SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

<table>
<thead>
<tr>
<th>Trade name</th>
<th>OSPREY® XTRA HERBICIDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product code (UVP)</td>
<td>84422045</td>
</tr>
<tr>
<td>SDS Number</td>
<td>102000030357</td>
</tr>
<tr>
<td>EPA Registration No.</td>
<td>264-1195</td>
</tr>
</tbody>
</table>

Relevant identified uses of the substance or mixture and uses advised against

<table>
<thead>
<tr>
<th>Use</th>
<th>Herbicide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrictions on use</td>
<td>See product label for restrictions.</td>
</tr>
</tbody>
</table>

Information on supplier

<table>
<thead>
<tr>
<th>Supplier</th>
<th>Bayer CropScience</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2 T.W. Alexander Drive</td>
</tr>
<tr>
<td></td>
<td>Research Triangle PK, NC 27709</td>
</tr>
<tr>
<td></td>
<td>USA</td>
</tr>
<tr>
<td>Responsible Department</td>
<td>Email: <a href="mailto:SDSINFO.BCS-NA@bayer.com">SDSINFO.BCS-NA@bayer.com</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emergency telephone no.</th>
<th>1-800-334-7577</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Telephone Number (24hr/ 7 days)</td>
<td>1-800-334-7577</td>
</tr>
<tr>
<td>Product Information Telephone Number</td>
<td>1-866-99BAYER (1-866-992-2937)</td>
</tr>
</tbody>
</table>

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200

Eye irritation: Category 2B

Labelling in accordance with regulation HCS 29CFR §1910.1200

Signal word: Warning

Hazard statements
Causes eye irritation.

Precautionary statements
Wash thoroughly after handling.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/ attention.

Hazards Not Otherwise Classified (HNOC)
No other hazards not otherwise classified.
No physical hazards not otherwise classified.
SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Component Name</th>
<th>CAS-No.</th>
<th>Concentration % by weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mesosulfuron-methyl</td>
<td>208465-21-8</td>
<td>4.5</td>
</tr>
<tr>
<td>Thiencarbazone-methyl</td>
<td>317815-83-1</td>
<td>1.5</td>
</tr>
<tr>
<td>Mefenpyr-diethyl</td>
<td>135590-91-9</td>
<td>11.25</td>
</tr>
<tr>
<td>Sodium diisopropynaphthalene sulphonate</td>
<td>1322-93-6</td>
<td>4.8</td>
</tr>
<tr>
<td>Sulfonated aromatic polymer, sodium salt</td>
<td>68425-94-5</td>
<td>24.0</td>
</tr>
</tbody>
</table>

SECTION 4: FIRST AID MEASURES

Description of first aid measures

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

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.

Skin contact
Take off contaminated clothing and shoes immediately. Call a physician or poison control center immediately.

Eye contact
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.

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

Most important symptoms and effects, both acute and delayed

Symptoms
No symptoms known or expected.

Indication of any immediate medical attention and special treatment needed

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

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable
High volume water jet
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Special hazards arising from the substance or mixture

In the event of fire the following may be released: Hydrogen chloride (HCl), Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Sulphur oxides, Nitrogen oxides (NOx)

Advice for firefighters

Special protective equipment for firefighters

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

Further information

Keep out of smoke. Fight fire from upwind position.

Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.

Flash point

Not applicable

Auto-ignition temperature

170 °C / 338 °F

Lower explosion limit

Not applicable

Upper explosion limit

Not applicable

Explosivity

Not explosive


SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions

Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods and materials for containment and cleaning up

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. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal. Do not allow product to contact non-target plants.

Reference to other sections

Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Avoid dust formation. Use only in area provided with appropriate exhaust ventilation.

Advice on protection against fire and explosion

Avoid dust formation by friction. Dust may form explosive mixture in air. Take measures to prevent the build up of electrostatic charge. Keep
Hygiene measures
Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Remove Personal Protective Equipment (PPE) immediately after handling this product. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

Conditions for safe storage, including any incompatibilities
Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a place accessible by authorized persons only. Keep away from direct sunlight. Protect from frost.

SECTION 8: EXPOSURE CONTROLS/PERSOAL PROTECTION

Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mesosulfuron-methyl</td>
<td>208465-21-8</td>
<td>10 mg/m3 (TWA)</td>
<td></td>
<td>OES BCS*</td>
</tr>
<tr>
<td>Thiencarbazone-methyl</td>
<td>317815-83-1</td>
<td>10 mg/m3 (TWA)</td>
<td></td>
<td>OES BCS*</td>
</tr>
<tr>
<td>Mefenpyr-diethyl</td>
<td>135590-91-9</td>
<td>10 mg/m3 (TWA)</td>
<td></td>
<td>OES BCS*</td>
</tr>
</tbody>
</table>

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

Exposure controls

Personal protective equipment
In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

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.

Hand protection
Chemical resistant nitrile rubber gloves

Eye protection
Tightly fitting safety goggles

Skin and body protection
Wear long-sleeved shirt and long pants and shoes plus socks.

