SANONDA
(AUSTRALIA) PTY LTD

Ph: 03 9863 8081/ Fax: 03 9863 8083

Suite 822, St Kilda Road Tower,
1 Queens Road, Melbourne, VIC 3004

email@sanondaoz.com
www.sanondaoz.com

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1. Product identifiers

Product name : Sanonda Herbicide Bromoxynil 200 EC

Active ingredient : Bromoxynil

Product code : Not allocated.

1.2. Other means of identification

IUPAC name: 3,5-dibromo-4-hydroxybenzonitrile

1.3. Recommended use of the chemical and restrictions on use

For the control of weeds in wheat, oats, barley and triticale (alone or undersown), linseed, Lucerne, pastures and turf as per the Directions for Use Table.

1.4. Details of the supplier of the safety data sheet

Sanonda (Australia) Pty Ltd (ABN 23 059 813 973)

Address: Suite 822, St Kilda Road Towers, No. 1 Queens Road, Melbourne,
Victoria 3004 Australia.

TEL: +61 3 9863 8081

FAX: +61 3 9863 8083

email@sanondaoz.com

1.4. Emergency telephone number

Emergency number : +61 3 9863 8081

SECTION 2: Hazards identification

2.1. GHS classification of the substance or mixture

Skin sensitization : Category 1

Acute Toxicity – Inhalation : Category 3

STOT Single Exposure : Category 3

Aspiration Hazard : Category 1

Reproductive Toxicity : Category 2

Hazardous to the aquatic environment (acute) : Category 1

Hazardous to the aquatic environment (chronic) : Category 1

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2.2. Label elements

Signal word	: Danger
Hazard statements (CLP)	: H317 - May cause an allergic skin reaction. H332 - Harmful if inhaled. H336 - May cause drowsiness or dizziness. H304 - May be fatal if swallowed and enters airways. H361- Suspected of damaging fertility or the unborn child. H400 - Very toxic to aquatic life. H410 - Very toxic to aquatic life with long lasting effects.
Precautionary statements	: P261 - Avoid breathing dust/fume/gas/mist/vapours/spray. P280 - Wear protective gloves, clothing, eye and face protection. P281 - Use personal protective equipment as required. 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. P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. P321 - Specific treatment (see on this label). P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P312 - Call a POISON CENTER/doctor if you feel unwell. P308+P313 - IF exposed or concerned: Get medical advice/attention. P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P331 - Do NOT induce vomiting.

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P302+352 - IF ON SKIN: Wash with plenty of soap and water.

P391 - Collect spillage.

P362+P364 - Take off contaminated clothing and wash it before reuse.

P405 - Store locked up.

P501 - Dispose of contents/container in accordance with local/regional/national regulations.

Hazard pictogram : Health Hazard Skull and Crossbones Environment



Exclamation mark

SECTION 3: Composition/information on ingredients

Identity of chemical ingredients	CAS	Concentration (g/L)
Bromoxynil present as the n-octanoyl ester	1689-99-2	291 (equal to 200g/L Bromoxynil)
Other non-hazardous ingredients	-	Balance

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice

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.

If inhaled

Remove to fresh air and observe until recovered. If effects persist, seek medical advice. In severe case, symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.

In case of skin contact

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Remove contaminated clothing. Wash skin with soap and water to remove chemical. If skin is irritated, seek medical advice.

In case of eye contact

Immediately hold eyes open and flood gently with clean water. Ensure irrigation under eyelids by occasionally lifting them. Do not try to remove contact lenses unless trained. If irritation persists, seek medical advice.

If swallowed

If swallowed do NOT induce vomiting. Wash mouth with water. If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

Advice to Doctor

Treat symptomatically.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation: Harmful if inhaled. May cause drowsiness or dizziness.

Skin Contact: Causes mild skin irritation. May cause an allergic skin reaction.

Eye Contact: Causes eye irritation.

Ingestion: May be fatal if swallowed and enters airways.

4.3. Indication of any immediate medical attention and special treatment needed

Call a physician or poison control center immediately

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Extinguish fire using carbon dioxide, foam or dry agent. If not available, use waterfog or fine water spray but ensure all runoff is contained. Contain all runoff.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products include oxides of carbon, nitrogen and other pyrolysis products typical of burning organic material.

Combustible liquid Class 1.

Closed containers may explode when exposed to extreme heat. Containers close to fire should be removed if safe to do so. Use water spray to cool fire exposed containers.

5.3. Special protective equipment and precautions for fire fighters

When fighting a major fire wear self-contained breathing apparatus and protective equipment.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear approved respiratory protection, chemical resistant gloves, protective clothing and safety boots.

