquatic life with long lasting effects.

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**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

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**14. TRANSPORT INFORMATION****DOT (US)**

UN number: 2811 Class: 6.1 Packing group: III  
Proper shipping name: Toxic solids, organic, n.o.s. (Bromoxynil octanoate)  
Reportable Quantity (RQ):  
Marine pollutant: No  
Poison Inhalation Hazard: No

**IMDG**

UN number: 2811 Class: 6.1 Packing group: III EMS-No: F-A, S-A  
Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (Bromoxynil octanoate)  
Marine pollutant: No

**IATA**

UN number: 2811 Class: 6.1 Packing group: III  
Proper shipping name: Toxic solid, organic, n.o.s. (Bromoxynil octanoate)

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**15. REGULATORY INFORMATION****SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

#### **SARA 313 Components**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### **SARA 311/312 Hazards**

Acute Health Hazard, Chronic Health Hazard

#### **Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

#### **Pennsylvania Right To Know Components**

|                      | CAS-No.   | Revision Date |
|----------------------|-----------|---------------|
| Bromoxynil octanoate | 1689-99-2 | 2007-07-01    |

#### **New Jersey Right To Know Components**

|                      | CAS-No.   | Revision Date |
|----------------------|-----------|---------------|
| Bromoxynil octanoate | 1689-99-2 | 2007-07-01    |

#### **California Prop. 65 Components**

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

| CAS-No.   | Revision Date |
|-----------|---------------|
| 1689-99-2 | 2007-09-28    |

Bromoxynil octanoate

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## **16. OTHER INFORMATION**

#### **Full text of H-Statements referred to under sections 2 and 3.**

|                 |  |
|-----------------|--|
| Acute Tox.      | Acute toxicity                                       |
| Aquatic Acute   | Acute aquatic toxicity                               |
| Aquatic Chronic | Chronic aquatic toxicity                             |
| H301            | Toxic if swallowed.                                  |
| H301 + H331     | Toxic if swallowed or if inhaled                     |
| H312            | Harmful in contact with skin.                        |
| H317            | May cause an allergic skin reaction.                 |
| H331            | Toxic if inhaled.                                    |
| H361            | Suspected of damaging fertility or the unborn child. |
| H400            | Very toxic to aquatic life.                          |

#### **HMIS Rating**

|                        |   |
|------------------------|---|
| Health hazard:         | 2 |
| Chronic Health Hazard: | * |
| Flammability:          | 0 |
| Physical Hazard        | 0 |

#### **NFPA Rating**

|                    |   |
|--------------------|---|
| Health hazard:     | 2 |
| Fire Hazard:       | 0 |
| Reactivity Hazard: | 0 |

#### **Further information**

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**Preparation Information**

Sigma-Aldrich Corporation  
Product Safety – Americas Region  
1-800-521-8956

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