

# MATERIAL SAFETY DATA SHEET



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

Effective Date: 6/12/03  
Product Code: 79679  
MSDS: 006636

## DIURON\* 80DF HERBICIDE (IVM)

### 1. PRODUCT AND COMPANY IDENTIFICATION:

**PRODUCT:** Diuron\* 80DF Herbicide (IVM)

#### COMPANY IDENTIFICATION:

Dow AgroSciences  
9330 Zionsville Road  
Indianapolis, IN 46268-1189

### 2. COMPOSITION/INFORMATION ON INGREDIENTS:

Diuron: 3-(3-4Dichlorophenyl) CAS # 000330-54-1 80%  
-1,1-Dimethylurea  
Inert Ingredients, Total, Including: 20%  
Kaolin Clay CAS # 001335-30-4

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not 'Hazardous' per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

### 3. HAZARDOUS IDENTIFICATIONS:

#### EMERGENCY OVERVIEW

Hazardous Chemical. Odorless brown granule. May cause eye irritation or corneal injury. May cause skin irritation. LD<sub>50</sub> for skin absorption in rabbits is >2000 mg/kg. Oral LD<sub>50</sub> for rats is 2900 mg/kg. Acute Inhalation LC<sub>50</sub> is >5.6 mg/L (4 hour - rats). Toxic to aquatic organisms.

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**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 moderate eye irritation, which may be slow to heal. May cause moderate corneal injury.

**SKIN:** Prolonged or repeated contact may cause skin irritation. Prolonged skin contact is unlikely to result in absorption of harmful amounts. The LD<sub>50</sub> for skin absorption in rabbits is >2000 mg/kg.

**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. The oral LD<sub>50</sub> for rats is 2900 mg/kg.

**INHALATION:** Prolonged excessive exposure may cause adverse effects. In animals, effects have been reported on the following organs: blood (RBC destruction), liver, spleen, and thyroid. Excessive exposure may cause methemoglobinemia, thereby impairing the blood's ability to transport oxygen. Excessive exposure may cause irritation to upper respiratory tract (nose and throat).

**SYSTEMIC (OTHER TARGET ORGAN) EFFECTS:** In animals, effects have been reported on the following organs: blood (RBC destruction), liver, spleen and thyroid. Excessive exposure may cause methemoglobinemia, thereby impairing the blood's ability to transport oxygen.

**CANCER INFORMATION:** Has caused cancer in some laboratory animals.

**TERATOLOGY (BIRTH DEFECTS):** Birth defects are unlikely. Exposures having no adverse effects on the mother should have no effect on the fetus.

**REPRODUCTIVE EFFECTS:** In animal studies, did not interfere with reproduction.

### 4. FIRST AID:

**EYE:** Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist.

**SKIN:** Wash skin with plenty of water. Seek medical attention immediately.

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

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**INHALATION:** Move person to fresh air. If not breathing give artificial respiration. If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

**NOTE TO PHYSICIAN:** Absorption of diuron into the body may lead to the formation of methemoglobin that, in sufficient concentration, causes cyanosis. Since reversion of methemoglobin occurs spontaneously after termination of exposure, moderate degrees of cyanosis need be treated only by supportive measures such as bed rest and oxygen inhalation. Thorough cleansing of the entire contaminated area of the body, including scalp and nails is of utmost importance. If cyanosis is severe, intravenous injection of methylene blue, one mg/kg of body weight, may be of value. Cyanocobalamin (Vitamin B12), one mg intramuscularly, may speed recovery. Intravenous fluids and blood transfusions may be indicated in very severe exposure.

### 5. FIRE FIGHTING MEASURES:

**FLASH POINT:** Not determined

**METHOD USED:** Not applicable

**FLAMMABLE LIMITS:** 0.070 g/L

**AUTO-IGNITION TEMPERATURE:** 851°F (455°C)

**EXTINGUISHING MEDIA:** Dry chemical, carbon dioxide, foam or water spray.

**FIRE-FIGHTING INSTRUCTIONS:** Fight fire from upwind. Assure self-contained breathing apparatus is worn. Prevent run-off, if possible.

