



SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product: **BROMOTRIL 400 EC**
Chemical name of active: 2,6 Dibromo-4-cyanophenyl octanoate
Product Use: Herbicide
Restriction of Use: Refer to Section 15

New Zealand Supplier: ADAMA New Zealand Ltd
Address: Level 1/93 Bolt Road
Tahunanui, Nelson 7011

Telephone: +64 3 543 8275
Fax Number: +64 3 543 8274

Emergency Telephone: 0800 764 766 (National Poison Centre)

Date of SDS Preparation: 18 July 2018

Section 2. Hazards Identification

This substance is hazardous according to the Hazardous Substances (Classification) Notice 2017

EPA Approval No: HSR000431

Pictograms



Flammable



Irritant



Chronic



Ecotoxic

Signal Word: **Warning**

| HSNO Classification | Hazard Code | Hazard Statement | GHS Category |
|---------------------|-------------|--|-----------------|
| 3.1C | H226 | Flammable liquid and vapour. | Flam. Liq. 3 |
| 6.1D (oral) | H302 | Harmful if swallowed. | Acute Tox. 4 |
| 6.1D (inh) | H332 | Harmful if inhaled. | Acute Tox. 4 |
| 6.3A | H315 | Causes skin irritation. | Skin Irrit. 2 |
| 6.4A | H319 | Causes serious eye irritation. | Eye Irrit. 2A |
| 6.8B | H361 | Suspected of damaging fertility or the unborn child. | Repr. 2 |
| 6.9B | H373 | May cause damage to organs through prolonged or repeated exposure. | STOT RE 2 |
| 9.1A | H400 | Very toxic to aquatic life. | Aquatic Acute 1 |
| 9.2A | H421 | Very toxic to the soil environment. | |
| 9.3B | H432 | Toxic to terrestrial vertebrates. | |

| | | | |
|------|------|-------------------------------------|--|
| 9.4B | H442 | Toxic to terrestrial invertebrates. | |
|------|------|-------------------------------------|--|

| Prevention Code | Prevention Statement |
|-----------------|---|
| P102 | Keep out of reach of children. |
| P103 | Read label before use. |
| 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 or hot surfaces. No smoking. |
| P233 | Keep container tightly closed. |
| P240 | Ground/bond container and receiving equipment. |
| P241 | Use explosion-proof electrical, ventilating and lighting. |
| P242 | Use only non-sparking tools. |
| P243 | Take precautionary measures against static discharge. |
| P260 | Do not breathe fumes, mist, vapours or spray. |
| P264 | Wash hands thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective clothing as detailed in Section 8. |
| P281 | Use personal protective equipment as required. |

| Response Code | Response Statement |
|------------------|--|
| P101 | If medical advice is needed, have product container or label at hand. |
| P312 | Call a POISON CENTER or doctor/physician if you feel unwell. |
| P330 | Rinse mouth. |
| P362 | Take off contaminated clothing and wash before re-use. |
| P391 | Collect spillage. |
| P301 + P312 | IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. |
| P303 + P361+P353 | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| P304 + P340 | IF INHALED: Remove 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/ attention. |
| P332 + P313 | If skin irritation occurs: Get medical advice/ attention. |
| P337 + P313 | If eye irritation persists: Get medical advice/attention. |
| P370 + P378 | In case of fire: Use dry chemical, water spray, foam or carbon dioxide for extinction. |

| Storage Code | Storage Statement |
|--------------|--|
| P403 + P235 | Store in a well-ventilated place. Keep cool. |
| P405 | Store locked up. |

| Disposal Code | Disposal Statement |
|---------------|--|
| P501 | Triple rinse empty container and add rinsate to spray tank. Burn in an appropriate incinerator, if circumstances such as wind direction permit. Otherwise crush or puncture and bury in a suitable landfill, or if appropriate, recycle. Avoid contamination of any water supply with product or empty container |

Section 3. Composition / Information on Ingredients

| Ingredients | Weight % | CAS NUMBER. |
|---------------------------|----------|-------------|
| Bromoxynil octanoate | 4-54 | 1689-99-2 |
| Alkyoxylated alkyl phenol | 1-2 | Proprietary |
| Alklbenzene sulfonate | 2-3 | Proprietary |

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Section 4. First Aid Measures

