


Safety Data Sheet

BROMOXY EC- Reg. No: L 9115 (Act No 36 of 1947)

Date of issue: 05/04/2013

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1) IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER.	
Product name:	BROMOXY EC
Other means of identification:	Bromoxynil (nitrile) 450 g/l (As the octanoate)
UN number:	3082
Recommended use:	Herbicide
Restrictions on use:	Agriculture
Distributed by:	MERIDIAN AGRITECH P O BOX 436 MODDERFONTEIN TEL 011 8228509 FAX 0866901386 MOBILE: 0834006056 www.agritech.co.za
Emergency Number:	POISON CENTRE (UNITAS HOSPITAL) : 012 664 1100 WESTERN CAPE POISONS TELEPHONE SERVICE: 0861 555 777 RAPID SPILL RESPONSE: 0800 775 3305 GRIFFON POISON CENTRE:082 446 8946
Chemical Name:	2,6-dibromo-4-cyanophenyl octanoate
2) Classification of the substance / mixture:	
Classification of the product:	UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008 Flammable liquid -Cat 3 (H22) Oral Acute Tox- Cat 4 (H302) Dermal Acute Tox-Cat 5 Skin Irritation 3 (H313) Skin sensitization 1 (H316, H317) Eye damage 1 (H318) Inhalation Acute Tox Cat 2 (H330) Rep. Tox-Cat 2 (H361d) Aquatic acute 1 (H400) Aquatic chronic 1 (H410)
Label elements:	Hazard pictogram (S):  Signal Word: DANGER Hazard statement(s) H302 + H312 :Harmful if swallowed or in contact with skin.

	<p>H317 : May cause an allergic skin reaction. H331: Toxic if inhaled. H400: Very toxic to aquatic life. H410 : Very toxic to aquatic life with long lasting effects</p> <p>Precautionary Statement(s) P102: Keep out of reach of children. P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P210: Keep away from heat, sparks, open flames and hot surfaces. - No smoking. P261: Avoid breathing fumes, mists, vapours or spray. P262: Do not get in eyes, on skin, or on clothing. P264: Wash contacted areas 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 and eye or face protection. P311: Call a POISON CENTRE or doctor. P362: Take off contaminated clothing and wash before reuse. P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. 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. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313: If exposed or concerned: Get medical advice. P333+P313: If skin irritation or rash occurs: Get medical advice. P337+P313: If eye irritation persists: Get medical advice. P391: Collect spillage. P370+P378: In case of fire, use carbon dioxide, dry chemical, foam, water fog. P405: Store locked up. P410: Protect from sunlight. P402+P404: Store in a dry place. Store in a closed container. P403+P235: Store in a well-ventilated place. Keep cool. P501: Dispose of contents and containers as specified on the registered label.</p> <p>Other hazard(s) None known</p>
Health effects: eyes:	May cause moderate irritation.
Health effects: skin:	May cause irritation.
Health effects: ingestion	harmful if swallowed
Health effects: inhalation	Harmful by inhalation
Health effects: Other	Possible risk of harm to the unborn child
3) COMPOSITION / INFORMATION ON INGREDIENTS:	

Mixture:

Chemical name	Composition	CAS No.	EC No.	Classification according to Regulation EC 1272/2008 (CLP)	Classification according to 67/548/EEC
Bromoxynil Octanoate	450 g/L	1689-99-2	216-885-3	Acute toxicity: Cat. 4: H302 Aspiration hazard: Cat. 1: H304. Skin Sensitization: Cat 1: H317 Reproductive toxicity: Cat. 2: H361d Acute aquatic toxicity: Cat. 1: H400 Chronic aquatic toxicity: Cat. 1: H410	Xn – R20 R24/25; R 63 N – R50/53 F – R10
Other					

Full text of R- and S-phrases: see section 15.

