DOW AGROSCIENCES LLC encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: RECRUIT™ HD Bait Device

Recommended use of the chemical and restrictions on use
Identified uses: End use insecticide product

COMPANY IDENTIFICATION
DOW AGROSCIENCES LLC
9330 ZIONSVILLE RD
INDIANAPOLIS IN  46268-1053
UNITED STATES

Customer Information Number:  800-992-5994
info@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact:  800-992-5994
Local Emergency Contact:  352-323-3500

2. HAZARDS IDENTIFICATION

Hazard classification
This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Other hazards
no data available

3. COMPOSITION/ INFORMATION ON INGREDIENTS

This product is a mixture.

<table>
<thead>
<tr>
<th>Component</th>
<th>CASRN</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noviflumuron</td>
<td>121451-02-3</td>
<td>0.5%</td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

Description of first aid measures
General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If person is not breathing, call an emergency responder or 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.

Skin contact: 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.

Eye contact: Flush eyes with plenty of water; remove contact lenses after the first 1-2 minutes then continue flushing for several minutes. Only mechanical effects expected. If effects occur, consult a physician, preferably an ophthalmologist.

Ingestion: No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed
Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers.

Unsuitable extinguishing media: no data available

Special hazards arising from the substance or mixture
Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.
Unusual Fire and Explosion Hazards: Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, do not permit dust to accumulate. Dense smoke is produced when product burns.

Advice for firefighters
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Soak thoroughly with water to cool and prevent re-ignition. Cool surroundings with water to localize fire zone. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the “Accidental Release Measures” and the “Ecological Information” sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Spilled material may cause a slipping hazard. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Small spills: Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Dow AgroSciences for clean-up assistance.

7. HANDLING AND STORAGE

Precautions for safe handling: Keep out of reach of children. Good housekeeping and controlling of dusts are necessary for safe handling of product. Keep away from heat, sparks and flame. Do not swallow. Avoid breathing dust or mist. Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Wash thoroughly after handling.

Conditions for safe storage: Store in a dry place. Store in original container. Do not store near food, foodstuffs, drugs or potable water supplies.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
Exposure limits are listed below, if they exist.

<table>
<thead>
<tr>
<th>Component</th>
<th>Regulation</th>
<th>Type of listing</th>
<th>Value/Notation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noviflumuron</td>
<td>Dow IHG</td>
<td>TWA</td>
<td>0.1 mg/m3</td>
</tr>
<tr>
<td>Cellulose</td>
<td>ACGIH</td>
<td>TWA</td>
<td>10 mg/m3</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1</td>
<td>TWA total dust</td>
<td>15 mg/m3</td>
</tr>
<tr>
<td></td>
<td>OSHA Z-1</td>
<td>TWA respirable fraction</td>
<td>5 mg/m3</td>
</tr>
</tbody>
</table>
RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields). If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

Skin protection

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials include: Polyvinyl chloride ("PVC" or "vinyl"), Neoprene, Nitrile/butadiene rubber ("nitrile" or "NBR"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Wear clean, body-covering clothing.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions, no respiratory protection should be needed; however, in dusty atmospheres, use an approved particulate respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td></td>
</tr>
<tr>
<td>Physical state</td>
<td>Granules</td>
</tr>
<tr>
<td>Color</td>
<td>Tan</td>
</tr>
<tr>
<td>Odor</td>
<td>Sweet</td>
</tr>
<tr>
<td>Odor Threshold</td>
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</tr>
<tr>
<td>pH</td>
<td>6.4 1% pH Electrode</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>No test data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point (760 mmHg)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>closed cup Not applicable</td>
</tr>
<tr>
<td>Evaporation Rate (Butyl Acetate = 1)</td>
<td>no data available</td>
</tr>
</tbody>
</table>
Flammability (solid, gas) | no data available
Lower explosion limit | Not applicable
Upper explosion limit | Not applicable
Vapor Pressure | Not applicable
Relative Vapor Density (air = 1) | Not applicable
Relative Density (water = 1) | no data available
Water solubility | No test data available
Partition coefficient: n-octanol/water | no data available
Auto-ignition temperature | Not applicable
Decomposition temperature | No test data available
Kinematic Viscosity | no data available
Explosive properties | no data available
Oxidizing properties | no data available
Liquid Density | Not applicable
Bulk density | 0.0005 kg/m3
Molecular weight | no data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: no data available

Chemical stability: Thermally stable at typical use temperatures.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Some components of this product can decompose at elevated temperatures.