Routes of Exposure:

| | |
|--------------|--|
| If in Eyes | Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER or doctor/physician if required. |
| If on Skin | Wash with plenty of soap and water. Take off contaminated clothing and wash before re-use. If skin irritation occurs: get medical advice/attention. |
| If Swallowed | Wash out mouth with plenty of water. Get medical attention. Never give anything by mouth to an unconscious person. |
| If Inhaled | Remove person to fresh air. Remove contaminated clothing and loosen remaining clothing. Allow person to assume most comfortable position and keep warm. Keep at rest until fully recovered. Get medical advice if breathing becomes difficult. |

Most important symptoms and effects, both acute and delayed

Symptoms of:

| | |
|--------------------|---|
| Ingestion: | Nausea, headaches, cramps, vomiting |
| Skin: | May cause sensitization by skin contact. |
| Inhalation: | Vapours: Headaches, dizziness, nausea. |
| Eyes: | Irritating to eyes. |
| Chronic: | May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. |

Notes to physician: There is no specific antidote. If poisoning is suspected apply symptomatic therapy.

Section 5. Fire Fighting Measures

| | |
|---|---|
| Hazard Type | Flammable. |
| Hazards from combustion products | Bromine compounds, cyanide and nitrogen oxides. |
| Suitable Extinguishing media | Dry chemical, water spray, foam, carbon dioxide. |
| Precautions for firefighters and special protective clothing | Self-contained breathing apparatus and total protection required in enclosed areas. Flashback may occur along vapour trail. |
| HAZCHEM CODE | 3Y |

Section 6. Accidental Release Measures

Wear full protective clothing as detailed in Section 8. Evacuate area from unnecessary personnel. Keep away from: open flame, sparks and heat.

Environmental precautions

Dispose of this material and its container at hazardous or special waste collection point, in accordance with national and regional regulations. If the product has contaminated surface water, inform the appropriate authorities.

Methods and material for containment and cleaning up

Absorb remainder in sand, vermiculite or other inert material. Dispose of in an authorised waste collecting point like Agrecovery or as per Local Regulations.

Section 7. Handling and Storage

Precautions for Handling:

- Read label before use.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Keep away from heat, sparks, open flames or hot surfaces. No smoking.
- Keep container tightly closed.
- Ground/bond container and receiving equipment.
- Use explosion-proof electrical, ventilating and lighting.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Do not breathe fumes, mist, vapours or spray.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Avoid release to the environment.
- Wear protective clothing as detailed in Section 8.
- Use personal protective equipment as required.

Precautions for Storage:

- Store away from incompatible materials listed in Section 10.
- Keep away from children.
- Store in a well-ventilated place. Keep cool.
- Store locked up.
- Keep only in the original container. Keep dry and away from direct sunlight.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

| Substance | TWA | | STEL | |
|-----------|-----|-------------------|------|-------------------|
| | ppm | mg/m ³ | ppm | mg/m ³ |

None of the ingredients have workplace exposure limits listed on WES.

Workplace Exposure Standard – Time Weighted Average (WES-TWA). *The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure.* Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). *The 15-minute average exposure standard.* Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply.

Engineering Controls

Ensure adequate ventilation is available.

Personal Protection Equipment



| | |
|-----------------------|--|
| Eyes | Safety goggles or face shield. Avoid wearing contact lenses. |
| Hands and Skin | Chemical resistant gloves. Wear suitable protective clothing. Chemical resistant boots. |
| Respiratory | Respiratory protection is required. |
| General | When handling, do not eat, drink or smoke. Wash hands thoroughly after handling. Wash clothing separately before re-use. |

Section 9 Physical and Chemical Properties

| | |
|--|---|
| Appearance | Brown Emulsion |
| Odour | Aromatic |
| Odour Threshold | Not applicable |
| pH | 3 – 5 CIPAC, MT 75 |
| Boiling Point | 155-181°C (Naphta) |
| Freezing/Melting Point | Not applicable |
| Flash Point | 45 °C (Naphta) |
| Flammability | Flammable |
| Upper and Lower Exposure Limits | 0.8% - 7% |
| Explosive properties | Naphta (vapours) may form explosive mixture with air. |
| Vapour Pressure | 0.2 mPa @ 25°C (Bromoxynil octanoate) |
| Density | 1.132 +/- 0.010 g/mL @ 20°C |
| Specific Gravity | 1.22-1.23 |
| Solubility in water | 3 ppm @ 25 oC (Bromoxynil octanoate) |
| Partition Coefficient: | Not applicable |
| Auto-ignition Temperature | Not applicable |
| Viscosity, dynamic | Not applicable |
| Particle Characteristics | Not applicable |
| Octanol/water partition coefficient | log P = 5.4 (Bromoxynil octanoate) |

