

SAFETY DATA SHEET



Emergency Phone: 0800 243 622
Dow AgroSciences (N Z) Ltd.
89 Paritutu Road, New Plymouth

Effective Date: 16-AUG-05
Product Code: 09275

BANVINE* HERBICIDE

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: BANVINE* HERBICIDE

COMPANY IDENTIFICATION:

Dow AgroSciences (NZ) Ltd.
Registration No. 169964
89 Paritutu Road, New Plymouth

Customer Service Toll Free Number:

0800 803 939
(Mon-Fri, 8am–4.30 pm)
www.dowagrosciences.co.nz

Emergency Telephone Number:

0800 CHEMCALL (0800 243 622)
(24 hours) (EMERGENCIES ONLY)

Transport Emergency Only Dial 111

This SDS may not provide exhaustive guidance for all the HSNO controls assigned to this substance. The ERMA website www.ermanz.govt.nz should be consulted for a full list of triggered controls and cited regulations

2. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

ERMA New Zealand Approval Code: HSR000368
HSNO Hazard Classification: 6.1E- Harmful – keep out of reach of children; 6.4A – Harmful – may cause eye irritation; 6.9A – Toxic – may cause target organ damage from repeated oral exposure at high doses; 9.1A – Very toxic in the aquatic environment; 9.2A – Very toxic in the soil environment; 9.3B – Toxic to terrestrial vertebrates; 9.4C – Harmful to terrestrial invertebrates.

Appearance: Brown liquid

3. COMPOSITION/INFORMATION ON INGREDIENTS:

2,4-Dichlorophenoxyacetic	CAS # 002569-01-9	28.73%
Dicamba, triethanolamine salt	CAS # 001918-00-9	14.37%
Balance, Total		56.90%

4. FIRST AID:

Consult the National Poisons Information Centre (0800 POISON (0800 764 766) or a doctor in every case of suspected chemical poisoning. Never give fluids or induce vomiting if a patient is unconscious or convulsing regardless of cause of injury. If breathing difficulties occur seek medical attention immediately.

EYES: Immediately flush with cold water. Continue for at least 15 minutes. Contact a doctor.

SKIN: Wash the skin well with plenty of water and soap whilst removing contaminated clothing. Wash clothing before re-use.

INGESTION: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

INHALATION: If ill-effects occur, move to fresh air. Contact a doctor.

NOTE TO PHYSICIAN: May cause tissue destruction leading to stricture. If lavage is performed, suggest endotracheal or oesophageal control. If burn is present, treat as for any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgement of the physician in response to the reactions of the patient.

5. FIRE FIGHTING MEASURES:

FLASH POINT: None

FLAMMABLE LIMITS

LFL: Not applicable
UFL: Not applicable

EXTINGUISHING MEDIA: If material is involved in a fire use: water fog, foam, or dry agent.

FIRE & EXPLOSION HAZARDS: Toxic fumes under fire conditions. Do not allow contaminated run-off to enter drains.

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FIRE-FIGHTING EQUIPMENT: Self-contained breathing apparatus required.

HAZCHEM: 2Z

6. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS/LEAKS: Absorb with material such as sand, sawdust or Zorball. Dike area in case of large spills. Do not use water for cleanup. Report large spills to Dow AgroSciences Emergency Services at 0800 CHEMCALL (0800 243 622).

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

HANDLING: Keep out of reach of children. Harmful if swallowed. Causes skin irritation and sensitivity. Avoid contact with skin and clothing. After work, remove protective clothing and equipment, wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Clean up spilled material immediately, and wash clothes, equipment and work area after use.

STORAGE: Store in tightly closed original container in a cool, dry well-ventilated area out of direct sunlight when not in use. This product can be stored in an unheated building. Do not store with food, feedstuffs, fertilizers and seeds. See product label for further handling/storage precautions relative to the end use of this product.

This substance is subject to a requirement for an emergency management plan, secondary containment and signage, whenever it is held in quantities of 100 litres or more, either alone or in aggregate with other hazardous substances. See Hazardous substances (Emergency Management) Regulations 25 to 42.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

EXPOSURE GUIDELINE(S):

2,4-D acid: 10 mg/m³ [NZ Workplace Exposure Standards 1994]
No TEL or EEL has been set by ERMA.

ENGINEERING CONTROLS: Control airborne concentrations below the exposure guideline. Good general ventilation should be sufficient for most conditions.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator.

SKIN PROTECTION: For brief contact, wear cotton overalls and boots. Use waterproof gloves when prolonged or frequently repeated contact could occur.

EYE PROTECTION: For brief contact, wear safety glasses.

