## SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

<table>
<thead>
<tr>
<th>Product Name</th>
<th>HUSKIE™ HERBICIDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSDS Number</td>
<td>102000011554</td>
</tr>
<tr>
<td>EPA Registration No.</td>
<td>264-1023</td>
</tr>
</tbody>
</table>

Bayer CropScience
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
USA

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)
For Product Information call: 1-866-99BAYER (1-866-992-2937)

## SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Component Name</th>
<th>CAS-No.</th>
<th>Average % by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyrasulfotole</td>
<td>365400-11-9</td>
<td>3.30</td>
</tr>
<tr>
<td>Bromoxynil octanoate</td>
<td>1689-99-2</td>
<td>13.40</td>
</tr>
<tr>
<td>Bromoxynil heptanoate</td>
<td>56634-95-8</td>
<td>12.90</td>
</tr>
<tr>
<td>Solvent Naphtha (petroleum), heavy aromatic</td>
<td>64742-94-5</td>
<td>5.09</td>
</tr>
</tbody>
</table>

## SECTION 3. HAZARDS IDENTIFICATION

**NOTE:** Please refer to Section 11 for detailed toxicological information.

**Emergency Overview**
Warning! Keep out of the reach of children. Harmful if inhaled or absorbed through skin. Moderate eye irritation. Avoid contact with skin, eyes and clothing. Avoid breathing spray mist.

**Physical State**
liquid, clear

**Odor**
aromatic solvent

**Appearance**
amber

**Routes of Exposure**
Eye contact, Skin Absorption, Inhalation, Ingestion

**Immediate Effects**

**Eye**
Moderate eye irritation. Do not get in eyes.

**Skin**
Harmful if absorbed through skin. Avoid contact with skin.

**Ingestion**
May be fatal if swallowed.

**Inhalation**
Harmful if inhaled. Avoid breathing spray mist.
Chronic or Delayed Long-Term
This product contains ingredients that are considered to be probable or suspected human carcinogens (see Section 11 - Chronic). This product or its components may have target organ effects.

SECTION 4. FIRST AID MEASURES

General
When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

Eye
Hold eye 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 eye. Call a physician or poison control center immediately.

Skin
Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.

Ingestion
Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Inhalation
Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

Notes to Physician Treatment
There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

SECTION 5. FIRE FIGHTING MEASURES

Flash point
90 °C / 194 °F

Fire and Explosion Hazards
In the event of fire the following can be released:
- Nitrogen oxides (NOx)
- Hydrogen bromide (HBr)
- Hydrogen chloride (HCl)
- Hydrogen fluoride (HF)
- Sulphur oxides
- Cyanides

Suitable Extinguishing Media
Water, Alcohol-resistant foam, Dry powder, Carbon dioxide (CO2)
**Fire Fighting Instructions**

Evacuate personnel to safe areas. Avoid contact with spilled product or contaminated surfaces. Keep out of smoke. Fight fire from upwind position. Do not allow run-off from fire fighting to enter drains or water courses.

Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

**Personal Precautions**

Keep unauthorized people away. Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment. Evacuate and isolate spill area.

**Methods for Cleaning Up**

Dike area to prevent runoff. Keep in suitable, closed containers for disposal. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder). Collect and transfer the product into a properly labelled and tightly closed container. Contaminated soil may have to be removed and disposed. Clean contaminated floors and objects thoroughly, observing environmental regulations.

**Additional Advice**

Do not allow to enter soil, waterways or waste water canal. Do not allow product to contact vegetation.

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**SECTION 7. HANDLING AND STORAGE**

**Handling Procedures**

Handle and open container in a manner as to prevent spillage. Use only in area provided with appropriate exhaust ventilation. Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.

**Storing Procedures**

Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container. Store in a place accessible by authorized persons only.

