

MATERIAL SAFETY DATA SHEET



Emergency Phone: 1800-033-882 (24 hrs)
Dow AgroSciences Australia Ltd.
Frenchs Forest NSW 2086

VERDICT* 520 HERBICIDE

Effective Date: 11 January 2007
Product Code: 53237

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Verdict* 520 Herbicide

PURPOSE: Grassweed herbicide

COMPANY IDENTIFICATION:

Dow AgroSciences Australia Ltd.
ABN 24 003 771 659
Level 5, 20 Rodborough Road,
Frenchs Forest NSW 2086

Customer Service Toll Free Number:
1800 700 096
(Mon-Fri, 8am–5pm EST)

Emergency Telephone Number:
1800 033 882
(24 hours) (EMERGENCIES ONLY)

Transport Emergency Only Dial 000

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28 After contact with skin, wash immediately with plenty of soap and water.
S24/25 Avoid contact with skin and eyes.
S36/37/39 wear suitable protective clothing, gloves and eye/face protection.
S29 Do not empty into drains.
S29/35 Do not empty into drains; dispose of this material and its container in a safe way.
S61: Avoid release to the environment. Refer to special instructions below in sections 6,7 and 13.

3. COMPOSITION/INFORMATION ON INGREDIENTS:

Ingredient	CAS #	Content
Haloxypop R-methyl ester	72619-32-0	46.9%
Diethylene glycol monoethyl ether	111-90-0	30 – 60%
Balance ingredients not contributing to hazard		<10%

2. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

Classified as hazardous according to the criteria of NOHSC
Not Classified as Dangerous Goods for Land Transport

Potential Health Effects:

RISK PHRASES:

R20 – Harmful by inhalation,
R22 – Harmful if swallowed
R36/38 Irritating to eyes and skin
R50/53 Very toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.

SAFETY PHRASES:

S2 Keep out of reach of children
S13 Keep away from food, drink and animal feeding stuffs.
S23: Do not breath spray mist

4. FIRST AID:

Consult the Poisons Information Centre (Australia 131126) 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.

EYE: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing eyes. Call the Poisons Information Centre or doctor for treatment advice.

SKIN: Rinse contaminated skin with soap and water after removing contaminated clothing. Seek medical advice if irritation develops.

INGESTION: Do not induce vomiting. Call a physician. The decision of whether to induce vomiting or not should be made by a physician.

INHALATION: Remove to fresh air. Consult a physician.

NOTE TO PHYSICIAN: Supportive care. Treatment based on judgement of physician in response to symptoms of patient.

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5. FIRE FIGHTING MEASURES:

FLASH POINT: 92°C

COMBUSTIBLE: C1

FLAMMABLE LIMITS

LFL: 8.5% (solvent)

UFL: 1.2% (solvent)

EXTINGUISHING MEDIA: Carbon dioxide, dry chemical, water fog.

FIRE AND EXPLOSION HAZARDS: May produce noxious fumes that may contain toxic or irritating substances including hydrogen chloride and hydrogen fluoride.

FIRE-FIGHTING EQUIPMENT: Alcohol Foam, Dry Chemical or Carbon Dioxide

HAZCHEM: 2X

6. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS/LEAKS: DO NOT touch or walk through spilled material. Wear a face shield or goggles, overalls buttoned to neck and wrist, chemical resistant gloves and boots. Stop leak when safe to do so. Dike area and prevent entry into waterways, and drains.

Small spills/leaks: Absorb with material such as sand, soil or sawdust. Collect spilled product and place in sealable container for disposal. Spill residues may be cleaned using water and detergent. Contain and absorb wash water for disposal. Absorb and collect washings and place in the same sealable container for disposal. Dike the area of large spills and report them to Dow AgroSciences at 1800-033-882. Do not use water to clean up.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

HANDLING: Keep out of reach of children. May be harmful if swallowed, inhaled, or absorbed through skin. Causes eye irritation. Avoid contact with eyes, skin and clothing. Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

STORAGE: Store in tightly closed original container in a cool, dry well-ventilated area out of direct sunlight when not in use. 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. Reduce stacking height where local conditions can affect packaging strength.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

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

EXPOSURE GUIDELINES: None established

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

EYE/FACE PROTECTION: Use safety glasses. Where contact with the liquid is likely, chemical goggles are recommended.

