

# MATERIAL SAFETY DATA SHEET



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

## DIMENSION\* EC HERBICIDE

Effective Date: 11/24/03  
Product Code: 88828  
MSDS: 007748

### 1. PRODUCT AND COMPANY IDENTIFICATION:

**PRODUCT:** Dimension\* EC Herbicide

#### COMPANY IDENTIFICATION:

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

### 2. COMPOSITION/INFORMATION ON INGREDIENTS:

Dithiopyr:	CAS # 097886-45-8	12.7%
S,S'-dimethyl 2-(difluoro- methyl-4-(2-methylpropyl)- (trifluoromethyl)-3,5- pyridinedicarbothioate		
Inert Ingredients, Total, Including		87.3%
Aromatic Solvent	CAS # 064742-94-5	
Naphthalene	CAS # 000091-20-3	
Trimethylbenzene	CAS # 000095-63-6	

### 3. HAZARDOUS IDENTIFICATIONS:

#### EMERGENCY OVERVIEW

Hazardous chemical. Yellow liquid with a kerosene odor. May cause eye and skin irritation. Toxic to aquatic organisms.

**EMERGENCY PHONE NUMBER:** 800-992-5994

**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. Vapor may cause eye irritation experienced as mild discomfort and redness. Cataracts and other eye effects have been reported in humans repeatedly exposed to naphthalene vapor or dust.

**SKIN:** Prolonged or repeated contact may cause skin irritation. Prolonged skin contact is unlikely to result in absorption of harmful amounts. The dermal LD<sub>50</sub> has not been determined. Dithiopyr did not cause allergic skin reactions when tested in guinea pigs.

**INGESTION:** Low toxicity if swallowed. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia. Single dose oral LD<sub>50</sub> has not been determined.

**INHALATION:** Excessive exposure may cause irritation to upper respiratory tract (nose and throat). May cause central nervous system effects.

#### SYSTEMIC (OTHER TARGET ORGAN) EFFECTS:

Excessive exposure to the solvent may cause respiratory irritation and central nervous system depression.

**CANCER INFORMATION:** Dithiopyr did not cause cancer in laboratory animals. The solvent contains naphthalene, which has caused cancer in some laboratory animals. An increase in lung tumors was observed in female, but not male, mice exposed to naphthalene by inhalation for two years. In humans, there is limited evidence of cancer in workers involved in naphthalene production. Limited oral studies in rats were negative.

**TERATOLOGY (BIRTH DEFECTS):** The solvent did not cause birth defects or any other fetal effects in laboratory animals.

**REPRODUCTIVE EFFECTS:** No relevant information found.

### 4. FIRST AID:

**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, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

**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.

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**INHALATION:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, 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 to induce vomiting should be made by a physician. Contains petroleum distillate - vomiting may cause aspiration pneumonia. Maintain adequate ventilation and oxygenation of the patient. 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:** 145°F (63°C)

**METHOD USED:** TCC

#### FLAMMABLE LIMITS

LFL: 0.8% (solvent, naphtha)

UFL: 7.0% (solvent, naphtha)

**EXTINGUISHING MEDIA:** Use the following extinguishing media when fighting fires involving this material: carbon dioxide, dry chemical, water spray or foam.

**UNUSUAL HAZARDS:** Pesticide particulates can become airborne. Combustion generates toxic fumes of the following: nitrogen oxides and carbon oxides.

**FIREFIGHTING EQUIPMENT:** Wear self-contained breathing apparatus (pressure demand NIOSH approved or equivalent) and full protective gear.

**SPECIAL PROCEDURES:** Contain run-off. Remain upwind. Avoid breathing smoke. Use water spray to cool containers exposed to fire.

### 6. ACCIDENTAL RELEASE MEASURES:

**ACTION TO TAKE FOR SPILLS/LEAKS:** Eliminate all ignition sources. Ventilate the spill area. Avoid breathing vapor. Contain small spills and absorb them with inert materials (e.g. sand, earth). Transfer spilled material to suitable containers for recovery or disposal. Report large spills to Dow AgroSciences at 800-992-5994.

Keep spills and cleaning runoffs out of municipal sewers and open bodies of water. Spills on porous surfaces can contaminate groundwater. Wear appropriate protective equipment when handling a spill of this material. If exposed to material during clean-up operations, remove all contaminated clothing promptly. Wash all exposed skin areas with soap and water immediately after exposure. Thoroughly launder clothing before reuse. Do not take clothing home to be laundered.

### 7. HANDLING AND STORAGE:

#### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

**HANDLING:** Do not handle material near food, feed or drinking water. Ground all containers when transferring material. This material is a potential skin sensitizer.

