

**Material Safety Data Sheet****OSPREY™ HERBICIDE**

MSDS Number: 102000005383

MSDS Version 2.0

Revision Date: 12/21/2007

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name OSPREY™ HERBICIDE
MSDS Number 102000005383
EPA Registration No. 264-802

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>
Mesosulfuron-methyl	208465-21-8	4.50
Tetrapropylene benzene sulfonate, calcium salt	11117-11-6	
Naphthalene	91-20-3	
Quartz (Silica, Crystalline)	14808-60-7	
Alkylated naphthalene sulfonate, formaldehyde polymer, sodium salt		
Trade Secret Ingredient(s)		

SECTION 3. HAZARDS IDENTIFICATION

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

Emergency Overview Caution! Harmful if swallowed or absorbed through skin. Moderate eye irritation.
Avoid contact with skin, eyes and clothing.

Physical State dry, free flowing, water dispersible granules

Odor aromatic

Appearance beige

Routes of Exposure Ingestion, Skin Absorption, Eye contact

Immediate Effects

Eye Moderate eye irritation. Avoid contact with eyes.

Skin May cause slight irritation. Harmful if absorbed through skin. Avoid contact with skin and clothing.

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Ingestion	Do not take internally. Harmful if swallowed.
Inhalation	Avoid breathing dust. Inhalation not likely.
Chronic or Delayed Long-Term	This product is not listed as a carcinogen by ACGIH, NTP, IARC or OSHA. However, it may contain crystalline silica (quartz), a substance which has been listed as a carcinogen by ACGIH, NTP and IARC. Crystalline silica is a naturally-occurring mineral component of many sands and clays. Although the carcinogenic potential of crystalline silica in humans is controversial, it must be considered if it is inhaled under excessive exposure conditions. The respirable portion of the silica that may be contained in this product, however, is small, such that inhalation exposure during anticipated conditions of use is minimal.
Medical Conditions Aggravated by Exposure	No specific medical conditions are known which may be aggravated by exposure to this product. As with all materials which can cause upper respiratory tract irritation, persons with a history of asthma, emphysema, or hyperreactive airways disease may be more susceptible to overexposure. Pulmonary and respiratory diseases may be aggravated by exposure to respirable crystalline silica.

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 Signs and Symptoms	Local: Irritation Systemic: To date no symptoms are known.
Treatment	There is no specific antidote. Appropriate supportive and symptomatic treatment



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as indicated by the patient's condition is recommended.

SECTION 5. FIRE FIGHTING MEASURES

Explosiveness	Not explosive
Fire and Explosion Hazards	In the event of fire the following can be released: Carbon dioxide (CO ₂) Nitrogen oxides (NO _x) Sulphur oxides Hydrogen fluoride (HF) Hydrogen chloride (HCl) Carbon monoxide (CO) Hydrogen cyanide (hydrocyanic acid)
Suitable Extinguishing Media	Foam, Dry powder, Carbon dioxide (CO ₂), Water spray
Fire Fighting Instructions	Keep out of smoke. Fight fire from upwind position. Cool closed containers/tanks exposed to fire with water spray. 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. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.
Methods for Cleaning Up	Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.
Additional Advice	Use personal protective equipment. Do not allow to enter soil, waterways or waste water canal.

SECTION 7. HANDLING AND STORAGE

Handling Procedures	Ensure adequate ventilation. Care should be taken to avoid formation of dust from abraded granules.
Storing Procedures	Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight. Keep away from food, drink and animal feedingstuffs.



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Work/Hygienic Procedures

When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. 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: 0 °C / 32 °F
Recommended maximum transport/storage temperature: 40 °C / 104 °F

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General Protection

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.

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

Eye/Face Protection

Safety glasses

Hand Protection

Chemical-resistant gloves made of waterproof material such as neoprene, butyl rubber, barrier laminate or nitrile rubber.

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

This product contains material which are Trade Secret and may have Occupational Exposure Limits. If more information is required, call the product information number listed in Section 1.

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
		ACGIH	TWA	0.05 mg/m3
Quartz (Silica, Crystalline)	14808-60-7	Form of exposure	Respirable fraction.	
		ACGIH NIC	TWA	0.025 mg/m3



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Form of exposure		Respirable fraction.
NIOSH	REL	0.05 mg/m3
Form of exposure		Respirable dust.
OSHA Z1A	TWA	0.1 mg/m3
Form of exposure		Respirable dust.
Z3	TWA	2.4 millions of particles per cubic foot of air
Form of exposure		Respirable.
Remarks		The value is calculated from a specified equation using a value of 100%. Values lower than 100% will give higher exposure limits. See regulation for specific equation.
Z3	TWA	0.1 mg/m3
Form of exposure		Respirable.
Remarks		The value is calculated from a specified equation using a value of 100%. Values lower than 100% will give higher exposure limits. See regulation for specific equation.
Z3	TWA	0.3 mg/m3
Form of exposure		Total dust.
Remarks		The value is calculated from a specified equation using a value of 100%. Values lower than 100% will give higher exposure limits. See regulation for specific equation.
US CA OEL	TWA PEL	0.1 mg/m3
Form of exposure		Respirable dust.
US CA OEL	TWA PEL	0.3 mg/m3
Form of exposure		Total dust.
OSHA Z1	PEL	5 mg/m3
Form of exposure		Respirable fraction.
OSHA Z1	PEL	15 mg/m3
Form of exposure		Total dust.
ACGIH	TWA	0.025 mg/m3
Form of exposure		Respirable fraction.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	beige
Physical State	dry, free flowing, water dispersible granules

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Odor	aromatic
pH	8.5 - 9.5 (10 %) at 23 °C
Bulk Density	644 - 756 kg/m ³ at 20 °C 41 - 45 lb/ft ³
Water solubility	dispersible
Decomposition Temperature	> 170 °C DSC , Heating rate: 3 K/min
Partition coefficient: n-octanol/water	log Pow: 1.9 at 25 °C The value mentioned relates to the active ingredient mesosulfuron-methyl.