**PROTECTIVE EQUIPMENT FOR FIREFIGHTERS:** Wear a positive-pressure self-contained breathing apparatus and protective fire-fighting clothing.

### 6. ACCIDENTAL RELEASE MEASURES:

**ACTION TO TAKE FOR SPILLS/LEAKS:** For small spills, sweep up and place in suitable containers for disposal. Report large spills to Dow AgroSciences at 800-992-5994.

### 7. HANDLING AND STORAGE:

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:** Keep out of reach of children. Avoid contact with eyes and skin. Store in original container in a well-ventilated area. Do not store near feed, food, or within the reach of children. Follow label directions carefully.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

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

#### EXPOSURE GUIDELINES:

Diuron: ACGIH TLV is 10 mg/M<sup>3</sup>, A4.

Kaolin: ACGIH TLV is 2 mg/M<sup>3</sup> respirable. OSHA PEL is 15 mg/M<sup>3</sup> total dust and 5 mg/M<sup>3</sup> respirable.

**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.

**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, use a NIOSH approved air-purifying or positive-pressure supplied-air respirator depending on the potential airborne concentration. For emergency and other conditions where the exposure guideline may be greatly exceeded, use a NIOSH approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply.

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

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### 9. PHYSICAL AND CHEMICAL PROPERTIES:

**BOILING POINT:** Not determined  
**VAPOR PRESSURE:** Not determined  
**DENSITY:** 40 lbs/ft<sup>3</sup>  
**SOLUBILITY IN WATER:** Dispersible. Diuron's solubility in water is 42 ppm.  
**APPEARANCE:** Brown granules  
**ODOR:** None  
**pH:** Not determined

### 10. STABILITY AND REACTIVITY:

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

**INCOMPATIBILITY:** (SPECIFIC MATERIALS TO AVOID) None known.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal decomposition may release toxic and/or hazardous gases under fire conditions.

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

### 11. TOXICOLOGICAL INFORMATION:

**MUTAGENICITY:** Animal genetic toxicity studies were negative.

### 12. ECOLOGICAL INFORMATION:

#### ENVIRONMENTAL DATA:

#### MOVEMENT & PARTITIONING:

Based largely or completely on information for Diuron. Bioconcentration potential is low (BCF <100 or Log Pow <3). Potential for mobility in soil is medium (Koc is between 150 and 500).

#### DEGRADATION & PERSISTENCE:

Based largely or completely on information for Diuron. Biodegradation rate may increase in soil and/or water with acclimation.

### ECOTOXICOLOGY:

Based largely or completely on information for Diuron. Material is moderately toxic to aquatic organisms on an acute basis (LC<sub>50</sub> or EC<sub>50</sub> is between 1 and 10 mg/L in most sensitive species). Material is slightly toxic to birds on an acute basis (LD<sub>50</sub> is between 501 and 2000 mg/kg).

### 13. DISPOSAL CONSIDERATIONS:

**DISPOSAL METHOD:** Dispose of washings, contaminated materials, used absorbents, and other waste material as directed by local, state, and federal regulations. Improper disposal of excess wastes is a violation of federal law. If excess wastes cannot be disposed of according to label instructions, contact your state pesticide or environmental control agency, or the hazardous waste representative at the nearest EPA regional office for guidance.

### 14. TRANSPORT INFORMATION:

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

This material is not regulated for transportation.

### 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
Diuron	000330-54-1	80%

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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

**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
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Diuron	000330-54-1	NJ2 NJ3 PA1 PA3
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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.

**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
Diuron	000330-54-1	100	80%

### NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

#### RATINGS:

Health	1
Flammability	1
Reactivity	0

### 16. OTHER INFORMATION:

**MSDS STATUS:** Revised Sections: 3, 4, 8, 11, 12 & 14  
Reference: DR-0360-8251  
Replaces MSDS Dated: 3/20/00  
Document Code: D03-013-275  
Replaces Document Code: D03-013-273

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