

MATERIAL SAFETY DATA SHEET



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

RECRUIT* AG

Effective Date: 6/10/99
Product Code: 51622
MSDS: 005476

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Recruit AG

COMPANY IDENTIFICATION:

Dow AgroSciences
9330 Zionsville Road
Indianapolis, IN 46268-1189

2. COMPOSITION/INFORMATION ON INGREDIENTS:

Hexaflumuron	CAS# 086479-06-3	0.5%
Inert Ingredients, Total		99.5%

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

White solid. Odorless. May cause eye irritation or corneal injury. LD₅₀ for skin absorption in rats is >2000 mg/kg. Oral LD₅₀ for rats is >2000 mg/kg. Inhalation LC₅₀ for rats is >7.0 mg/L for 4 hours. Toxic to aquatic invertebrates and fish.

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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: Solid or dust may cause irritation or corneal injury due to mechanical action.

SKIN: Prolonged exposure may cause slight skin irritation. A single prolonged exposure is not likely to result in the material being absorbed through the skin in harmful amounts. The LC₅₀ for skin absorption in rats is >2000 mg/kg. Did not cause allergic skin reactions when tested in guinea pigs.

INGESTION: Single dose oral toxicity is extremely low. The oral LD₅₀ for rats is >5000 mg/kg. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

INHALATION: Single exposure to dust is not likely to be hazardous. The LC₅₀ for rats is >7.0 mg/L for 4 hours.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS:

Excessive exposure may cause blood, spleen, and possibly liver and kidney effects. Excessive exposure may cause methemoglobinemia, thereby impairing the blood's ability to transport oxygen.

CANCER INFORMATION: Did not cause cancer in 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, has been shown not to interfere with reproduction.

4. FIRST AID:

EYES: Flush eyes with plenty of water; mechanical effects only.

SKIN: Wash in flowing water or shower.

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

INHALATION: Remove to fresh air if effects occur. Consult a physician.

NOTE TO PHYSICIAN: Methemoglobinemia may aggravate any pre-existing condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

5. FIRE FIGHTING MEASURES:

FLASH POINT: Not applicable
METHOD USED: Not applicable

FLAMMABLE LIMITS

LFL: Not applicable
UFL: Not applicable

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EXTINGUISHING MEDIA: If product is involved in fire, use water fog, CO₂, or dry chemical.

FIRE AND EXPLOSION HAZARDS: Toxic, irritating fumes may be formed if product is involved in fire.

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

6. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS: Sweep up wastes and place into suitable container for disposal. Report large spills to Dow AgroSciences at 800-992-5994.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Store in original container in a dry storage area. Do not store above 122°F (50°C) for extended periods of time. Do not contaminate water, food, or feed by storage or disposal. Do not tamper with product.

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: None established.

ENGINEERING CONTROLS: Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

RESPIRATORY PROTECTION: In dusty atmospheres, use a NIOSH approved dust respirator.

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

EYE/FACE PROTECTION: Use safety glasses. If there is a potential for exposure to particles which could cause mechanical injury to the eye, wear chemical goggles.

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

9. PHYSICAL AND CHEMICAL PROPERTIES:

BOILING POINT: Not applicable
VAPOR PRESSURE: Expected to be low
VAPOR DENSITY: Not determined
SOLUBILITY IN WATER: Not applicable
SPECIFIC GRAVITY: 12-20 lb/cu ft
APPEARANCE: White solid
ODOR: Essentially odorless

10. STABILITY AND REACTIVITY:

STABILITY: (CONDITIONS TO AVOID) Product is stable at room temperature. Avoid excessive heat; do not store above 122°F (50°C) for extended periods of time.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID)
Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: If product is involved in fire, small amounts of hydrogen chloride and hydrogen fluoride may be formed.

HAZARDOUS POLYMERIZATION: Not known to occur.

11. TOXICOLOGICAL INFORMATION:

MUTAGENICITY: Animal mutagenicity studies were negative. In-vitro mutagenicity studies were negative in some cases and positive in other cases.

12. ECOLOGICAL INFORMATION:

ENVIRONMENTAL HAZARDS: This product is highly toxic to aquatic invertebrates and possibly to fish. Bait stations used in above ground applications should not be placed in depressions or low areas that may be flooded. They should not be used where the bait or its hexaflumuron contents could be washed out of the bait station into water at or near the surface of the ground.

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13. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: Dispose of waste by incineration in accordance with all local, state, and federal requirements for disposal. Used devices that are damaged or no longer needed should be stored until they can be collected by a representative of Dow AgroSciences for disposal or recycling. Contact Dow AgroSciences for further information.

14. TRANSPORT INFORMATION:

This product is not regulated by the U.S. DOT as a Hazardous Material when shipped domestically by land.

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: To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

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
CELLULOSE	009004-34-6	PA1

PA1=Pennsylvania 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	1
Flammability	1
Reactivity	0

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT(CERCLA, or SUPERFUND): To the best of our knowledge, this product contains no chemical subject to reporting under CERCLA.

16. OTHER INFORMATION:

MSDS STATUS: Changed company name and telephone number
Revised sections: 3,4,6,8,10,13, & 15
Reference: DR-0353-1906
Replaces MSDS dated: 7/10/96
Document Code: D03-025-001
Replaces Document Code: D03-051-622

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