APPLICATORS AND ALL OTHER HANDLERS: Refer to the product label for personal protective clothing and equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES:

BOILING POINT: Not available

VAPOR PRESSURE: Not available

SOLUBILITY IN WATER: Miscible

SPECIFIC GRAVITY: 1.165 g/mL @ 20° C (density)

pH: 7 – 8 (undiluted)

APPEARANCE: Brown liquid

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10. STABILITY AND REACTIVITY:

STABILITY: (CONDITIONS TO AVOID) Avoid excessive heat. Stable under normal storage conditions.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Acids and oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen chloride and phosgene under fire conditions.

HAZARDOUS POLYMERIZATION: Not known to occur.

11. TOXICOLOGICAL INFORMATION:

POTENTIAL HEALTH EFFECTS: This section includes possible adverse effects, which could occur if this material is not handled in the recommended manner.

EYE: May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness.

SKIN: Prolonged or repeated exposure may cause skin irritation, even a burn. A single prolonged exposure is not likely to result in the material being absorbed through the skin in harmful amounts. The LD₅₀ for skin absorption in rabbits is greater than 3980 mg/kg for a 69% solution of 2,4-D diethanolamine salt and greater than 2000 mg/kg for dicamba acid. Repeated skin exposure may result in absorption of harmful amounts.

INGESTION: Single dose oral toxicity is considered to be low. The oral LD₅₀ for male rats is 1880 mg/kg and for female rats is 1060 mg/kg for a 69% solution of 2,4-D diethanolamine salt. The oral LD₅₀ for rats is 1707 mg/kg for dicamba acid. Small amounts that might be swallowed incidental to normal handling operations are not likely to cause injury, swallowing larger amounts may cause injury. Ingestion may cause gastrointestinal irritation or ulceration.

INHALATION: Single exposure to vapours is not likely to be hazardous.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS:

Based largely or completely on information for 2,4-D:
Excessive exposure to 2,4-D may cause liver, kidney, gastrointestinal and muscular effects. Signs and symptoms of excessive exposure may be nausea, vomiting, abdominal cramps or diarrhoea.

Based largely or completely on information for dicamba:
Excessive exposure to dicamba may cause liver effects.

CANCER INFORMATION:

Based largely or completely on information for 2,4-D:
Various animal cancer tests have shown no reliably positive association between 2,4-D exposure and cancer.

Based largely or completely on information for dicamba:
Various animal cancer tests have shown no positive association between dicamba exposure and cancer.

TERATOLOGY (BIRTH DEFECTS):

Based largely or completely on information for 2,4-D and dicamba: Birth defects are unlikely.

REPRODUCTIVE EFFECTS:

Based largely or completely on information for 2,4-D:
Exposures having no effect on the mother should have no effect on the foetus. Did not cause birth defects in animals, other effects were seen in the foetus only at doses which caused toxic effects to the mother.

Based largely or completely on information for dicamba:
Exposures having no effect on the mother should have no effect on the foetus. Did not cause birth defects in animals, other effects were seen in the foetus only at doses which caused toxic effects to the mother.

MUTAGENICITY (EFFECTS ON GENETIC MATERIAL):

Based largely or completely on information for 2,4-D:
Excessive dietary levels of 2,4-D acid have caused decreased weight and survival in offspring in a rat reproduction study. In vitro mutagenicity studies were negative in some cases and positive in other cases. Animal mutagenicity studies were inconclusive.

Based largely or completely on information for dicamba:
In vitro mutagenicity studies were negative.

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12. ECOLOGICAL INFORMATION:

ENVIRONMENTAL FATE:

Based largely or completely on information for 2,4-D:

In soil, 2,4-D is degraded by microbial action. Residues usually remain in the upper part of the soil profile.

Based largely or completely on information for dicamba:

In soil, dicamba is degraded by microbial action.

MOVEMENT AND PARTITIONING:

Based largely or completely on information for 2,4-D:

Minimal leaching of 2,4-D may occur in light soils under high rainfall conditions.

Based largely or completely on information for dicamba:

Minimal leaching of dicamba may occur under high rainfall conditions.

DEGRADATION AND PERSISTENCE:

Based largely or completely on information for 2,4-D:

The rate of breakdown is dependent on climatic conditions, and soil characteristics such as organic content and soil moisture, which affect the level of organic matter in soil. The breakdown of 2,4-D in water is caused by hydrolysis and photodegradation with a majority of residues broken down within one to two weeks.

Based largely or completely on information for dicamba:

The rate of breakdown is dependent on climatic conditions and soil characteristics. The half life of dicamba in soil conditions amenable to metabolism is less than 14 days.