4) First Aid Measures:

Eye contact:	Flush eyes with plenty of water for 15 minutes holding eyelids open if necessary. Seek medical assistance immediately..
Skin contact:	Immediately remove contaminated clothing, shoes and leather goods. Gently wipe off excess chemical and flush body and clothes with large amounts of water and non-abrasive soap for at least 15-20 minutes. Wash contaminated clothing before re-use. Persons who become sensitised may require specialised medical management with anti-inflammatory agents. Seek medical immediately.
Ingestion:	Never give anything by mouth to an unconscious person. If swallowed do NOT induce vomiting unless told to so by poison control centre or doctor. A glass of water may be given to sip. For advice, contact the National Poisons Centre. Seek medical assistance immediately.
Inhalation:	The airway must be kept clear in order to maintain respiration, especially when the patient is unconscious or has vomited. The mouth and pharynx must be cleared, and any dentures removed. The jaw must be supported, and the patient kept in a face down position with the head turned to one side, with the tongue drawn forwards. First aid should only be performed by qualified medical personnel and should include, if needed, mouth-to-nose respiration and cardiac massage. Remove patient to fresh air. Loosen clothing around neck. Lie down and keep warm and rested. If breathing is shallow or has stopped ensure airway is clear, apply resuscitation and administer oxygen. Seek medical assistance immediately.
Most important symptoms and effects, acute and delayed:	
Indication of immediate medical attention and special treatment needed: Advice to physician	No antidote is known. Treat symptomatically and supportively as and when needed. If the product is aspirated into the lungs during ingestion or vomiting, mild to severe chemical pneumonia may be caused. Gastric lavage or administration of activated charcoal with water may be indicated.

5) Fire-Fighting Measures:

Suitable extinguishing media:	Carbon dioxide, dry powder, alcohol-resistant foam. Water fog can be used to cool unaffected stock but avoid contact of water with the product. Contain the water used for fire-
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<p>Unsuitable extinguishing media:</p> <p>Special hazards arising from the substance or mixture:</p>	<p>fighting for later safe disposal. Avoid the accumulation of</p> <p>During a fire, smoke may contain the original material in addition to unidentified toxic and/or irritating compounds</p>
<p>Fire-fighting:</p> <p>Protective clothing:</p>	<p>Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. If area is heavily exposed to fire and if conditions permit, let fire burn itself out. Contain fire control agents for later disposal.</p> <p>Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind. Remove container from fire area if possible and without risk. Water can be used to cool unaffected containers but must be contained for later disposal. Dispose of extinguishing agent and spillage in a safe way at a later stage.</p> <p>This product may emit toxic fumes if burned, including bromide, oxides of nitrogen, cyanides and other bromine compounds. This product may produce irritating or poisonous mists or other combustion products.</p> <p>Full protective clothing and self-contained breathing apparatus</p>
<p>6) Accidental Release Measures:</p>	
<p>Personal precautions:</p> <p>Environmental precautions:</p> <p>Cleaning procedure:</p> <p>Disposal:</p>	<p>Wear appropriate safety clothing and eye/face protection. Do not inhale fumes. Ventilate the area of the spill or leak, especially if it is in a confined area.</p> <p>For personal protection see Section 8.</p> <p>Do not contaminate waterways, drains and groundwater. If contamination of waterways, drains, rivers or lakes is unavoidable, warn the local authorities (Police and Department of Water/Environmental affairs) immediately.</p> <p>Wear protective clothing. Clear area of unprotected personnel. Contain and absorb liquid spills with inert material and place in waste containers. Wash area with water containing soda or detergent and absorb with further inert material. If spill does enter waterways contact the local authority. Heavily contaminated soil layers should be removed and disposed of in an approved way. Spilled product cannot be re-used and must be disposed of by incineration or disposal in a chemical waste disposal facility. If containers cannot be recycled, they should be disposed of together with the waste chemical</p> <p>Waste Disposal:</p> <p>In accordance with local and national regulations. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Do not contaminate water, food or feed by disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.</p> <p>Container Disposal:</p> <p>Refer to the product label for instructions.</p> <p>If the container is to be refilled, do not rinse with any material or introduce any pesticide other than this product.</p> <p>DO NO REUSE THE CONTAINER FOR ANY OTHER PURPOSE.</p>