Section 10. Stability and Reactivity

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|---|---|
| Stability of Substance | This product is stable under normal conditions. |
| Conditions to Avoid | Sources of ignition. |
| Incompatible Materials | Oxidizing agents, acids, alkali and steel. |
| Hazardous Decomposition Products | Bromine compounds, cyanide and nitrogen oxides. |

Section 11 Toxicological Information**Acute Effects:**

| | |
|-------------------|--------------------------------|
| Swallowed | Harmful if swallowed. |
| Dermal | Not applicable. |
| Inhalation | Harmful if inhaled. |
| Eye | Causes serious eye irritation. |
| Skin | Causes skin irritation. |

Chronic Effects:

| | |
|-------------------------------|--|
| Carcinogenicity | Not applicable. |
| Reproductive Toxicity | May damage fertility or the unborn child. |
| Germ Cell Mutagenicity | Not applicable. |
| Aspiration | Not applicable. |
| STOT/SE | Not applicable. |
| STOT/RE | May cause damage to organs through prolonged or repeated exposure. |

Preparation

| | |
|------------------------------|---|
| Acute toxicity - Oral: | LD50 (rat) = 552 mg/kg |
| Acute toxicity - Dermal: | LD50 (rabbit) > 4,000 mg/kg |
| Acute toxicity - Inhalation: | LC50 (rat-male)~ 4.34 mg/L (4 hours) |
| Skin irritation: | Moderately irritating (rabbit). |
| Eye irritation: | Moderately irritating (rabbit). |
| Sensitization : | Non sensitizer (guinea-pig) |
| Reproduction toxicity: | Pepr. Cat 3 |
| Other information : | Teratogenicity - NOAEL (rat): 10-50 mg/kg/day. (Maternal and Fetal) |

Section 12. Ecotoxicological Information

| | | |
|---------------|--------|-------------------------------------|
| HSNO Classes: | 9.1A = | Very toxic to aquatic life. |
| | 9.2A = | Very toxic to the soil environment. |
| | 9.3B = | Toxic to terrestrial vertebrates. |
| | 9.4B = | Toxic to terrestrial invertebrates. |

| | |
|--------------------------------------|-------------------|
| Persistence and degradability | No data available |
| Bioaccumulation | No data available |
| Mobility in Soil | No data available |
| Other adverse effects | No data available |

Common name: Bromoxynil octanoate

Mobility:

Soil

Bromoxynil octanoate – low mobility.
Bromoxynil (ISO) – Low mobility
K_{oc} = 639 mL/g
No risk of underground water contamination

Persistence/degradability: Soil

The product is not persistent.
Half-life time (t_{1/2}): = 8 days
Degradation is primarily via: hydrolysis and microorganisms.
The product is readily biodegradable.

Water

DT₅₀: (water) = 34.1 days (pH5)
DT₅₀: (water) = 11.7 days (pH7)
DT₅₀: (water) = 1.7 days (pH9)
DT₅₀: (water/sediment) < 3 days

Bioaccumulative potential: BCF: 239

Ecotoxicity:

Fish

| | | |
|-----------------------------|--|---------------|
| LC ₅₀ (96 hours) | rainbow trout (oncorhynchus mykiss) | = 0.041mg/L |
| | bluegill sunfish (lepomis macrochirus) | = 0.061 mg/L |
| NOEC (36 days) | fathead minnow | = 0.0034 mg/L |

Daphnia magna

| | |
|-----------------------------|---------------|
| EC ₅₀ (48 hours) | = 0.046 mg/L |
| NOEC (21 days) | = 0.0025 mg/L |

Algae (navicula pelliculosa)

| | |
|------------------------------|--------------|
| EC ₅₀ (120 hours) | = 0.043 mg/L |
|------------------------------|--------------|

Birds

| | |
|--|---------------|
| Bobwhite quail (anas platyrhynchos) LD ₅₀ | = 170 mg/kg |
| Mallard duck (colinus virginianus) LD ₅₀ | = 2,350 mg/kg |
| Bobwhite quail (anas platyrhynchos) LC ₅₀ (5 day feeding) | = 1,315 ppm |

Bees

| | |
|-------------------------------------|---------------|
| Oral LD ₅₀ (48 hours) | > 120 µg /bee |
| Contact LD ₅₀ (48 hours) | > 100 µg /bee |

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Low toxicity: birds, Non-toxic: Bees

Do not allow to enter waterways.

