
SAFETY DATA SHEET

BOUNDARY®

1. SUBSTANCE IDENTIFICATION

BOUNDARY® herbicide containing 400g/kg norflurazon and 400g/kg diuron as a water dispersible granule.

Chemical Type: Pyridazinone/Urea herbicide
Manufacturer: Orion Crop Protection Limited
Distributor: 106 Bush Road, Albany, Auckland, New Zealand
Phone 09 415 1679
Emergency Response Number 0800 CHEMCALL
0800 24362255

ACVM Registration Number: P04620

2. COMPOSITION INFORMATION

<u>Ingredients</u>	<u>CAS Number</u>	<u>Content (w/w)</u>
Norflurazon	27314-13-2	400 g/kg
Diuron	330-54-1	400 g/kg
Inert ingredients deemed not hazardous or proprietary		200 g/kg

3. HAZARDS IDENTIFICATION

Symptoms of Acute Toxicity: Overexposure - laboratory animal data indicate that a large oral dose might cause central nervous system depression, ataxia or chronic/toxic convulsions.

Symptoms of Chronic Toxicity:

Not known

4. FIRST AID MEASURES

In case of poisoning by any route contact a doctor or Poisons Information Centre

Swallowed: Drink 1-2 glasses of water and induce vomiting unless unconscious. Contact a doctor or Poisons Information Centre.

Eye: Avoid contact with the eyes. Flush eyes with large quantities of water.

Skin: Avoid contact with skin. If contact occurs remove contaminated clothing and wash affected areas thoroughly with soap and water.

Inhaled: Move affected person to fresh air and keep at rest until recovered.

Advise to Doctor: No specific antidote is known. If poisoning is suspected apply symptomatic therapy.

5. FIRE FIGHTING MEASURES

Dangerous Goods Class: Not classified
Extinguishing media: Fine water spray or foam
Unsuitable extinguishing media: None
Special exposure hazards: May release toxic products during thermal decomposition



Fire and Explosive Properties: Non-explosive
Flammability: Non-flammable

6. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak: Control the spill at its source. Contain the spill to prevent it from spreading, contaminating soil, or entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. If a solid, sweep up material and place in a compatible disposal container. If a liquid, cover entire spill with absorbing material and place into compatible disposal container. Scrub area with a hard water detergent. Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposal.

7. HANDLING AND STORAGE

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

Ingestion:	Prevent eating, drinking, tobacco use and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.
Eye Contact:	Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Skin Contact:	Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.
Inhalation:	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below exposure limits. Always ensure adequate ventilation. An organic vapour cartridge may be necessary under certain circumstances where airborne concentrations are expected to exceed exposure limits.

Personal Protection Requirements:

Respiratory Protection (Vapour)	Not required
Eye/Face Protection	Required
Skin Protection	Required

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Beige brown granule
Odour:	Odourless
pH:	8.0
Boiling Point:	177°C
Melting Point:	Not available
Flash Point:	Not available
Flammable (Explosive) Limits:	Non-flammable
Autoflammability:	Not available
Explosive Properties:	Non-explosive
Oxidizing Properties:	Non-oxidising
Vapour Pressure:	<1mm Hg at 25°C
Relative density:	0.73 g/cm ³
Solubility:	Not available
Partition Coefficient:(n-octanol/H₂O)	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable
Conditions to avoid:	None
Materials to avoid:	None known
Hazardous Decomposition Products:	May decompose to form toxic gases at high temperatures
Hazardous Polymerisation:	Does not occur

11. TOXICOLOGICAL INFORMATION

LD₅₀ Information (based on active ingredient)

Oral	LD ₅₀ 8400 mg/kg rat
Dermal	LD ₅₀ >2000 mg/kg rat
Inhaled	LC ₅₀ (4 h) >99.5mg/L

Irritation:	Eye: non-irritant Skin: non irritant
Sensitisation:	Skin: non-irritant
Mutagenicity:	Not a known mutagen
Reproductive Toxicity:	Not a known teratogen
Carcinogenicity:	Not a known carcinogen

12. ECOLOGICAL INFORMATION

Mobility:	Diuron and Norflurazon are relatively immobile in soil
Persistence:	DT ₅₀ 90-180 days (diuron) 180-270 days (norflurazon)
Bioaccumulation:	Does not bio-accumulate
Ecotoxicity:	Moderately toxic to fish
Other adverse Effects:	None

13. DISPOSAL CONSIDERATIONS

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to regional or local body bylaws.

14. TRANSPORT INFORMATION

UN Number:	None allocated
UN Shipping Name:	None allocated
UN Classification:	None allocated
UN Packing Group:	None allocated

15. REGULATORY INFORMATION

Registered pursuant to the ACVM Act 1997 No. P04620
See: www.nzfsa.govt.nz/acvm/ for registration conditions

16. OTHER INFORMATION

Always read the product label before use.

Note: This product is a registered agricultural chemical and must therefore be used in accordance with the container label directions. A comprehensive package of toxicological and environmental data for the active ingredient of this product has been submitted to the Government health and environment authorities and has been evaluated by expert toxicologists and environmental scientists. This material Safety Data Sheet summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should familiarise themselves with the product label and SDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.