

# MATERIAL SAFETY DATA SHEET



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## SANOND HERBICIDE BROMOXYNIL 200EC

### 1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY

**Product Name:** Sanonda Herbicide Bromoxynil 200EC  
**Product Use:** Agricultural herbicide to control broadleaf weeds in cereals, pastures, and turf.  
**Supplier:** Sanonda (Australia) Pty Ltd  
**ACN:** 059 813 973  
**Address:** Suite 822, St Kilda Rd Towers, No.1 Queens Rd, Melbourne VIC 3004  
**Telephone:** 03 9863 8081  
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**Emergency phone number:** 03 9863 8081

### 2. HAZARD IDENTIFICATION

#### **Statement of Hazardous Nature**

Hazardous according to the criteria of NOHSC. Non-dangerous goods.

#### **Risk Phrase(s)**

R20 Harmful by inhalation.

R22 Harmful if swallowed.

R50 Very toxic to aquatic organisms.

R36/37/38 Irritating to eyes, respiratory system and skin.

R53 - May cause long-term adverse effects in the aquatic environment.

R62 - Possible risk of impaired fertility.

R63 - Possible risk of harm to the unborn child.

R65 Harmful – may cause lung damage if swallowed.

#### **Safety Phrase(s)**

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

S3/9/49 Keep only in the original container in a cool, well-ventilated place.

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

S16 Keep away from sources of ignition - No smoking.

S20/21 When using do not eat or drink/smoke

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

S22 Do not breathe dust.

S23 Do no breathe spray.

S24/25 Avoid contact with skin/eyes

S29/35 Do not empty into drains/Dispose of material and container in a safe way

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## **3. COMPOSITION/ INFORMATION ON INGREDIENTS**

<b>Chemical Entity</b>	<b>CAS No</b>	<b>Concentration (g/L)</b>	<b>TWA (mg/m<sup>3</sup>)</b>	<b>STEL (mg/m<sup>3</sup>)</b>
Bromoxynil n-octanoate	1689-99-2	291 (=200g/L bromoxynil)	Not set	Not set
Emulsifier	Secret	100	Not set	Not set
Solvent	Secret	Balance	Not set	Not set

This is a commercial product whose exact ratio of components may vary. Trace quantities of impurities are also likely.

The ASCC TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak "is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

## **4. FIRST AID MEASURES**

If poisoning occurs, immediately contact a doctor or Poisons Information Centre (phone 13 11 26), and follow the advice given. Show this Material Safety Data Sheet to a doctor.

### **FIRST AID**

#### **Inhalation:**

Move patient into fresh air if necessary. Remove contaminated clothing and loosen remaining clothing. Apply resuscitation if victim is not breathing. Administer oxygen if breathing is difficult. Get medical attention if needed.

#### **Skin Contact:**

Remove contaminated clothing. Wash contaminated skin with soapy water. If skin irritation develops, get medical attention. Wash clothing thoroughly before re-use.

#### **Eye Contact:**

Rinse eye(s) with clean running water for 15 mins. Get medical attention.

#### **Ingestion:**

Rinse mouth. Give water to drink if patient is conscious. DO NOT induce vomiting. If vomiting occurs ensure patient can breathe, then give water to drink. Get medical attention.

### **SYMPTOM**

May cause irritation to skin, eyes, and respiratory tracts.

### **ADVICE TO DOCTOR**

No specific antidote is known. Treat symptomatically. If vomiting occurs, solvent present may cause pulmonary pneumonitis.

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## **5. FIRE FIGHTING MEASURES**

### **FIRE AND EXPLOSION HAZARDS**

This product is classified as a C1 combustible product. There is little risk of an explosion from this product if commercial quantities are involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances.

### **EXTINGUISHING MEDIA**

Extinguish fire with carbon dioxide, dry chemical, foam and water fog.

### **FIRE FIGHTING**

If a significant quantity of this product is involved in a fire, call the fire brigade.

### **HAZARDOUS COMBUSTION PRODUCTS**

Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. Water, bromine compounds. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

### **FIRE INCOMPATIBILITY:**

None.

### **HAZCHEM:**

Not allocated.

### **PERSONAL PROTECTIVE EQUIPMENT**

We suggest that protective clothing be made from the following materials: rubber, PVC.

## **6. ACCIDENTAL RELEASE MEASURES**

### **Accidental release:**

In the event of a major spill, prevent spillage from entering drains or water courses. Wear full protective clothing including eye/face protection. All skin areas should be covered. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include rubber, PVC. Eye/face protective equipment should comprise as a minimum, protective goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. It should be fitted with a type G cartridge, suitable for agricultural chemicals. Otherwise, not normally necessary.

Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this MSDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

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## **7. HANDLING AND STORAGE**

### **Handling:**

Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed.

The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

### **Storage:**

Note that this product is combustible and therefore, for Storage, meets the definition of Dangerous Goods in some states. If you store large quantities (tonnes) of such products, we suggest that you consult your state's Dangerous Goods authority in order to clarify your obligations regarding their storage.

Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. Some liquid preparations settle or separate on standing and may require stirring before use. Check packaging - there may be further storage instructions on the label.

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

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment:	<b>AS/NZS 1715</b>	
Protective Gloves:	<b>AS 2161</b>	
Industrial Clothing:	<b>AS2919</b>	
Industrial Eye Protection:	<b>AS1336 and AS/NZS 1337</b>	
Occupational Protective Footwear:	<b>AS/NZS2210</b>	
<b>ASCC Exposure limits</b>	<b>TWA (mg/m3)</b>	<b>STEL (mg/m3)</b>

Exposure limits have not been established by ASCC for any of the significant ingredients in this product.

The ADI for Bromoxynil is set at 0.003mg/kg/day. The corresponding NOEL is set at 0.3mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, Dec 2006.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

### **Ventilation:**

No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that vapours and mists are minimised.

### **Eye Protection:**

Eye protection such as protective glasses or goggles is recommended when this product is being used.

### **Skin Protection:**

Prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered. See below for suitable material types.

### **Protective Material Types:**

We suggest that protective clothing be made from the following materials: rubber, PVC.

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## **Respirator:**

Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above. Otherwise, not normally necessary.

Safety deluge showers should, if practical, be provided near to where this product is being used.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical Description &amp; colour:</b>	Amber coloured liquid.
<b>Odour:</b>	Characteristic solvent odour.
<b>Boiling Point:</b>	Solvent boils at 178-209°C at 100kPa
<b>Freezing/Melting Point:</b>	No specific data. Liquid at normal temperatures.
<b>Volatiles:</b>	No specific data. Expected to be low at 100°C, but about 60°C at higher temperatures.
<b>Flash:</b>	>65°C
<b>Specific Gravity:</b>	1.03
<b>Water Solubility:</b>	Emulsifiable.
<b>pH:</b>	No data.
<b>Volatility:</b>	No data.
<b>Odour Threshold:</b>	No data.
<b>Evaporation Rate:</b>	No data.
<b>Coeff Oil/water Distribution:</b>	Log Pow =2.8(active ingredient)
<b>Autoignition temp:</b>	No data.

## **10. STABILITY AND REACTIVITY**

### **Reactivity:**

This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

### **Conditions to Avoid:**

Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

### **Incompatibilities:**

Strong acids, strong bases, strong oxidising agents.

### **Fire Decomposition:**

Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. Water, bromine compounds. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

### **Polymerisation:**

This product will not undergo polymerisation reactions..

## **11. TOXICOLOGICAL INFORMATION**

### **ACUTE TOXICITY**

Technical bromoxynil has an oral LD<sub>50</sub> of 190 mg/kg in rats, an LD<sub>50</sub> of 260 mg/kg in rabbits, and an LD<sub>50</sub> of 63 mg/kg in guinea pigs, indicating moderate acute toxicity. The dermal LD<sub>50</sub> of bromoxynil is greater than 2000 mg/kg in rabbits. The compound is a slight eye irritant but it is not a skin irritant in rabbits. However, when in contact with abraded skin, bromoxynil may produce a mild irritation.

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## EFFECTS OF ACUTE EXPOSURE

Bromoxynil is a moderately toxic compound. It may produce a mild irritation when in contact with abraded skin.

## EFFECT OF LONG TERM EXPOSURE

### Chronic toxicity:

In one documented case of chronic exposure (about 1 year) of humans to bromoxynil, workers showed symptoms of weight loss, fever, vomiting, headache, and urinary problems. Studies have shown that bromoxynil has no effect on rats given dietary doses of 15 and 50 mg/kg/day for 90 days. Doses up to 5 mg/kg/day for 2 years had no impact on blood chemistry or urine.

### Reproductive effects:

No changes in reproduction were noted in female rats fed 15 mg/kg/day of bromoxynil over three generations. This suggests that bromoxynil does not cause reproductive effects.