**STORAGE:** Do not store this material near food, feed or drinking water. The minimum recommended storage temperature for this material is 40°F (4.4°C). Store in a well-ventilated area. Ground all metal containers during storage and handling. Store away from excessive heat (e.g. steam pipes, radiators), from sources of ignition and from reactive materials. Store out of direct sunlight in a cool place. Keep container tightly closed when not in use.

**OTHER:** Containers are hazardous when empty. Since emptied containers retain product residue (vapors and/or liquid) follow all MSDS and label warnings even after container is emptied. Residual vapors in empty containers may explode on ignition. DO NOT cut, drill, grind or weld on or near container.

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

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

#### EXPOSURE GUIDELINE:

Dithiopyr: Dow AgroSciences Industrial Hygiene Guide is 0.25 mg/M<sup>3</sup> TWA and 0.75 mg/M<sup>3</sup> STEL.

Naphthalene: ACGIH TLV is 10 ppm TWA, 15 ppm STEL, Skin, A4. OSHA PEL is 10 ppm TWA.

Trimethylbenzene: ACGIH TLV is 25 ppm.

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 safety glasses. If exposure causes eye discomfort, use a full-face respirator.

**SKIN PROTECTION:** Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur.

**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:

**COLOR:** Yellow

**STATE:** Liquid

**ODOR:** Kerosene

**pH:** 4.1 (aqueous solution)

**VISCOSITY:** 11 CPS

**SPECIFIC GRAVITY (Water = 1):** 0.95

**VAPOR DENSITY (Air = 1):** 4.8 (solvent, naphtha)

**VAPOR PRESSURE:** 3 mmHg @ 77°F (25°C)  
(solvent, naphtha)

**MELTING POINT:** Not determined

**BOILING POINT:** 349 - 410°F (176 - 210°C)  
(solvent, naphtha)

**SOLUBILITY IN WATER:** Emulsifiable

**PERCENT VOLATILITY:** 85% (approximate)

**EVAPORATION RATE (BAC = 1):** <1

### 10. STABILITY AND REACTIVITY:

**STABILITY:** This material is stable under normal storage conditions. Avoid contact with ignition sources (e.g. sparks, open flame, and heated sources).

**INCOMPATIBILITY:** Avoid contact with strong oxidizing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:** None known.

**HAZARDOUS POLYMERIZATION:** Not known to occur.

### 11. TOXICOLOGICAL INFORMATION:

**MUTAGENICITY:** For dithiopyr, in-vitro genetic toxicity studies were negative. For naphthalene, in-vitro genetic toxicity studies were negative in some cases and positive in other cases.

### 12. ECOLOGICAL INFORMATION:

#### ENVIRONMENTAL FATE:

#### MOVEMENT & PARTITIONING:

Based largely or completely on information for dithiopyr. Bioconcentration potential is moderate (BCF is between 100 and 3000 or Log Pow between 3 and 5).

Based largely or completely on information for the solvent. Bioconcentration potential is high (BCF is >3000 or Log Pow is between 5 and 7).

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### DEGRADATION & PERSISTENCE:

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.

### ECOTOXICOLOGY:

Based largely or completely on information for dithiopyr. Material is highly toxic to aquatic organisms on an acute basis (LC<sub>50</sub> or EC<sub>50</sub> is between 0.1 and 1 mg/L in the most sensitive species tested).

Based largely or completely on information for the solvent. Material is slightly toxic to aquatic organisms on an acute basis (LC<sub>50</sub> or EC<sub>50</sub> is between 10 and 100 mg/L in the most sensitive species tested).

### 13. DISPOSAL CONSIDERATIONS:

**DISPOSAL METHOD:** Wastes resulting from the use of this product may be disposed of on site according to label directions or at an approved waste disposal facility. Follow all local, state, and federal requirements for disposal.

### 14. TRANSPORT INFORMATION:

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

For domestic and air shipments:  
This material is not regulated for transport

For shipments by vessel:  
ENVIRONMENTALLY HAZARDOUS SUBSTANCE,  
LIQUID, N.O.S. (DITHIOPYR)/9/UN3082/PGIII/MARINE  
POLLUTANT (DITHIOPYR)

### 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	8.1%
1,2,4-Trimethylbenzene	000095-63-6	1.4%

**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  
A fire 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. The chemical 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.

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**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
1,2,4-Trimethylbenzene	000095-63-6	NJ2 NJ3 PA1 PA3

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

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

Health	3
Flammability	2
Reactivity	0

**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#	RQ	% in Product
Naphthalene	000091-20-3	100 lbs.	8.1%

### RCRA CATEGORIZATION:

USEPA Hazardous Waste Number:  
Naphthalene (CAS # 000091-20-3) = U165

### 16. OTHER INFORMATION:

**MSDS STATUS:** Moved to DAS Format  
Reference: DR-0390-3228  
Replaces MSDS Dated: 6/1/01  
Document Code: D03-168-003  
Replaces Document Code: D03-168-002

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