

MATERIAL SAFETY DATA SHEET



Emergency Phone: 800-992-5994
Dow AgroSciences LLC
Indianapolis, IN 46268

CLEANWAVE* HERBICIDE

Effective Date: 8-10-04
Product Code: 103784
MSDS: 007931

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Cleanwave* Herbicide

COMPANY IDENTIFICATION:

Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268-1189

2. COMPOSITION/INFORMATION ON INGREDIENTS:

Aminopyralid Triisopropanolammonium	1.9%
Fluroxypyr-meptyl: CAS # 081406-37-3	20.2%
4-amino-3,5-dichloro-6-fluoro-2-pyridinyloxy acetic acid-1-methylheptyl ester	
Balance, Total, Including	77.9%
Aromatic Solvent	
(contains Naphthalene CAS # 000091-20-3)	
Dipropylene Glycol Methyl Ether CAS # 034590-94-8	

3. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

Clear to yellow liquid with a waxy odor. May cause eye and skin irritation. May cause corneal injury. Toxic to aquatic organisms.

EMERGENCY PHONE NUMBER: 800-992-5994

4. FIRST AID:

EYE: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist.

SKIN: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothing before reuse. Shoes and other leather items, which cannot be decontaminated, should be disposed of properly.

INGESTION: Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

INHALATION: Move person to fresh air. If person is not breathing, call 911 or an ambulance, and then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc.) Call a poison control center or doctor for treatment advice. If breathing is difficult, oxygen should be administered by qualified personnel.

NOTE TO PHYSICIAN: If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. The decision of whether to induce vomiting or not should be made by a physician. Maintain adequate ventilation and oxygenation of the patient. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. Skin contact may aggravate preexisting dermatitis. Repeated excessive exposure may aggravate preexisting liver and kidney disease. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES:

FLASH POINT: 149.9°F (65.5°C)

METHOD USED: PMCC

FLAMMABLE LIMITS

LFL: Not determined

UFL: Not determined

EXTINGUISHING MEDIA: Foam, CO₂, or Dry chemical

FIRE AND EXPLOSION HAZARDS: Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Toxic irritating gases may be formed under fire conditions.

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

6. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS: Absorb small spills with materials such as sand, sawdust, Zorball, or dirt. Wash exposed body areas thoroughly after handling. Report large spills to Dow AgroSciences at 800-992-5994.

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7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapors and spray mist. Handle concentrate in ventilated area. Wash thoroughly with soap and water after handling and before eating, chewing gum, using tobacco, using the toilet or smoking. Keep away from food, feedstuffs, and water supplies. Store in original container in a well-ventilated area.

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:

Fluroxypyr 1-methylheptyl ester: Dow AgroSciences Industrial Hygiene Guide is 10 mg/M³.
Naphthalene: ACGIH TLV is 10 ppm TWA, 15 ppm STEL, Skin, A4. OSHA PEL is 10 ppm TWA.
Dipropylene glycol methyl ether: ACGIH TLV is 100 ppm TWA, 150 ppm STEL. OSHA PEL is 100 ppm TWA.

A "skin" notation following the exposure guideline refers to the potential for dermal absorption of the material including mucous membranes and the eyes either by contact with vapors or by direct skin contact. It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimize dermal exposures should be considered.

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 immediate work area.

SKIN PROTECTION: Use gloves chemically resistant to this material.

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

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

9. PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE: Clear to yellow liquid
ODOR: Waxy
DENSITY: 0.993 g/mL
BOILING POINT: Not determined
SOLUBILITY IN WATER: Not determined
pH: 6.5 – 6.6

10. STABILITY AND REACTIVITY:

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

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) None known

HAZARDOUS DECOMPOSITION PRODUCTS: None known.

HAZARDOUS POLYMERIZATION: Not know 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 eye irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

SKIN: Brief contact may cause slight skin irritation with local redness. May cause drying and flaking of the skin. Prolonged skin contact is unlikely to result in absorption of harmful amounts. The LD₅₀ for skin absorption in rabbits is >5000 mg/kg. Did not cause allergic skin reactions when tested in guinea pigs.

INGESTION: Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. The oral LD₅₀ for female rats is >5000 mg/kg.

INHALATION: Prolonged exposure is not expected to cause adverse effects. The aerosol LC50 for rats is >5.26 mg/L.

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SYSTEMIC (OTHER TARGET ORGAN) EFFECTS:

Excessive exposure to solvent(s) may cause respiratory irritation and central nervous system depression. Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed. A single excessive exposure may cause kidney and liver effects.

CANCER INFORMATION: The active ingredient(s) did not cause cancer in laboratory animals. Contains naphthalene, which has caused cancer in some laboratory animals. In humans, there is limited evidence of cancer in workers involved in naphthalene production. Limited oral studies in rats were negative.