**Work/Hygienic Procedures**

Handle in accordance with good industrial hygiene and safety practice. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

**Min/Max Storage Temperatures**

Recommended minimum transport/storage temperature: -20 °C / -4 °F

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**SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**General Protection**

Follow all label instructions. Train employees in safe use of the product.
Follow manufacturer’s instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

**Eye/Face Protection**
- Tightly fitting safety goggles

**Hand Protection**
- Chemical resistant nitrile rubber gloves

**Body Protection**
- Wear long-sleeved shirt and long pants and shoes plus socks.

**Respiratory Protection**
- When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

**Exposure Limits**

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<tr>
<th>Substance</th>
<th>ACGIH</th>
<th>TWA</th>
<th>ACGIH</th>
<th>STEL</th>
<th>NIOSH</th>
<th>REL</th>
<th>10 ppm</th>
<th>50 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphthalene</td>
<td>TWA</td>
<td>10 ppm</td>
<td>STEL</td>
<td>15 ppm</td>
<td>REL</td>
<td>10 ppm</td>
<td>50 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>10 ppm</td>
<td>PEL</td>
<td>15 ppm</td>
<td>10 ppm</td>
<td>75 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>10 ppm</td>
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</table>

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

- **Appearance**: amber
- **Physical State**: liquid, clear
- **Odor**: aromatic solvent
- **pH**: 3.9 (10 %)
- **Density**: approx. 1.14 g/cm³ at 20 °C
- **Viscosity**: 19.8 mPa.s at 25 °C

**SECTION 10. STABILITY AND REACTIVITY**

- **Hazardous Reactions**: no data available
- **Stable under recommended storage conditions.**
SECTION 11. TOXICOLOGICAL INFORMATION

Only acute toxicity studies have been performed on this product as formulated. The non-acute information pertains to the technical-grade active ingredients, Pyrasulfotole and Bromoxynil, as well as, the herbicide safener, Mefenpyr-diethyl.

**Acute Oral Toxicity**
- female rat: LD50: > 300 mg/kg
- female rat: LD50: < 2,000 mg/kg

**Acute Dermal Toxicity**
- male/female combined rat: LD50: > 4,000 mg/kg

**Acute Inhalation Toxicity**
- male/female combined rat: LC50: > 5 mg/l
  - Exposure time: 4 h
  - Determined in the form of liquid aerosol.
  - Highest attainable concentration.
  - (actual)
- male/female combined rat: LC50: > 20 mg/l
  - Exposure time: 1 h
  - Determined in the form of liquid aerosol.
  - Extrapolated from the 4 hr LC50.
  - (actual)

**Skin Irritation**
- rabbit: Mild skin irritation.

**Eye Irritation**
- rabbit: Moderate eye irritation.

**Sensitization**
- guinea pig: Non-sensitizing.

**Chronic Toxicity**
- Pyrasulfotole caused liver, kidney, thyroid and/or eye effects in chronic dietary studies in rats and dogs.
- Bromoxynil caused decreased body weight gains, changes in hematological parameters and/or liver effects in chronic studies in rats and dogs.
- Mefenpyr-diethyl affected the liver and/or red blood cells in chronic dietary studies in rats and dogs.

**Assessment Carcinogenicity**
- Pyrasulfotole caused secondary tumors in rats (corneal) and mice (urinary bladder) at the highest dose tested in oncogenicity studies. Based on these studies, pyrasulfotole did not demonstrate any oncogenic potential relevant for human risk assessment.
- Bromoxynil has been classified by EPA as a Group C, possible human carcinogen, based on an increased incidence of liver tumors observed in mice.
- Mefenpyr-diethyl was not carcinogenic in oncogenicity studies in rats and mice.
ACGIH
None.
NTP
None.
IARC
None.
OSHA
None.

REPRODUCTION
Pyrasulfotole was not a reproductive toxicant in a two-generation study in rats.

Bromoxynil did not cause reproductive toxicity in multi-generation studies in rats via the oral and dermal route of exposure.

Mefenpyr-diethyl was not a reproductive toxicant at non-maternally toxic dose levels in a two-generation study in rats.