SKIN PROTECTION: For brief contact, no precautions other than clean body-covering clothing and chemical resistant gloves should be needed. When prolonged or frequently repeated contact could occur, use protective clothing impervious to this material.

For emergency conditions: Use protective clothing impervious to this material. Selection of specific items will depend on operation.

RESPIRATORY PROTECTION: For most conditions, no respiratory protection should be needed. However, when comfort levels may be exceeded use an approved air-purifying respirator.

For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.

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

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9. PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE: Brown liquid
ODOUR: solvent
BOILING POINT: 202°C (solvent)
VAPOUR PRESSURE: 14 mmHg @ 20°C (solvent)
DENSITY: 1.15 g/mL at 20°C
SOLUBILITY IN WATER: Emulsifiable

10. STABILITY AND REACTIVITY:

STABILITY: Stable under normal conditions.
INCOMPATIBILITY: (specific materials to avoid) Strong oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon and nitrogen. Hydrogen chloride and hydrogen fluoride may be evolved in extreme situations.
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 irritate eyes.
SKIN: Not a dermal sensitizer. Not a dermal irritant.
INGESTION: The product is classified as slightly hazardous based on an oral LD₅₀ > 300 mg/kg for the active constituent.

INHALATION: No information available. Not expected to be hazardous.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: No effects have been reported.

CANCER INFORMATION: No reports found to indicate product is carcinogenic to humans.

TERATOLOGY (BIRTH DEFECTS): Teratogenic effects have not been reported.

REPRODUCTIVE EFFECTS: Reproductive effects have not been reported.

MUTAGENICITY: No reports found to indicate product is mutagenic.

12. ECOLOGICAL INFORMATION:

ENVIRONMENTAL DATA:

MOVEMENT & PARTITIONING: Based on estimates for the active constituent, expected to be moderately concentrating in aquatic organisms (calculated BCF = 262).

DEGRADATION & PERSISTENCE: Degraded in soil to parent acid within 24 hours which is then microbially degraded. In water, experimental results indicate DT50 at pH 7 = 48 days.

ECOTOXICOLOGY: Low to Moderately toxic to fish depending on species (96 hr LC50 for rainbow trout = 0.7 mg/L).

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 regulations. 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: Not classified as dangerous goods for transport by road and rail by the criteria of the Australian Dangerous Goods Code (ADG 6),

MARINE and AIR: Classified as Dangerous Goods for transport by sea and air according to the criteria of the UN Model Regulations for Transport of Dangerous goods 13th Edition.

UN No: 3082

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Class: 9
Packing group: III
SHIPPING NAME: ENVIRONMENTALLY
HAZARDOUS SUBSTANCE, LIQUID, N.O.S
(HALOXYFOP R-METHYL)

15. REGULATORY INFORMATION:

APVMA APPROVAL NUMBER: 50643
POISON SCHEDULE: S6

16. OTHER INFORMATION:

Glossary

ACGIH: American Conference of Governmental Industrial Hygienists.

AIHA WEEL: American Industrial Hygiene Association's Workplace Environmental Exposure Level.

ASCC: Office of the Australian Safety and Compensation Council.

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).

Dow AgroSciences Industrial Hygiene Guideline: An internal company standard based on an 8 hour TWA.

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.

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.

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

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 dose of a chemical that will kill 50% of the test animals receiving it.

NOHSC: National Occupational Health and Safety Commission of Australia now the Office of the Australian Safety and Compensation Council.

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.

TLV: 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.

References

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

ASNZS 1716 - 1994 Respiratory protective devices.

Australian Dangerous Goods Code

NOHSC Hazardous Substances Information System.

FOR FURTHER PRODUCT INFORMATION CALL DOW AGROSCIENCES CUSTOMER SERVICE REPRESENTATIVES TOLL FREE 1800 700 096 DURING BUSINESS HOURS.

This MSDS has been compiled using publicly available information, information provided by suppliers of ingredients used in the product and internal studies on the product and/or its ingredients.

THIS MSDS 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 BASED ON PUBLICLY AVAILABLE AND INTERNALLY AVAILABLE INFORMATION. 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.

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