Incompatible materials: Avoid contact with: Strong oxidizers.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity
Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.
As product: Single dose oral LD50 has not been determined.

Acute dermal toxicity
Prolonged skin contact is unlikely to result in absorption of harmful amounts. As product: The dermal LD50 has not been determined.

**Acute inhalation toxicity**
No adverse effects are anticipated from single exposure to dust. As product: The LC50 has not been determined.

**Skin corrosion/irritation**
Brief contact is essentially nonirritating to skin.

**Serious eye damage/eye irritation**
Solid or dust may cause irritation or corneal injury due to mechanical action.

**Sensitization**
For the active ingredient(s): Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Specific Target Organ Systemic Toxicity (Repeated Exposure)**
For the active ingredient(s):
Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

**Carcinogenicity**
For the active ingredient(s): Has caused cancer in laboratory animals. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.

**Teratogenicity**
For the active ingredient(s): Did not cause birth defects or any other fetal effects in laboratory animals.

**Reproductive toxicity**
For the active ingredient(s): In animal studies, has been shown to interfere with reproduction. In animal studies, has been shown to interfere with fertility.

For the major component(s): In animal studies, cellulose has been shown to interfere with fertility and reproduction as a result of nutritional deficiencies associated with extremely high dietary concentrations of cellulose.

**Mutagenicity**
Contains a component(s) which were negative in in vitro genetic toxicity studies. Contains component(s) which were negative in animal genetic toxicity studies.

**Aspiration Hazard**
Based on physical properties, not likely to be an aspiration hazard.

**COMPONENTS INFLUENCING TOXICOLOGY:**

**Noviflumuron**
Acute oral toxicity
LD50, Rat, male and female, > 5,000 mg/kg

**Acute dermal toxicity**
LD50, Rabbit, male and female, > 5,000 mg/kg

**Acute inhalation toxicity**
No adverse effects are anticipated from single exposure to dust. Based on the available data, respiratory irritation was not observed.

LC50, Rat, male and female, 4 Hour, dust/mist, > 5.24 mg/l No deaths occurred at this concentration.

**Cellulose**

**Acute oral toxicity**
LD50, Rat, > 3,160 mg/kg

**Acute dermal toxicity**
The dermal LD50 has not been determined.

**Acute inhalation toxicity**
No adverse effects are anticipated from single exposure to dust.

The LC50 has not been determined.

**Octadecanoic acid, calcium salt**

**Acute oral toxicity**
Single dose oral LD50 has not been determined.

**Acute dermal toxicity**
The dermal LD50 has not been determined.

**Acute inhalation toxicity**
Dust may cause irritation to upper respiratory tract (nose and throat).

The LC50 has not been determined.

**Balance**

**Acute oral toxicity**
Single dose oral LD50 has not been determined.

**Acute dermal toxicity**
The dermal LD50 has not been determined.

**Acute inhalation toxicity**
The LC50 has not been determined.

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12. **ECOLOGICAL INFORMATION**

*Ecotoxicological information appears in this section when such data is available.*

**Toxicity**
**Noviflumuron**

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

- LC50, *Lepomis macrochirus* (Bluegill sunfish), semi-static test, 96 Hour, > 2.0 mg/l, OECD Test Guideline 203 or Equivalent
- LC50, *Oncorhynchus mykiss* (rainbow trout), semi-static test, 96 Hour, > 2.00 mg/l, OECD Test Guideline 203 or Equivalent

**Acute toxicity to aquatic invertebrates**
EC50, *Daphnia magna* (Water flea), flow-through test, 48 Hour, 0.0003 mg/l, OECD Test Guideline 202 or Equivalent

**Acute toxicity to algae/aquatic plants**
ErC50, *Pseudokirchneriella subcapitata* (green algae), 72 Hour, Growth rate inhibition, > 0.75 mg/l