General protective measures
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.
SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
brown

Physical State
water-dispersible granules

Odor
odourless

Odour Threshold
No data available

pH
7.5 - 9.5 (1 %) (23 °C) (deionized water)

Vapor Pressure
No data available

Vapor Density (Air = 1)
No data available

Bulk density
0.62 g/ml (loose)

Evaporation rate
Not applicable

Boiling Point
Not applicable

Melting / Freezing Point
Not applicable

Water solubility
dispersible

Minimum Ignition Energy
Not applicable

Decomposition temperature
Stable under normal conditions.

Partition coefficient: n-octanol/water
Not applicable

Viscosity
Not applicable

Flash point
Not applicable

Auto-ignition temperature
170 °C / 338 °F

Lower explosion limit
Not applicable

Upper explosion limit
Not applicable

Explosivity
Not explosive

Other information
The product is capable of dust explosions. Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Thermal decomposition
Stable under normal conditions.

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
No hazardous reactions when stored and handled according to prescribed instructions.
Conditions to avoid
Extremes of temperature and direct sunlight.

Incompatible materials
No data available

Hazardous decomposition products
No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes
Ingestion, Eye contact, Skin contact

Immediate Effects
Eye
Causes eye irritation.

Ingestion
Harmful if swallowed.

Information on toxicological effects

Acute oral toxicity
LD50 (Rat) > 5,000 mg/kg

Acute inhalation toxicity
LC50 (Rat) > 5.09 mg/l
Exposure time: 4 h
Determined in the form of a respirable fine dust.

Acute dermal toxicity
LD50 (Rat) > 5,000 mg/kg

Skin corrosion/irritation
Slight irritant effect - does not require labelling. (Rabbit)

Serious eye damage/eye irritation
Irritating to eyes. (Rabbit)

Respiratory or skin sensitisation
Non-sensitizing. (Mouse)

OECD Test Guideline 429, local lymph node assay (LLNA)

Assessment STOT Specific target organ toxicity – repeated exposure
Mesosulfuron-methyl did not cause specific target organ toxicity in experimental animal studies.
Thiencarbazone-methyl did not cause specific target organ toxicity in experimental animal studies.
Mefenpyr-diethyl did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity
Mesosulfuron-methyl was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Thiencarbazone-methyl was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Mefenpyr-diethyl was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity
Mesosulfuron-methyl was not carcinogenic in lifetime feeding studies in rats and mice.
Thiencarbazone-methyl was not carcinogenic in a lifetime feeding study in rats. Thiencarbazone-methyl caused at high dose levels an increased incidence of tumours in mice in the following organ(s): urinary bladder. The tumours seen with Thiencarbazone-methyl were caused through the chronic irritation due to the presence of bladder stones.
Mefenpyr-diethyl was not carcinogenic in lifetime feeding studies in rats and mice.
Assessment toxicity to reproduction
Mesosulfuron-methyl did not cause reproductive toxicity in a two-generation study in rats. Thiencarbazone-methyl did not cause reproductive toxicity in a two-generation study in rats. Mefenpyr-diethyl did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity
Mesosulfuron-methyl did not cause developmental toxicity in rats and rabbits. Thiencarbazone-methyl did not cause developmental toxicity in rats and rabbits. Mefenpyr-diethyl caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Mefenpyr-diethyl are related to maternal toxicity.

Further information
Only acute toxicity studies have been performed on the formulated product. The non-acute information pertains to the active ingredient(s).

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish
- LC50 (Oncorhynchus mykiss (rainbow trout)) > 100 mg/l
  Exposure time: 96 h
  The value mentioned relates to the active ingredient mesosulfuron-methyl.
- LC50 (Oncorhynchus mykiss (rainbow trout)) > 104 mg/l
  Exposure time: 96 h
  The value mentioned relates to the active ingredient thiencarbazone-methyl.
- LC50 (Oncorhynchus mykiss (rainbow trout)) 4.2 mg/l
  Exposure time: 96 h
  The value mentioned relates to the active ingredient mefenpyr-diethyl.
- LC50 (Cyprinus carpio (Carp)) 2.4 mg/l
  Exposure time: 96 h
  The value mentioned relates to the active ingredient mefenpyr-diethyl.

Toxicity to aquatic invertebrates
- EC50 (Daphnia magna (Water flea)) > 100 mg/l
  Exposure time: 48 h
  The value mentioned relates to the active ingredient mesosulfuron-
methyl.

EC50 (Daphnia magna (Water flea)) > 98.6 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient thiencarbazone-methyl.

EC50 (Daphnia magna (Water flea)) 20.9 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient mefenpyr-diethyl.

Toxicity to aquatic plants

IC50 (Pseudokirchneriella subcapitata (microalgae)) > 0.29 mg/l
Growth rate; Exposure time: 72 h
The value mentioned relates to the active ingredient metsulfuron methyl.

IC50 (Navicula pelliculosa (Freshwater diatom)) > 74.9 mg/l
Growth rate; Exposure time: 72 h
The value mentioned relates to the active ingredient mesosulfuron-methyl.

