



MATERIAL SAFETY DATA SHEET

BROMOX[®] 240EC

ASTRA INDUSTRIAL COMPLEX CO., LTD. (ASTRACHEM)
P.O. BOX 30447, AL-KHOBAR 31952
KINGDOM SAUDI ARABIA

1. CHEMICAL IDENTIFICATION

Product Name: **BROMOX[®] 240EC**

Chemical Class: Hydroxybenzonitrile

Use: Bromox[®]240EC is used as a selective, contact post emergence herbicide, control of annual broad-leaved weeds, especially young seedlings of the *Polygonaceae*, *Compositae*, and certain *Boraginaceae*, in onions, garlic, cereals, maize, sorghum, flax, mint, grass-seed crops, turf, and non-crop land. Often it is used in combination with other herbicides, to extend the spectrum of control.

Producer: **Astra Industrial Complex Co., Ltd.**
P.O. Box 30447, Al-Khobar 31952
Kingdom of Saudi Arabia
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2. COMPOSITION / INFORMATION ON INGREDIENTS

Substance	Proportions	Chemical structure
Bromoxynil Octanoate CAS No. 1689-84-5 Chemical Name: 2,6-dibromo-4-cyanophenyl octanoate (IUPAC)	240 g / L	 <chem>O=C#Cc1cc(Br)c(O)c(Br)c1</chem>



3. HAZARD IDENTIFICATION

Signs of Poisoning:

Symptoms of acute over exposure include headaches, fatigue, nausea and vomiting from solvent.

Effects of Single Exposures:

Ingestion:

The active ingredient presents a hazard whilst excessive prolonged exposure may cause chronic effects.

Eye:

Prolonged contact of the eye with the concentrate may cause irritation.

Skin:

The concentrate may irritate the skin. Prolonged or repeated exposure to the solvent may cause deflate of the skin which could lead to secondary dermatitis.

Inhaled:

A moderate hazard when handling the concentrate, but care should be taken to avoid inhalation of spray mists.

Chronic Effect:

Chronic over Exposure: Weight loss and damage to liver and kidneys may be expected if exposure is excessive over a period of time.

4. FIRST AID MEASURES

FIRST AID

Swallowed:

If swallowed, and if more than ten minutes away from a hospital, induce vomiting, vomiting should be supervised by a physician.

Eye:

Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Get medical attention.

Skin:

Remove contaminated clothing and launder before re-use. Wash affected area thoroughly with soap and water.

Inhaled:

Remove patient to fresh air until recovered. Give artificial resuscitation if breathing has stopped.



First Aid Facilities

Advice to Doctor:

No antidote is available and treatment should be symptomatic. Gastric lavage with medical charcoal in water is recommended.

5. FIRE FIGHTING MEASURES

Fire and Explosion:

Flammable

Flash point : >28 C

Thermal decomposition products may include, but not limited to, toxic fumes of hydrogen bromide, hydrogen cyanide or other compounds of bromine and nitrogen if involved in fires or exposed to extreme heat.

Fire Fighting Measures:

In case of fire use dry chemical, foam or CO₂ extinguishing media. Wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Spill or Leak:

Bromoxynil Octanate is biodegradable.

In case of spill or leak cover the spill with an absorbent (non-combustible material such as sand or earth) for disposal. Wash the spill area with water containing detergent and flush with water and remove any residues. Prevent spilled material from entering drains waterways and sewers.

7. HANDLING AND STORAGE

Store the product in original tightly closed containers in a well-ventilated, secure area out of reach of children and domestic animals. Do not use or store near heat or open flame. Do not store food or feed in storage area. Prevent eating, drinking or smoking in areas where there is a potential exposure to the product. Wash hands before eating, drinking or smoking after using the product.



8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Standards:

No exposure standards have been set for this product. The manufacturer of the solvent has recommended a TLV of 100 ppm for the solvent. Natural ventilation only is required under normal circumstances of use.

Engineering Controls:

Local exhaust should be provided if material is handled in confined spaces to minimize exposure to solvent vapors.

Personnel Protection:

May cause irritate the eye and skin. Avoid contact with eyes and skin. DO NOT inhale spray mist. When preparing spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist and washable hat, elbow-length PVC gloves and face shield. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield and contaminated clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Clear Yellow Liquid free of visible impurities
Odour	: Aromatic
Water Content	: <2.0 g/Kg
Density	: 0.98 – 1.1 Kg/L
Flash Point	: >28 C
Acidity as H ₂ SO ₄	: < 2.6 g/Kg

10. STABILITY AND REACTIVITY

Reactivity:

Stability	: Stable under normal conditions.
Conditions to avoid	: Exposure to strong oxidizers. Avoid contact with chlorine and in organic Peroxides
Hazardous Polymerization	: Will not occur



11. TOXICOLOGICAL INFORMATION

Bromox 240EC:

Acute oral LD₅₀ (rats) : 1000 mg/Kg

Bromoxynil Octanoate Technical:

Toxicity to Mammals:

Acute oral LD₅₀ (rats) : 365 mg/Kg
Acute dermal LD₅₀ : >2000 mg/Kg

Toxicity to Birds:

Acute Oral LD₅₀ (Pheasants) : 175 mg/Kg (formulation)

Toxicity to Fish:

Toxic to fish
LC₅₀ (for rainbow trout): 0.15 mg/L (48 hours)

Toxicity to Bees:

Not Toxic to Bees

The Acceptable Daily Intake (ADI) of Bromoxynil for a human is 0.003mg/Kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 0.3 mg/Kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species.

12. ECOLOGICAL INFORMATION

Dangerous to fish and other aquatic life. Do not contaminate surface water or ditches with this product or used containers. Not toxic to bees.

13. DISPOSAL CONSIDERATION

Pesticide wastes are toxic. Do not reuse product containers. Dispose of product containers, waste containers and residues according to local health and environmental regulations.



14. TRANSPORT INFORMATION

Proper Shipping name: Pesticide, Liquid, toxic, Flammable, N.O.S, flash point $\geq 23^{\circ}\text{C}$ (Bromoxynil Octanoate)

UN. No: UN 2903

Hazard Class: 6.1

Classification Code: TF2

Packing group: III

Subsidiary Risks: 6.1 +3

Special provisions: 61

Limited quantities: LQ19

Packaging: Packing instructions

P001
IBC03
R001

Special packing provisions

-

Mixed Packaging Provisions

MP15

Instructions

T7

UN Portable tanks: Special Provisions

TP2

Tank Code

L4BH

ADR Tank: Special Provision

TU15 TE1 TE15 TE19

Vehicle for tank carriage

FL

Transport Category

2

Special provision carriage: Packages

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Bulk

-

Loading, unloading & Handling

CV13 CV28

Operation

S2 S9

Hazard Identification 63

15. REGULATORY INFORMATION

Toxicity Class WHO (a.i) II

EPA (formulation) II

16. OTHER INFORMATION

Buyer assumes all responsibility for safety and use not in accordance with the product label instructions.