**Toxicity to bacteria**
EC50, activated sludge, 3 Hour, > 1.9 mg/l, OECD 209 Test

**Toxicity to Above Ground Organisms**
Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).
Material is slightly toxic to birds on a dietary basis (LC50 between 1001 and 5000 ppm).
- oral LD50, *Colinus virginianus* (Bobwhite quail), 14 d, > 2,000 mg/kg
- dietary LC50, *Colinus virginianus* (Bobwhite quail), 10 d, 4,100 mg/kg
- oral LD50, *Apis mellifera* (bees), 48 Hour, > 100 micrograms/bee
- contact LD50, *Apis mellifera* (bees), 48 Hour, > 100 micrograms/bee

**Toxicity to soil-dwelling organisms**
LC50, *Eisenia fetida* (earthworms), 14 d, > 10,000 mg/kg

**Cellulose**

**Acute toxicity to fish**
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LC50, Fish., 96 Hour, > 100 mg/l

**Acute toxicity to algae/aquatic plants**
EC50, Algae, 96 Hour, Growth rate inhibition, > 100 mg/l

**Toxicity to bacteria**
LC50, Bacteria, > 100 mg/l

**Octadecanoic acid, calcium salt**

**Acute toxicity to fish**
Not expected to be acutely toxic to aquatic organisms.

**Balance**

**Acute toxicity to fish**
No relevant data found.

**Persistence and degradability**

**Noviflumuron**
Biodegradability: No relevant information found.

Theoretical Oxygen Demand: 1.03 mg/g

Photodegradation
Atmospheric half-life: 14.34 Hour
Method: Estimated.

Cellulose
Biodegradability: Biodegradation rate may increase in soil and/or water with acclimation.

Theoretical Oxygen Demand: 1.18 mg/mg

Octadecanoic acid, calcium salt
Biodegradability: No relevant information found.

Theoretical Oxygen Demand: 2.74 mg/mg

Balance
Biodegradability: No relevant data found.

Bioaccumulative potential

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

Cellulose
Bioaccumulation: No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000).

Octadecanoic acid, calcium salt
Bioaccumulation: No data available for this product.

Balance
Bioaccumulation: No relevant data found.

Mobility in soil

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

Cellulose
No data available.

Octadecanoic acid, calcium salt
No data available.

Balance
No relevant data found.
13. DISPOSAL CONSIDERATIONS

Disposal methods: 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.

14. TRANSPORT INFORMATION

DOT

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Noviflumuron)

UN number: UN 3077

Class: 9

Packing group: III

Marine pollutant: Noviflumuron

Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code: Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Noviflumuron)

UN number: UN 3077

Class: 9

Packing group: III

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.
15. REGULATORY INFORMATION

OSHA Hazard Communication Standard
This product is not a “Hazardous Chemical” as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
Chronic Health Hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

Pennsylvania (Worker and Community Right-To-KnowAct): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:
The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

<table>
<thead>
<tr>
<th>Components</th>
<th>CASRN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cellulose</td>
<td>9004-34-6</td>
</tr>
</tbody>
</table>

Pennsylvania (Worker and Community Right-To-KnowAct): Pennsylvania Special Hazardous Substances List:
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

United States TSCA Inventory (TSCA)
This product contains chemical substance(s) exempt from U.S. EPA TSCA Inventory requirements. It is regulated as a pesticide subject to Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requirements.

Federal Insecticide, Fungicide and Rodenticide Act
EPA Registration Number: 62719-608
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

16. OTHER INFORMATION

Hazard Rating System
NFPA

<table>
<thead>
<tr>
<th>Health</th>
<th>Fire</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>
Revision
Identification Number: 101218425 / A211 / Issue Date: 05/26/2015 / Version: 3.0
DAS Code: GF-2024
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend
<table>
<thead>
<tr>
<th>Acronyms</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
</tr>
<tr>
<td>Dow IHG</td>
<td>Dow Industrial Hygiene Guideline</td>
</tr>
<tr>
<td>OSHA Z-1</td>
<td>USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants</td>
</tr>
<tr>
<td>TWA</td>
<td>8-hour, time-weighted average</td>
</tr>
</tbody>
</table>

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DOW AGROSCIENCES LLC urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided 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 between various locations. It is the buyer’s/user’s responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer’s/user’s duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.