IC50 (Lemna gibba (gibbous duckweed)) > 0.001 mg/l
Growth rate; Exposure time: 7 d
The value mentioned relates to the active ingredient mesosulfuron-methyl.

NOEC (Lemna gibba (gibbous duckweed)) 0.00018 mg/l
The value mentioned relates to the active ingredient mesosulfuron-methyl.

IC50 (Pseudokirchneriella subcapitata (microalgae)) 1.017 mg/l
Growth rate; Exposure time: 72 h
The value mentioned relates to the active ingredient thiencarbazone-methyl.

IC50 (Lemna gibba (gibbous duckweed)) 0.00131 mg/l
Growth rate; Exposure time: 7 d
The value mentioned relates to the active ingredient thiencarbazone-methyl.

EC50 (Desmodesmus subspicatus (green algae)) 5.8 mg/l
Exposure time: 72 h
The value mentioned relates to the active ingredient mefenpyr-diethyl.

EC50 (Navicula pelliculosa (Freshwater diatom)) 1.62 mg/l
Exposure time: 72 h
The value mentioned relates to the active ingredient mefenpyr-diethyl.

EC50 (Lemna gibba (gibbous duckweed)) 12 mg/l
Exposure time: 168 h
The value mentioned relates to the active ingredient mefenpyr-diethyl.

Biodegradability

Mesosulfuron-methyl:
Not rapidly biodegradable

Thiencarbazone-methyl:
Not rapidly biodegradable
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Mefenpyr-diethyl:
Not rapidly biodegradable

Koc
Mesosulfuron-methyl: Koc: 92
Thiencarbazone-methyl: Koc: 100
Mefenpyr-diethyl: Koc: 625

Bioaccumulation
Mesosulfuron-methyl:
Does not bioaccumulate.
Thiencarbazone-methyl:
Does not bioaccumulate.
Mefenpyr-diethyl: Bioconcentration factor (BCF) 232
Does not bioaccumulate.

Mobility in soil
Mesosulfuron-methyl: Moderately mobile in soils
Thiencarbazone-methyl: Moderately mobile in soils
Mefenpyr-diethyl: Slightly mobile in soils

Additional ecological information
No other effects to be mentioned.

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 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

Waste treatment methods
Product
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.
Dispose in accordance with all local, state/provincial and federal regulations.

Contaminated packaging
Do not re-use empty containers.
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.
Follow advice on product label and/or leaflet.

RCRA Information
Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

SECTION 14: TRANSPORT INFORMATION
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Print Date: 12/06/2018

10/12

49CFR
Not dangerous goods / not hazardous material

IMDG
UN number 3077
Class 9
Packaging group III
Marine pollutant YES
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (MESOSULFURON-METHYL, THIENCARBAZONE-METHYL, MIXTURE)

IATA
UN number 3077
Class 9
Packaging group III
Environm. Hazardous Mark YES
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (MESOSULFURON-METHYL, THIENCARBAZONE-METHYL, MIXTURE)

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 264-1195
US Federal Regulations
TSCA list
Sodium diisopropynaphthalene 1322-93-6
Sulphonate
Sulfonated aromatic polymer, sodium salt 68425-94-5
Calcium carbonate 1317-65-3
Silica, amorphe 7631-86-9
Polyethylene-polypropylene copolymer 9003-11-6
US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D) Not applicable.
SARA Title III - Section 302 - Notification and Information
None.
SARA Title III - Section 313 - Toxic Chemical Release Reporting
None.
US States Regulatory Reporting
CA Prop65
This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.
US State Right-To-Know Ingredients
Calcium carbonate 1317-65-3 MN, RI
Silica, amorphe 7631-86-9 CA, MN
Sodium hydroxide 1310-73-2 CA, CT, IL, MN, NJ, RI

EPA/FIFRA Information:
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 required on the pesticide label:

Signal word: Caution!
Hazard statements: Harmful if swallowed.
Causes moderate eye injury.
Avoid contact with skin, eyes and clothing.
Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.
Remove and wash contaminated clothing before re-use.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms
49CFR Code of Federal Regulations, Title 49
ACGIH US. ACGIH Threshold Limit Values
ATE Acute toxicity estimate
CAS-Nr. Chemical Abstracts Service number
CERCLA Comprehensive Environmental Response, Compensation, and Liability Act
EINECS European inventory of existing commercial substances
ELINCS European list of notified chemical substances
IARC International Agency for Research on Cancer
IATA International Air Transport Association
IMDG International Maritime Dangerous Goods
N.O.S. Not otherwise specified
NTP US. National Toxicology Program (NTP) Report on Carcinogens
OECD Organization for Economic Co-operation and Development
TDG Transportation of Dangerous Goods
TWA Time weighted average
UN United Nations
WHO World health organisation
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NFPA 704 (National Fire Protection Association):
  Health - 1  Flammability - 1  Instability - 0  Others - none

  Health - 1  Flammability - 1  Physical Hazard - 0  PPE -

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

Reason for Revision: New Safety Data Sheet.

Revision Date: 09/14/2018

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