DEVELOPMENTAL TOXICITY
Pyrasulfotole is not a primary developmental toxicant, however, secondary effects were observed in rats and rabbits.

Bromoxynil is considered a developmental toxicant based on the results of developmental toxicity studies in rats and rabbits.

Mefenpyr-diethyl was not a primary developmental toxicant in rats and rabbits. Developmental effects were observed in rabbits but were considered secondary to maternal toxicity.

Neurotoxicity
Pyrasulfotole was not a neurotoxicant in acute, subschronic and developmental neurotoxicity screening studies in rats.

Bromoxynil did not demonstrate the potential to cause neurotoxicity in standard toxicity studies using laboratory animals.

Mefenpyr-diethyl neurotoxicity studies are not required at this time.

Mutagenicity
Pyrasulfotole was not genotoxic in a battery of in vitro and in vivo tests.

Bromoxynil was not mutagenic or genotoxic based on the collective data from a battery of in vitro and in vivo tests.

Mefenpyr-diethyl did not cause genotoxicity in a battery of in vitro and in vivo tests.
### Environmental Precautions

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not allow to get into surface water, drains and ground water. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Do not apply when weather conditions favor runoff or drift. Drift or runoff from treated areas may adversely affect non-target plants.

## SECTION 13. DISPOSAL CONSIDERATIONS

### General Disposal Guidance

Follow container label instructions for disposal of wastes generated during use in compliance with the product label. It is best to use all of the product in accordance with label directions. If it is necessary to dispose of unused product, please follow container label instructions and applicable local guidelines. Do not contaminate water, food, or feed by disposal.

### Container Disposal

Do not re-use empty containers. Triple rinse containers. Puncture container to avoid re-use. Follow advice on product label and/or leaflet.

## SECTION 14. TRANSPORT INFORMATION

### DOT CLASSIFICATION:

- **Non-Bulk Packagings (Less than or equal to 119 gallons)**
  - Not Regulated for domestic surface transportation
- **Bulk Packagings (greater than 119 gallons)**
  - NA1993, Combustible Liquid, N.O.S.(Petroleum Distillates) // PG III // Marine Pollutant( Bromoxynil)

### FREIGHT DESCRIPTION:

- Compounds Tree or Weedkilling, other than poison, Having a density of greater than 20 LBS. per cubic foot

## SECTION 15. REGULATORY INFORMATION

### EPA Registration No.

- 264-1023

### US Federal Regulations

#### TSCA list
- Bromoxynil octanoate 1689-99-2
- Solvent Naphtha (petroleum), heavy aromatic 64742-94-5

#### US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

- None.

#### SARA Title III - Section 302 - Notification and Information

- None.

#### SARA Title III - Section 313 - Toxic Chemical Release Reporting

- Bromoxynil octanoate 1689-99-2 1.0%
US States Regulatory Reporting
CA Prop65
This product does not contain any substances known to the State of California to cause cancer.

This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
Bromoxynil octanoate 1689-99-2 Developmental toxin.

US State Right-To-Know Ingredients
Bromoxynil octanoate 1689-99-2 NJ

Canadian Regulations
Canadian Domestic Substance List
Solvent Naphtha (petroleum), heavy aromatic 64742-94-5

Environmental
CERCLA
None.

Clean Water Section 307 Priority Pollutants
None.

Safe Drinking Water Act Maximum Contaminant Levels
None.

International Regulations
European Inventory of Existing Commercial Substances (EINECS)
Bromoxynil octanoate 1689-99-2
Bromoxynil heptanoate 56634-95-8
Solvent Naphtha (petroleum), heavy aromatic 64742-94-5

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):
Health - 1 Flammability - 2 Reactivity - 1 Others - none
0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason to Revise: Updated Section 1: CHEMICAL PRODUCT AND COMPANY INFORMATION; Updated Section 3: HAZARDOUS INFORMATION; Updated Section 14: TRANSPORT INFORMATION.

Revision Date: 09/26/2007

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