

MATERIAL SAFETY DATA SHEET



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

Dow AgroSciences AMINE 625 HERBICIDE

Effective Date: 20 November 2008
Product Code: 119335

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Dow AgroSciences Amine 625 Herbicide

PURPOSE: Herbicide for control of weeds.

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

2. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

Classified as hazardous according to the criteria of NOHSC

Classified as Dangerous Goods see Section 14 for land transport exemption.

Potential Health Effects: May irritate eyes, skin and respiratory system.

RISK PHRASES:

R36/37: Irritating to eyes and respiratory system.
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SAFETY PHRASES:

S2: Keep out of the reach of children.
S23: Do not breathe spray.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.
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
2,4-D Dimethylamine Salt	2008-39-1	62%
2,4-Dichlorophenoxyacetic Acid, Dimethylamine Salt		
Dimethylamine	124-40-3	<10%
Balance not contributing to hazard		>28%

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: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses after the first 5 minutes and then continue flushing. Obtain medical attention without delay, preferably from an ophthalmologist.

SKIN: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Seek medical attention if symptoms occur or irritation persists. Wash clothing before reuse. Properly dispose of contaminated articles such as shoes.

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

INHALATION: Move to fresh air if effects occur. Consult a doctor.

NOTE TO DOCTOR: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

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5. FIRE FIGHTING MEASURES:

FLASH POINT: None

COMBUSTIBLE: Not combustible

FLAMMABLE LIMITS

LFL: Not applicable

UFL: Not applicable

EXTINGUISHING MEDIA: Use extinguishing media suitable for underlying fire, e.g. water fog, foam, or dry agent.

FIRE AND EXPLOSION HAZARDS: Not combustible. Decomposes on heating emitting toxic fumes including hydrogen chloride and phosgene. Contain water from fire fighting to prevent entry to surface and ground water.

FIRE-FIGHTING EQUIPMENT: Wear positive pressure self-contained, breathing apparatus and full protective equipment.

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. Dam the 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. Dam 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 inhaled, or absorbed through skin. Causes eye and skin 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: No value for this specific product by OASCC.

TWA for constituents:

2,4-D: 10 mg/m³ (ACGIH)

Dimethylamine: 2ppm / 3.8 mg/m³ (OASCC).

STEL for dimethylamine: 6ppm / 11 mg/m³ (OASCC).

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 chemical goggles. Eye wash fountain should be located in the immediate work area.

SKIN PROTECTION: Use protective clothing chemically resistant to this material, e.g. nitrile gloves. Selection of specific items such as faceshield, gloves, boots, apron or full body suit will depend on operation. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse. Items, which cannot be decontaminated, such as shoes, belts, and watchbands, should be removed and disposed of properly.

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

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

9. PHYSICAL AND CHEMICAL PROPERTIES:

COMBUSTIBILITY: Not combustible (water based)
BOILING POINT: >100°C
SOLUBILITY IN WATER: Soluble
SPECIFIC GRAVITY: 1.2
APPEARANCE: Red to brown liquid
ODOUR: Amine
% VOLATILE BY VOLUME: 32

10. STABILITY AND REACTIVITY:

STABILITY: Stable under normal storage conditions. Avoid excessive heat.

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 eye irritation.

SKIN: Skin contact may cause irritation. A single prolonged exposure may result in the material being absorbed in harmful amounts. For the active ingredient 2,4-D acid, the LD₅₀ for skin absorption in rabbits is >1000 mg/kg. Did not cause allergic skin reactions when tested in guinea pigs.

INGESTION: For the active ingredient 2,4-D acid, the oral LD₅₀ for rats is 625 mg/kg (females) and 855 mg/kg (males)

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and for mice is 138 mg/kg. Ingestion may cause irritation of the mouth, throat and stomach causing nausea, vomiting, sweating, headaches, muscle soreness, abdominal pain and loss of coordination.

INHALATION: Vapours may be an irritant to mucous membranes and respiratory tract. Strong odour can cause nausea. Inhalation of spray mists may result in other symptoms as outlined under the ingestion section. For the active ingredient 2,4-D acid, the LC₅₀ for rats is 1.79 mg/L for 24 hours.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: The active ingredient, in animals, effects have been reported on the following organs: gastrointestinal tract, kidney, liver, and muscular system.

CANCER INFORMATION: The active ingredient did not cause cancer in laboratory animals. Various animal cancer tests have shown no reliable positive association between 2,4-D exposure and cancer. Epidemiology studies on herbicide use have been both positive and negative with the majority being negative.

TERATOLOGY (BIRTH DEFECTS): The active ingredient did not cause birth defects in laboratory animals. Has been toxic to the foetus in laboratory animals at doses not toxic to the mother.

REPRODUCTIVE EFFECTS: Excessive dietary levels of 2,4-D acid have caused decreased weight and survival in offspring in a rat reproduction study.

MUTAGENICITY: For 2,4-D ethylhexyl ester, in-vitro genetic toxicity studies were negative. For 2,4-D acid, animal genetic toxicity studies were predominantly negative.

12. ECOLOGICAL INFORMATION:

ENVIRONMENTAL DATA:

MOVEMENT & PARTITIONING:

Based largely or completely on information for the active ingredient:

Bioconcentration potential is high (BCF >3000 or Log Pow between 5 and 7).

Expected to be relatively immobile in soil (Koc >5000).

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DEGRADATION & PERSISTENCE:

Based largely or completely on information for the active ingredient:

Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

Biodegradation may occur under aerobic conditions (in the presence of oxygen).

ECOTOXICOLOGY:

Based largely or completely on information for the active ingredient:

Material is highly toxic to aquatic organisms on an acute basis (LC_{50} or $EC_{50} < 1$ mg/L in the most sensitive species).

Material is very toxic to plants.

Material is slightly toxic to birds on an acute basis (LD_{50} is between 501 and 2000 mg/kg).

Material is practically non-toxic to birds on a dietary basis (LC_{50} is >5000 ppm).

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 dangerous goods under the ADG 7 when being transported in IBCs or other receptacles < 500 L (kg), (Special Provision AU01).

SEA AND AIR TRANSPORT: Classified as dangerous goods for transport by sea and air in accordance with the International Maritime Dangerous Goods Code (IMDG) and the International Air Transport Association (IATA) Dangerous Goods Regulation.

UN No: 3082

Class: 9 Miscellaneous Dangerous Goods

Packing group: 3

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

15. REGULATORY INFORMATION:

APVMA APPROVAL NUMBER: 61117

POISON SCHEDULE: S5

16. OTHER INFORMATION:

Glossary

ACGIH: American Conference of Governmental Industrial Hygienists.

ASCC: 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).

BOD: Biochemical oxygen demand. The amount of oxygen required by aerobic microorganisms to decompose the organic matter in a sample of water, such as that polluted by sewage. It is used as a measure of the degree of water pollution. Also called biological oxygen demand.

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).

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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.

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

OASCC: Office of the Australian Safety & Compensation Commission.

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 workday.

References

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

ASNZS 1716 - 1994 Respiratory protective devices.

Australian Dangerous Goods Code

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International Maritime Dangerous Goods Code.
International Air Transport Association (IATA) Dangerous Goods Regulation
NOHSC Hazardous Substances Information System.

VERSION TRACKING

Replaces version dated: New

Sections amended: All

Product number: GF-1817

**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 FUTURE 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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