Do not transport if this container is damaged or leaking.	
7) Handling & Storage:	
<p>Handling:</p>	<p>The operator should not be alone during handling or application of this product. Remove all sources of ignition.</p> <p>Avoid skin and eye contact and inhalation of fumes. Avoid exposure to spray. Use with adequate ventilation. Wash hands thoroughly with soap and water before breaks, eating, drinking, chewing gum, smoking, using the toilet and immediately after handling the product. Wash goggles or face shield and contaminated clothing thoroughly after each day's use. If this product gets inside clothing, remove contaminated clothing, wash skin thoroughly with water and a non-abrasive soap. Do not apply this product directly to areas where surface water is present, or to intertidal areas below the mean high-water mark. Water that is used to clean equipment must be disposed of correctly and safely in order to prevent contamination. When opening the container wear the following protection:</p> <p>Full-face air-purifying respirator equipped with organic vapour cartridges or canisters.</p> <p>Elbow length PVC or neoprene gloves</p> <p>Impervious protective suits (Long sleeved cotton coveralls, apron, rubber boots, face shield, hat or cap)</p> <p>Splash proof safety goggles and face-shield.</p>
<p>Storage:</p>	<p>Store in original container tightly closed and in an isolated, locked, dry, cool (avoid temperatures above 32C), well-ventilated area away from foodstuffs, feed, water supplies.</p> <p>Keep away from children or uninformed persons. Avoid cross-contamination of this product with other pesticides and fertilizers.</p> <p>DO NOT store in direct sunlight for prolonged periods. Store away from incompatible materials. Comply with local regulations. Keep away from sources of ignition.</p> <p>Avoid contact with strong acids, strong alkalis and oxidizing agents. Avoid heat and sources of ignition.</p>
8) Exposure Control / Personal Protection:	
<p>It is essential to provide adequate ventilation. The measures appropriate for a particular work site depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.</p> <p><u>PERSONAL PROTECTIVE EQUIPMENT:</u></p> <p>Clothing:</p> <p>Gloves:</p> <p>Eye protection:</p> <p>Respiratory protection:</p>	<p>Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.</p> <p>Employee must wear appropriate chemical-resistant gloves (PVC or Neoprene gloves) to prevent contact with this substance</p> <p>The use of safety goggles with side shields is recommended.</p> <p>If the product is used in dusty and confined conditions, or spillage or fire conditions wear an approved full-face air-purifying respirator equipped with organic vapor cartridges and canisters, suitable for protection against mists of pesticides. The limitations of respirator use specified by the manufacturer and approving agency must be observed.</p> <p>In the case of the normal application procedure of this</p>

	product, a respirator is not required. Wear a face mask and face shield.
Emergency eye wash:	Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.
9) Physical & Chemical Properties:	
Form: Colour: Odour: Odour threshold: pH: Melting point / Freezing point Initial boiling point and boiling range Flash point: Evaporation rate: Flammability (solid, gas) Upper/ lower flammability or explosive limits: Vapour pressure: Vapour density: Relative density: Solubility(ies) Partition coefficient: n-octanol/water Auto-ignition temperature: Viscosity:	Liquid Reddish brown Characteristic No data available 6.5-9 No data available No data available 63°C N/A No flammable No flammable Negligible at normal ambient temperature No data available No data available Miscible in water No data available No data available No data available
10) Stability & Reactivity:	
Reactivity: Chemical stability: Hazardous decomposition product(s): Conditions to avoid: Incompatible materials:	Not available. Stable under normal conditions. When stored appropriately this product should show no significant degradation for 2 years from the date of manufacture. This product undergoes decomposition at temperatures higher than the flash point and may cause toxic fumes of bromide, oxides of nitrogen, cyanides and other bromine compounds. None known – Store out of direct sunlight and keep away from sources of heat..
11) Toxicological Information:	
Oral : LD50 >238 mg/kg, rat. (Technical) LD50 >227 mg/kg, rat. (Formulated, calculated) Dermal : LD50 >2000 mg/kg, rat. (Technical) LD50 >2000 mg/kg, rat. (Formulated, calculated) Inhalation : LC50 (4h) >0.72 mg/m3 air Skin irritation: Moderate irritant. May cause dermatitis from long term skin contact Eye irritation : Moderate irritant.	

Sensitization : Moderate skin sensitizer, guinea pig.

Other:

12) Ecological Information:

Information below based on active ingredient:

Bees: LD50 for honeybees (48 h, contact) >100 µg/bee; (96 h, oral) >119.8 µg/bee.

