



**Material Safety Data Sheet**  
**HUSKIE™ HERBICIDE**

MSDS Number: 102000011554  
 MSDS Version 1.4  
 Revision Date: 11/13/2007

**SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION**

**Product Name** HUSKIE™ HERBICIDE  
**MSDS Number** 102000011554  
**EPA Registration No.** 264-1023

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**

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Pyrasulfotole	365400-11-9	3.30
Bromoxynil octanoate	1689-99-2	13.40
Bromoxynil heptanoate	56634-95-8	12.90
Mefenpyr-diethyl	135590-91-9	0.83
Naphthalene	91-20-3	5.09

**SECTION 3. HAZARDS IDENTIFICATION**

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

**Emergency Overview** Warning! Keep out of the reach of children. May be fatal if swallowed. 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. May cause irritation. Avoid contact with skin.

**Ingestion** May be fatal if swallowed.

**Inhalation** Harmful if inhaled. Avoid breathing spray mist.



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**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 Hazards** Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard.

**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)



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**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.

**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. 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.

**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

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

**General Protection** Follow all label instructions. Train employees in safe use of the product.



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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**

Pyrasulfotole	365400-11-9	OES BCS*		0.3 mg/m3
Bromoxynil octanoate	1689-99-2	OES BCS*		0.31 mg/m3
Naphthalene	91-20-3	ACGIH	TWA	10 ppm
		ACGIH	STEL	15 ppm
		NIOSH	REL	10 ppm 50 mg/m3
		NIOSH	STEL	15 ppm 75 mg/m3
		OSHA Z1	PEL	10 ppm 50 mg/m3
		OSHA Z1A	TWA	10 ppm 50 mg/m3
		OSHA Z1A	STEL	15 ppm 75 mg/m3
		US CA OEL	TWA PEL	10 ppm 50 mg/m3
		US CA OEL	STEL	15 ppm 75 mg/m3

\*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

- Appearance**                    amber
- Physical State**                liquid, clear
- Odor**                              aromatic solvent
- pH**                                 3.9 (10 %)
- Density**                         approx. 1.14 g/cm<sup>3</sup> at 20 °C
- Viscosity**                        19.8 mPa.s at 25 °C

**SECTION 10. STABILITY AND REACTIVITY**

- Hazardous**                        Thermal decomposition can lead to release of:



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**Decomposition Products** Nitrogen oxides (NOx)  
Hydrogen bromide (HBr)  
Hydrogen chloride (HCl)  
Hydrogen fluoride (HF)  
Sulphur oxides

**Hazardous Reactions** 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.

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.

**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.



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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**

Naphthalene 91-20-3 Group A4

**NTP**

Naphthalene 91-20-3

**IARC**

Naphthalene 91-20-3 Overall evaluation: 2B

**OSHA**

None.

**Reproductive & Developmental Toxicity**

**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, subchronic 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.



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**SECTION 12. ECOLOGICAL INFORMATION**

**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.

**RCRA Classification** The RCRA Classifications may be on the individual component(s) and not necessarily on the product as a whole.

91-20-3 Naphthalene  
 US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261): U165

91-20-3 Naphthalene  
 US. EPA Resource Conservation and Recovery Act (RCRA) U List of Hazardous Wastes (40 CFR 261.33(f) and 40 CFR 302 [CERCLA]): U165

**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



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**SECTION 15. REGULATORY INFORMATION**

**EPA Registration No.** 264-1023

**US Federal Regulations**

**TSCA list**

Bromoxynil octanoate 1689-99-2  
 Naphthalene 91-20-3

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

Naphthalene 91-20-3

**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%  
 Naphthalene 91-20-3 0.1%

**US States Regulatory Reporting**

**CA Prop65**

This product contains a chemical known to the State of California to cause cancer.

Naphthalene 91-20-3

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  
 Naphthalene 91-20-3 CA, CT, IL, MN, NJ, PA, RI

**Canadian Regulations**

**Canadian Domestic Substance List**

Naphthalene 91-20-3

**Environmental**

**CERCLA**

Naphthalene 91-20-3 100 lbs

**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  
 Naphthalene 91-20-3





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**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 2: COMPOSITION/INFORMATION ON INGREDIENTS; Updated Section 3: HAZARDS IDENTIFICATION; Updated Section 4: FIRST AID MEASURES; Updated Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION; Updated Section 10: STABILITY AND REACTIVITY.

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