ECOTOXICOLOGY:

Based largely or completely on information for 2,4-D:

Herbicide. Prevent contamination of valuable vegetation. Has low toxicity to birds, livestock and honey bees. Toxic to fish. Prevent contamination of natural waterways.

Based largely or completely on information for dicamba:

Herbicide. Prevent contamination of valuable vegetation. Low toxicity to birds, livestock, honey bees and fish.

13. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION:

ROAD AND RAIL TRANSPORT: Classified as dangerous goods by the criteria of the Land Transport Rule 45001: Dangerous Goods 2005.

UN No: 3082

Class: 9 (Marine Pollutant)

Packing group: III

SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4-D)

MARINE TRANSPORT: Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG) for transport by sea, and the Maritime Rule 24A Carriage of Cargoes-Dangerous Goods

UN No: 3082

Class: 9 (Marine Pollutant)

Packing group: III,

SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4-D)
Dangerous Goods – Initial Emergency Response Guide
SAA/SNZ HB76:1997 – Guide No. 47

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AIR TRANSPORT: Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulation for transport by air, and the Civil Aviation Rule 92.

UN No: 3082

Class: 9 (Marine Pollutant)

Packing group: III

SHIPPING NAME: ENVIRONMENTALLY

HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4-D)

Compliance with the above land, rail, marine and air requirements is deemed to comply with the applicable requirements of the Hazardous substances (Identification) and (Emergency Management) Regulations (2001).

15. REGULATORY INFORMATION:

ERMA New Zealand Approval Code: HSR000368

16. OTHER INFORMATION:

Glossary

ACGIH: American Conference of Governmental Industrial Hygienists.

BCF: Bioconcentration Factor - a measure for the characterization of the accumulation of a chemical in an organism. It is defined as the concentration of a chemical in an organism (plants, microorganisms, animals) divided by the concentration in a reference compartment (e.g. food, surrounding water).

EC₅₀: median effective concentration. Statistically derived concentration of a substance in an environmental medium expected to produce a certain effect in 50% of test organisms in a given population under a defined set of conditions.

EEL; Environmental exposure standard set by ERMA

Explosive Limits - The range of concentrations (% by volume in air) of a flammable gas or vapour that can result in an explosion for ignition in a confined space.

ERMA: The Environmental Risk Management Authority of New Zealand.

K_{oc} - the organic carbon partition coefficient (mL soil water /g organic carbon).

K_{ow} See P_{ow}

LC₅₀ - Lethal Concentration 50%. A concentration of chemical in air or water that will kill 50% of the test organisms.

LD₅₀ - Lethal Dose-50%. The doses of a chemical that will kill 50% of the test animals receiving it.

NIOSH - American national Institute of Occupational Safety and Health, a federal agency which conducts research on occupational safety and health questions and recommends new standards.

OSHA American Occupational Safety and Health Administration.

PEL - Permissible Exposure Level, a maximum allowable exposure level by law.

pH - Measure of how acidic or alkaline a material is using a 1 - 14 scale. pH 1 is strongly acidic and pH 14 strongly alkaline.

Polymerisation - a chemical reaction in which small molecules (monomers) combine to form much larger molecules (polymers). A hazardous polymerisation reaction is one that occurs at a fast rate and releases large amounts of energy.

P_{ow} - The octanol-water partition coefficient is the ratio of the concentration of a chemical in octanol and in water at equilibrium and at a specified temperature. Octanol is an organic solvent that is used as a surrogate for natural organic matter. This parameter is used in many environmental studies to help determine the fate of chemicals in the environment.

STEL - Short-Term Exposure Limit. A term used to indicate the maximum average concentration allowed for a continuous 15 minute exposure period.

TEL Tolerable Exposure Limit set by ERMA

TVL - Threshold Limit Value, an exposure limit set by a competent authority

TWA - Time Weighted Average. The average concentration of a chemical in air over the total exposure time - usually an 8 hour work day.

WES: Work place exposure standard set by ERMA.

References

AS/NZS 1715-1994 Selection Use and Maintenance of Respiratory Protective Devices.

ASNZS 1716 - 1994 Respiratory protective devices.

A guide to Respiratory Protection (published by the Occupational Safety and Health Service with support of NZ Safety Ltd 1999 Guidelines for Personal Protection for Agrichemical Users NZ Safety Limited.

Transport of Dangerous Goods on Land NZS 5433:1999.

FOR FURTHER PRODUCT INFORMATION CALL DOW AGROSCIENCES CUSTOMER SERVICE REPRESENTATIVES TOLL FREE 0800 803 939 DURING BUSINESS HOURS.

THIS SDS 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 READ THIS MSDS 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. THE RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.