Evacuate all non-essential personnel from affected area. Do not breathe vapours. Ensure adequate ventilation. Extinguish all sources of ignition. Avoid sparks and open flames. No smoking.

6.2. Environmental precautions

In the event of a major spill, prevent spillage from entering drains or water courses.

6.3. Methods and materials for containment and cleaning up

Stop leak if safe to do so and absorb spill with sand, earth, vermiculite or some other absorbent material. If absorbent material is not available or spill is too large, create a dike to stop spill from spreading. Collect the spilled material and place into a suitable container for disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Use of safe work practices are recommended to avoid eye or skin contact and inhalation of vapours. Use only outdoors or in a well-ventilated area. Food, beverages and tobacco products should not be stored or consumed where this material is in use. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. Provide eyewash fountains and safety showers in close proximity to points of potential exposure.

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool, dry and well ventilated area. Keep in original container, tightly closed when not in use. Protect from heat, sparks, open flames and other sources of ignition. Keep away from strong oxidising agents and acids.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters-exposure standards, biological monitoring

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

8.2. Appropriate engineering controls

Ensure adequate ventilation of the working area.

8.3. Personal Protection Equipment

Respiratory protection:

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Use an approved vapour respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentrations of mist or vapour, inadequate ventilation, development of respiratory tract irritation) and engineering controls are not feasible. See Australian Standards AS/NZS 1715 and 1716 for more information.

Skin and body protection:

PVC or rubber gloves. See Australian/New Zealand Standard AS/NZS 2161 for more information. When selecting gloves for use against certain chemicals, the degradation resistance, permeation rate and permeation breakthrough time should be considered.

Occupational protective clothing (depending on conditions in which it has to be used, in particular as regards the period for which it is worn, which shall be determined on the basis of the seriousness of the risk, the frequency of exposure to the risk, the characteristics of the workstation of each worker and the performance of the protective clothing). See Australian/New Zealand Standard AS/NZS 4501 for more information.

Eye and Face Protection:

Eye and face protectors for protection against splashing materials or liquids. See Australian/New Zealand Standard AS/NZS 1337 for more information.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

a) Appearance	: Amber coloured liquid.
b) Odour	: Characteristic solvent odour.
c) Initial boiling point and boiling range	: Solvent boils at 178-209°C at 100kPa
d) Flash point	: > 65 ^{o}C.
e) Flammability	: Combustible liquid (C1).
f) Specific Gravity	: 1.03.
g) Solubility in water	: Product emulsifies in water.

9.2. Other information

Persistent foam: 20mL maximum, after 1 min.

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under recommended storage conditions.

10.2. Chemical stability

Product is considered stable in ambient conditions for a period of at least 2 years after manufacture.

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10.3. Incompatible materials and possible hazardous reactions

Strong oxidising agents - may react violently.

10.4. Conditions to avoid

Do not store for prolonged periods in direct sunlight. Store away from sources of ignition. Avoid alkaline materials.

10.5. Hazardous decomposition products

On burning will emit toxic fumes of carbon monoxide, carbon dioxide, hydrogen chloride, chlorine, fluorine and hydrogen fluoride etc.

SECTION 11: Toxicological information

11.1. Information on routes of exposure and symptoms related to exposure

Swallowed: Possible symptoms of poisoning with bromoxynil include headache, nausea, dizziness, muscle weakness, slowed heart rate, shortness of breath, central nervous system effects, benzoic acid in the urine, incontinence, cyanosis and exhaustion following repeated muscle spasms. Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result.

Eye: Prolonged contact with the concentrate may cause damage to the eye.

Skin: May irritate the skin especially with prolonged or repeated exposure. May produce skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Avoid skin contact.

Inhaled:

Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination. Avoid breathing vapour or spray mist.

11.2. Immediate, delayed and chronic health effects from exposure

Acute toxicity

LD_{50} oral rats	Bromoxynil octanoate Technical: Acute oral LD_{50} for male rats 247–400, female rats 238–396, rabbits 325 mg/kg.
LD_{50} dermal rats	Bromoxynil octanoate Technical: > 2000 mg/kg
LC_{50} inhalation rats, rabbits, guinea pigs or cats	Bromoxynil octanoate Technical: Rat (4hr) > 0.72 mg/L (dust)

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Eye irritation	Mild irritant to eyes
Skin irritation	Mild irritant to skin
Skin sensitization	Classified as a potential sensitiser

Germ cell mutagenicity

Bromoxynil is not mutagenic.