SECTION 10. STABILITY AND REACTIVITY

Hazardous Reactions	No dangerous reaction known under conditions of normal use. Stable under recommended storage conditions.
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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 ingredient, mesosulfuron-methyl.

Acute Oral Toxicity	rat: LD50: > 2,000 mg/kg
Acute Dermal Toxicity	rat: LD50: > 2,000 mg/kg
Acute Inhalation Toxicity	rat: LC50: > 2.17 mg/l Exposure time: 4 h Highest attainable concentration. rat: LC50: > 8.68 mg/l Exposure time: 1 h Extrapolated from the 4 hr LC50.
Skin Irritation	rabbit: Slight irritation.
Eye Irritation	rabbit: Moderate eye irritation.
Sensitization	guinea pig: Non-sensitizing.
Chronic Toxicity	Mesosulfuron-methyl did not cause any treatment-related effects in chronic toxicity studies in rats and dogs.



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Assessment Carcinogenicity

Mesosulfuron-methyl was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

Naphthalene	91-20-3	Group A4
Quartz (Silica, Crystalline)	14808-60-7	Group A2

NTP

Naphthalene	91-20-3
Quartz (Silica, Crystalline)	14808-60-7

IARC

Naphthalene	91-20-3	Overall evaluation: 2B
Quartz (Silica, Crystalline)	14808-60-7	Overall evaluation: 1
Quartz (Silica, Crystalline)	14808-60-7	Overall evaluation: 1

OSHA

None.

Reproductive & Developmental Toxicity

REPRODUCTION: Mesosulfuron-methyl did not produce any reproductive effects in a reproductive toxicity study in rats.

DEVELOPMENTAL TOXICITY: Mesosulfuron-methyl is not a developmental toxicant in rats and rabbits.

Neurotoxicity

Mesosulfuron-methyl has no structural relationship to known neurotoxic substances. Moreover, the very low and non-specific toxicological profile of mesosulfuron-methyl shows no evidence of neurotoxic potential.

Mutagenicity

Mesosulfuron-methyl was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

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 apply when weather conditions favor runoff or drift. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product as specified on the label.

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance

Pesticide, spray mixture or rinse water that cannot be used according to label instructions may be disposed of on site or at an approved waste disposal facility.

Container Disposal

Triple rinse containers. Puncture container to avoid re-use. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning. If burned, stay out of smoke.

RCRA Classification

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

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- 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**TRANSPORTATION CLASSIFICATION:**

Not regulated for transportation

FREIGHT CLASSIFICATION:

Compounds, Tree or Weedkilling, N.O.I., other than poison, having a density of 20 LBS or greater per cubic foot

SECTION 15. REGULATORY INFORMATION

This product contains material(s) which are Trade Secret and are on various Regulatory Lists. These material(s) are not listed below. If more information is required, call the product information number listed in Section 1.

EPA Registration No. 264-802**US Federal Regulations****TSCA list**

Naphthalene	91-20-3
Quartz (Silica, Crystalline)	14808-60-7
Alkylated naphthalene sulfonate, formaldehyde polymer, sodium salt	

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

Naphthalene	91-20-3
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SARA Title III - Section 302 - Notification and Information

None.

SARA Title III - Section 313 - Toxic Chemical Release Reporting

Naphthalene	91-20-3	0.1%
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US States Regulatory Reporting**CA Prop65**

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

Naphthalene	91-20-3
Quartz (Silica, Crystalline)	14808-60-7

This product does not contain any substances known to the State of California to cause reproductive harm.

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US State Right-To-Know Ingredients

Naphthalene	91-20-3	CA, CT, IL, MN, NJ, PA, RI
Quartz (Silica, Crystalline)	14808-60-7	IL, MA, MN, RI

Canadian Regulations**Canadian Domestic Substance List**

Tetrapropylene benzene sulfonate, calcium salt	11117-11-6
Naphthalene	91-20-3
Quartz (Silica, Crystalline)	14808-60-7
Alkylated naphthalene sulfonate, formaldehyde polymer, sodium salt	

Environmental**CERCLA**

Naphthalene	91-20-3	100 lbs
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Clean Water Section 307 Priority Pollutants

None.

Safe Drinking Water Act Maximum Contaminant Levels

None.

International Regulations**European Inventory of Existing Commercial Substances (EINECS)**

Naphthalene	91-20-3
Quartz (Silica, Crystalline)	14808-60-7

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

Health - 2 Flammability - 1 Reactivity - 1 Others - none

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason to Revise: Updated due to new system and numbering scheme. Updated for general editorial purposes.

Revision Date: 12/21/2007

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