Section 13. Disposal Considerations

Disposal Method: Triple rinse empty container and add rinsate to spray tank. Burn in an appropriate incinerator, if circumstances such as wind direction permit. Otherwise crush or puncture and bury in a suitable landfill, or if appropriate, recycle. Avoid contamination of any water supply with product or empty container.

Precautions: Do not allow product to enter waterways.

Disposal methods to avoid: Do not allow product to enter waterways.

Section 14 Transport Information

This product is classified as a Dangerous Good for transport in NZ; NZS 5433:2012



Road and Rail Transport

UN No: 1268
Class-primary 3
Packing Group III
Proper Shipping Name: PETROLEUM DISTILLATE, N.O.S. (NAPHTA)

Air Transport

UN No: 1268
Class-primary 3
Packing Group III
Proper Shipping Name: PETROLEUM DISTILLATE, N.O.S. (NAPHTA)

Marine Transport

UN No: 1268
Class-primary 3
Packing Group III
Proper Shipping Name: PETROLEUM DISTILLATE, N.O.S. (NAPHTA)

Special Provisions:

If the product's individual container is below 5L/kg, it can be transported as a non-DG as long as the product packaging is still labelled as per DG requirements and the driver is given safety information in accordance with Chapter 3.4 of the UNRTDG.

Section 15 Regulatory Information

EPA Approval Code: HSR000431

HSNO Classification: 3.1C, 6.1D(oral, inh), 6.3A, 6.4A, 6.8B, 6.9B, 9.1A, 9.2A, 9.3B, 9.4B

| HSW (HS) Regulations 2017 and EPA Notices | Trigger Quantity |
|--|-----------------------------------|
| Certified Handler | Not required |
| Location Certificate | 500L (>5L), 1500L(<5L), 250L open |
| Tracking Trigger Quantities | Not required |
| Signage Trigger Quantities | 100L/kg (9.1A) |
| Emergency Response Plan | 100L/kg (9.1A) |
| Secondary Containment | 100L/kg (9.1A) |
| HSNO Additional Controls (Restrictions of use) | |
| Restrictions of Use- 77A | • This substance must not be |

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| | |
|--|---|
| | applied into or onto water |
| Hazardous Property Controls Notice 2017 | |
| HPC Notice Part 4 Clause 47 | Equipment for class 9 substances must be appropriate |
| HPC Notice Part 4 Clause 48 | Records of application of class 9 pesticides and plant growth regulators |
| HPC Notice Part 4 Subpart A | Site and storage controls for class 9 substances |
| HPC Notice Part 4 Subpart C | Qualifications required for application of class 9 Pesticides. |
| ACVM Act and Regulations | |
| Registered pursuant to the ACVM Act 1997, See www.foodsafety.govt.nz for registration conditions | No. P7243 |
| For all further controls | Refer to EPA website (www.epa.govt.nz) for controls document - HSR000431 |

Section 16 Other Information

Glossary

| | |
|------|---|
| EC50 | Median effective concentration. |
| EEL | Environmental Exposure Limit. |
| EPA | Environmental Protection Authority |
| HSNO | Hazardous Substances and New Organisms. |
| LC50 | Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it. |
| LD50 | Lethal dose to kill 50% of test animals/organisms. |
| LEL | Lower explosive level. |
| OSHA | American Occupational Safety and Health Administration. |
| TEL | Tolerable Exposure Limit. |
| TLV | Threshold Limit Value-an exposure limit set by responsible authority. |
| UEL | Upper Explosive Level |
| WES | Workplace Exposure Limit |

References:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices Nov 2017 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2012
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer

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Please contact the New Zealand distributor, if further information is required.

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