Carcinogenicity

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

Reproductive toxicity

Bromoxynil octanoate (ISO) is classified by Safe Work Australia as Toxic to Reproduction Category 3.

Suspected of damaging fertility or the unborn child.

Teratogenic toxicity

Bromoxynil is a suspected teratogen. Bromoxynil produced birth defects in rats at oral doses above 35 mg/kg. Toxic effects included abnormal rib formation and reduced foetal 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.

11.3. Exposure Levels/Chronic effects

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.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

LC_{50} fish	LC_{50} (96 h) for bromoxynil bluegill sunfish 0.06, rainbow trout 0.041 mg/l.
LC_{50} daphnia	LC_{50} (48 h) 0.046 mg/l for bromoxynil.
EC_{50} algae	EC_{50} (96 h) for bromoxynil in *Scenedesmus subspicatus* 1 mg/l; EC_{50} (120 h) for *Navicula pelliculosa* 0.043, *Selenastrum capricornutum* 0.22 mg/l.
Other Organisms	**Birds** Acute oral LD_{50} for bromoxynil in bobwhite quail

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	170, mallard ducks 2350 mg/kg b.w. Sub-acute oral dietary LC_{50} (5 d) for bobwhite quail 1315, mallard ducks 2150 ppm. **Bees** LD_{50} for bromoxynil in honeybees (48 h, contact) >100 µg/bee; (96 h, oral) >119.8 µg/bee. **Worms** LD_{50} 96.7 mg/kg soil for bromoxynil.

12.2. Persistence and degradability

Easily biodegradable. Bromoxynil half-life in soil: 10 days to 2 weeks. MCPA half-life in soil: 14 days to 1 month .

12.3. Bioaccumulative potential

Bioaccumulation is not expected to occur

12.4. Mobility in soil

Slightly mobile in soils

12.5. Other adverse effects

No data is available

SECTION 13: Disposal considerations

13.1. Safe handling and disposal methods

On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemClear®).

13.2. Disposal of any contaminated packaging

When the container is empty, shake any residual material into the spray tank. Shred and bury empty packaging in a local authority landfill. If no such landfill is available, bury the packaging 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.

13.3. Environmental regulations

drumMUSTER is the national program for the collection and recycling of empty, cleaned, non-returnable crop production and on-farm animal health chemical containers. If the label on your container carries the drumMUSTER symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, puncture or shred and bury containers in local authority landfill. If no landfill is available, bury the

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containers below 500mm 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.

SECTION 14: Transport information

14.1. UN number

UN-No. : UN3082

14.2. UN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains Bromoxynil).

14.3. Transport hazard class(es)

Class (UN) : 9

Hazard labels (UN) :

14.4. Packaging group

Packing group (UN) : III

14.5. Environmental hazards

Dangerous for the environment :

IMDG Marine pollutant : Yes

Other information : No supplementary information available

14.6. Special precautions for user

Wash hands and exposed skin thoroughly after handling.

Wear protective gloves, clothing, eye and face protection.

14.7. Hazchem Code

3Z

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Classified as a hazardous substance according to criteria of Safe Work Australia. (T, Xi, Xn).

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Under the Standard for Uniform Scheduling of Medicines and Poisons (SUSMP), this product is a schedule 6 poison. This product is registered under the Agricultural and Veterinary Chemicals Code Act 1994. APVMA Approval No.: 64335/53373.

Product is not classified as a Dangerous Good according to the ADG Code (7th Ed) in containers less than 3000 litres.

Requirements concerning special training:

Check State or Territory regulations that require people who use pesticides in their job or business to have training in the application of the materials.

15.2. Poisons Schedule number

This product is a Schedule 6 Poison and must be stored, transported and sold in accordance with the relevant Health Department regulations.

SECTION 16. OTHER INFORMATION

16.1. Date of preparation or last revision of SDS

Revised 12/02/2016

Revisions Highlighted: The SDS was reviewed to include GHS requirements.

16.2. 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

16.3. Key/legend to abbreviations and acronyms used in the SDS

ADG Code: Australian Dangerous Goods Code (for the transport of dangerous goods by Road and Rail)

IMDG Code: International Maritime Dangerous Goods

This SDS 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 SDS. Each user of the Product named in this SDS should read and consider the information contained in this SDS 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

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safety data appropriate to their particular situation. Nothing contained in this SDS shall be construed as a representation or recommendation to the user about the suitability or otherwise of the Product named in this SDS for the user's particular situation. If the user requires any clarification or further information, the user should contact Sanonda (Australia) Pty Ltd.

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

Please read all labels carefully before using product.