TERATOLOGY (BIRTH DEFECTS): Fluroxypyr-meptyl did not cause birth defects in laboratory animals. Has been toxic to the fetus in laboratory animals only at doses toxic to the mother. The components tested did not cause birth defects or any other fetal effects in laboratory animals.

REPRODUCTIVE EFFECTS: Fluroxypyr-meptyl, in animal studies, did not interfere with reproduction. For a similar material, aminopyralid, in animal studies, did not interfere with reproduction. For the majority of components, available data are inadequate to determine effects on reproduction.

MUTAGENICITY: For some components, in-vitro and animal genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION:

ENVIRONMENTAL FATE:

MOVEMENT & PARTITIONING:

Based largely or completely on information for fluroxypyr-meptyl.

Bioconcentration potential is low (BCF is <100 or Log Pow <3).

Potential for mobility in soil is slight (Koc is between 2000 and 5000).

Based largely or completely on information for the solvent.

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

Based largely or completely on information for dipropylene glycol methyl ether.

Bioconcentration potential is low (BCF is <100 or Log Pow <3).

Potential for mobility in soil is very high (Koc is between 0 and 50).

DEGRADATION & PERSISTENCE:

Based largely or completely on information for the active ingredients.

No relevant information found.

Based largely or completely on information for the solvent.

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.

Based largely or completely on information for dipropylene glycol methyl ether.

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Material is ultimately biodegradable. Reaches more than 70% mineralization in OECD test(s) for inherent biodegradability.

ECOTOXICOLOGY:

Based largely or completely on information for fluroxypyr-meptyl.

Material is very highly toxic to aquatic organisms on an acute basis (LC₅₀ or EC₅₀ is <0.1 mg/L in the most sensitive species tested).

Material is practically non-toxic to birds on an acute basis (LD₅₀ is >2000 mg/kg).

Material is practically non-toxic to birds on a dietary basis (LC₅₀ is >5000 ppm).

Based largely or completely on information for the solvent.

Material is slightly toxic to aquatic organisms on an acute basis (LC₅₀ or EC₅₀ is between 10 and 100 mg/L in the most sensitive species tested).

Based largely or completely on information for dipropylene glycol methyl ether.

Material is practically non-toxic to aquatic organisms on an acute basis (LC₅₀ or EC₅₀ is >100 mg/L in the most sensitive species tested).

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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:

U.S. DEPARTMENT OF TRANSPORTATION (DOT) INFORMATION:

For non-bulk shipments by all modes of transportation:
This material is not regulated for transport.

For bulk shipments by all modes of transportation:
COMBUSTIBLE LIQUID, N.O.S./(CONTAINS NAPHTHALENE)/COMBUSTIBLE LIQUID/NA1993/PG III/RQ(NAPHTHALENE)

15. REGULATORY INFORMATION:

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations.

U.S. REGULATIONS

SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

CHEMICAL NAME CAS NUMBER CONCENTRATION

Naphthalene	000091-20-3	~4.2%
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SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard
A delayed health hazard

CALIFORNIA PROPOSITION 65: The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986:

This product contains a chemical(s) known to the State of California to cause cancer. During processing of our product, exposure may exceed the levels deemed to represent significant risk as defined by the emergency guidelines in 22 California Code of Regulations, Division 2, Chapter 3, Article 7. The material is naphthalene (CAS # 000091-20-3)

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

CHEMICAL NAME CAS NUMBER LIST

Naphthalene	000091-20-3	NJ2 NJ3 PA1 PA3
Dipropylene Glycol Methyl Ether	034590-94-8	NJ3 PA1

NJ2=New Jersey Environmental Hazardous Substance (present at > or = to 1.0%).
NJ3=New Jersey Workplace Hazardous Substance (present at > or = or equal to 1.0%).
PA1=Pennsylvania Hazardous Substance (present at > or = to 1.0%).
PA3=Pennsylvania Environmental Hazardous Substance (present at > or = to 1.0%).

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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**COMPREHENSIVE ENVIRONMENTAL RESPONSE
COMPENSATION AND LIABILITY ACT (CERCLA, or
SUPERFUND):** This product contains the following
substance(s) listed as "Hazardous Substances" under
CERCLA, which may require reporting of releases:

Chemical Name CAS Number RQ % in Product

Naphthalene 000091-20-3 100 ~4.2%

**NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
RATINGS:**

Health 3
Flammability 2
Reactivity 0

16. OTHER INFORMATION:

MSDS STATUS: New

Reference: DR-0388-2868

Document number: D03-328-001

The Information Herein Is Given In Good Faith, But No
Warranty, Express or Implied, Is Made. Consult Dow
AgroSciences for Further Information.