### Teratogenic effects:

Bromoxynil is a suspected teratogen. The compound produced birth defects in rats at oral doses above 35 mg/kg. Toxic effects included abnormal rib formation and reduced fetal weight. Newborn rabbits had birth defects when bromoxynil was administered to pregnant mothers at doses above 30 mg/kg. In the rabbit, birth defects included changes in bone formation in the skull and hydrocephaly.

### Mutagenic effects:

No data are currently available.

### Carcinogenic effects:

Rats fed bromoxynil at low levels of 5 mg/kg and below did not develop any cancer related effects.

### Organ toxicity:

No data were available regarding the target organs affected by bromoxynil.

## 12. ECOLOGICAL INFORMATION

### ECOTOXICITY DATA

#### Aquatic organisms:

Fish: Acute I ( $LC_{50} \leq 1$  mg/L) for sensitive species (goldfish, catfish).

Crustacea: Acute I ( $LC_{50} \leq 1$  mg/L).

Algae: Acute I ( $EC_{50} \leq 1$  mg/L).

Flora: Toxic by contact action on seedling dicots. Much less toxic to grasses. Established plants will show leaf spotting but generally recover fully.

Fauna: Low toxicity.

Soil organisms: Low toxicity ( $LC_{50}$  294 mg/kg – 14 d) to earthworms.

Bees: Not toxic.

Long term: No effects expected.

### ENVIRONMENTAL FATE

**Breakdown in soil and groundwater:** Bromoxynil has a low persistence in soil. In sandy soil, the half-life is about 10 days. Degradation in clay was slower, with half of the bromoxynil degraded to its metabolites in about a 2-week period at 25 C. The persistence of the compound is also slightly longer in peat field soils than in the sandy soils. The evidence suggests that, while bromoxynil is broken down by some soil bacteria, it may inhibit the action of other bacteria that promote the formation of nitrite by a process called nitrification.

### Breakdown in water:

Low solubility and moderate absorption = very low mobility.

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## **Breakdown in vegetation:**

The herbicide works by disrupting the plants ability to produce energy for cell-related activities. It is not readily translocated throughout the plant once it has been absorbed.

## **13. DISPOSAL CONSIDERATIONS**

### **Disposal:**

Instructions concerning the disposal of this product and its containers are given on the product label.

These should be carefully followed. Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 <http://www.chemclear.com.au/> and for help with the disposal of empty drums, contact DrumMuster <http://www.drummuster.com.au/> where you will find contact details for your area.

### **Product:**

Whenever possible, product should be used for its intended purpose, even if reclaimed from spillage (reclaimed product must be uncontaminated).

### **Containers:**

Whenever possible, follow directions given on container. If not available, triple or pressure rinse plastic or metal containers before disposal. Recycle containers if possible (replace cap and return clean containers to recycler or designated collection point). Treat rinsings as for product above. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. 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. Empty containers and product should not be burnt.

## **14. TRANSPORT INFORMATION**

### **ADG Code**

This product is not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.

**Hazchem Code** Not allocated.

**U.N. Number** 3082

**Proper Shipping Name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE,  
LIQUID, N.O.S. (BROMOXYNIL)

**IMO Class** 9

**Packing Group** III

## **15. REGULATORY INFORMATION**

**Poisons Schedule:** S5

**Packaging & Labelling:** CAUTION  
KEEP OUT OF REACH OF CHILDREN  
READ SAFETY DIRECTIONS BEFORE OPENING OR  
USING

**AICS (Australia):** All of the components in this product are listed on the Australian Inventory of Chemical Substances.

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## **16. OTHER INFORMATION**

**This MSDS contains only safety-related information. For other data see product literature.**

All due care and skill, so far as practicable, has been applied in the preparation and collation of the information in this MSDS. Each user of the Product named in this MSDS should read and consider the information contained in this MSDS in the context of how the Product will be stored, handled, used or applied in the workplace. In all circumstances, it is the responsibility of the user of the Product to ensure that they have sought out the relevant safety data appropriate to their particular situation. Nothing contained in this MSDS shall be construed as a representation or recommendation to the user about the suitability or otherwise of the Product named in this MSDS for the user's particular situation. If the user requires any clarification or further information, the user should contact Sanonda (Australia) Pty Ltd.

### **CONTACT POINT:**

**Sanonda (Australia) Pty Ltd**

Suite 822, St Kilda Road Towers,

No.1 Queens Road, Melbourne, VIC 3004

**Telephone:** 03 9863 8081

**Facsimile:** 03 9863 8083

**National Poisons Information Centre: Dial 13 11 26 (from anywhere in Australia).**

**Please read all labels and booklets carefully before using product.**