Birds: LD50 (Acute oral) for bobwhite quail 170, mallard ducks 2350 mg/kg b.w. Sub-acute oral dietary LC50 (5 d) for bobwhite quail 1315, mallard ducks 2150 ppm.

Fish : LC50 (96 h) for bluegill sunfish 0.06, rainbow trout 0.041 mg/l, Daphnia: LC50 (48 h) 0.046 mg/l.

Algae : E

Worms: LD50 96.7 mg/kg soil.

Other aquatic species: LC50 (48h) Daphnia: 125 mg/l.

Environmental fate:

Persistence and Degradability:

Persistence: In lab. soil, DT50 <1 d. Degraded by hydrolysis and debromination to less toxic substances such as hydroxybenzoic acid. For persistence in soil, see Pestic. Sci., 1980, 11, 341.

13) Disposal Considerations:

Waste Disposal: In accordance with local and national regulations. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Do not contaminate water, food or feed by disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Refer to the product label for instructions. Triple rinse empty containers before disposal in the following manner: Invert the container over the spray or mixing tank and allow to drain for at least 30 seconds after the flow has slowed to a drip. Thereafter, rinse the container three times with a volume of water equal to a third of that of the container volume. Add rinsing to the contents of the spray tank before destroying the container in the prescribed manner. Empty containers should not be burnt; puncture and flatten containers and dispose at a licensed landfill site according to local regulations. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Prevent contamination of water sources, food or feed by disposal. DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE. If recycling, replace cap and take containers to the designated recycling point. If containers cannot be recycled, they should be disposed of together with the waste chemical according to local regulations.

14) Transportation Information:

UN NUMBER: 3082

Road Transport ADR/ RID:

Class: 9 Miscellaneous Dangerous Goods

Packaging group: III

Shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bromoxynil 450 g/L -BROMOXYNIL OCTANOATE)

Environmental . Hazardous Mark Yes

Maritime Transport IMDG / IMO:

Marine Pollutant: Yes

Class: 9 Miscellaneous Dangerous Goods

Packaging group: III

Shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bromoxynil 450 g/L -BROMOXYNIL OCTANOATE)

Air Transport ICAO/IATA:

Class: 9

Packing group: III

Shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bromoxynil 450 g/L -BROMOXYNIL OCTANOATE)

15) Regulatory Information:

Contains : Bromoxynil

Symbols: Xn – Harmful

N – Dangerous for the environment

F – Flammable.

Risk – Phrase (s):

R10 – Flammable

R20 – Harmful by inhalation and if swallowed

R24/25 – Toxic in contact with skin and if swallowed.

R50/53 – Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R 63 – Possible risk of harm to the unborn child

Safety – Phrase (s):

S1/2 – Keep locked up and out of reach of children.

S 3/9/14 – Keep in a cool, well-ventilated place away from open flames and sparks.

S 7/8 – Keep container tightly closed and dry.

S13 – Keep away from food, drink and animal feeding stuffs.

S20/21 – When using, do not eat drink or smoke.

S23 – Do not breathe fumes/vapour/spray.

S24/25 – Avoid contact with skin and eyes. Wear suitable protective clothing and gloves.

S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 27/28 – After contact with skin, take off immediately all contaminated clothing and wash immediately with plenty of water and a non-abrasive soap.

S35 – This material and its container must be disposed of in a safe way.

S36/37/39 – Wear suitable protective clothing, gloves and eye/face protection.

S45 – In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S61 – Avoid release to the environment. Refer to special instructions/ Safety data sheets.

S62 – If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Hazard Phrase(s):

H302 + H312 Harmful if swallowed or in contact with skin.

H317 – May cause an allergic skin reaction.

H400 – Very toxic to aquatic life.

H410 – Very toxic to aquatic life with long lasting effects

Full text of H-statements referred to under section 2 and 3**16. Other Information**

All information and instructions provided in this Safety Data Sheet (SDS) are based on the current state of scientific and technical knowledge at the date indicated on the present SDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear.

It is the responsibility of persons in receipt of this SDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with this product. If the recipient

subsequently produces formulation(s) containing this product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from this SDS to their own SDS.

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