

January 2011



MATERIAL SAFETY DATA SHEETS

FOR ASSIGNMENT:

PURSUIT HERBICIDE

PLUS

**ROUNDUP WEATHERMAX WITH
TRANSORB 2 TECHNOLOGY
LIQUID HERBICIDE**

Safety Data Sheet

PURSUIT HERBICIDE

Revision date : 2013/05/24
Version: 5.0

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(30128249/SDS_CPA_CA/EN)

1. Product and Company Identification

Company

BASF Canada Inc.
100 Milverton Drive
Mississauga, ON L5R 4H1, CANADA

24 Hour Emergency Response Information

CANUTEC (reverse charges): (613) 996-6666
BASF HOTLINE: (800) 454-COPE (2673)

Molecular formula: C₁₅H₁₉N₃O₃ · N H(4)
Chemical family: imidazole derivative
PCP21537/26287/28885
Synonyms: Imazethapyr ammonium

2. Hazards Identification

Emergency overview

CAUTION:
MAY BE HARMFUL IF SWALLOWED.
May be harmful if absorbed through skin.
MAY BE HARMFUL IF INHALED.
KEEP OUT OF REACH OF CHILDREN.
MAY CAUSE EYE IRRITATION.
MAY CAUSE SKIN IRRITATION.
May cause eye damage.

State of matter: liquid
Colour: green to dark brown
Odour: musty

Potential health effects

Irritation / corrosion:

May cause slight but temporary irritation to the eyes. May cause slight irritation to the skin.

Sensitization:

Skin sensitizing effects were not observed in animal studies.

Potential environmental effects

Aquatic toxicity:

There is a high probability that the product is not acutely harmful to fish. There is a high probability that the product is not acutely harmful to aquatic invertebrates. Very toxic (acute effect) to aquatic plants.

Terrestrial toxicity:

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With high probability not acutely harmful to terrestrial organisms.

Degradation / environmental fate:

Not readily biodegradable (by OECD criteria).

3. Composition / Information on Ingredients

Not WHMIS controlled.

4. First-Aid Measures

General advice:

First aid providers should wear personal protective equipment to prevent exposure. Remove contaminated clothing. Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or physician for treatment advice. Have the product container or label with you when calling a poison control center or doctor or going for treatment.

If inhaled:

Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary.

If on skin:

After contact with skin, wash immediately with plenty of water and soap. If irritation develops, seek medical attention.

If in eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:

Rinse mouth immediately and then drink plenty of water, seek medical attention. Do not induce vomiting unless told to by a poison control center or doctor. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

Note to physician

Antidote: No known specific antidote.
Treatment: Treat symptomatically.

5. Fire-Fighting Measures

| | | |
|----------------------------|---------------|--|
| Flash point: | 93 °C | (DIN 51758) |
| Autoignition: | | not applicable Based on the water content the product does not ignite. |
| Lower explosion limit: | | As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use. |
| Upper explosion limit: | | As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use. |
| Flammability: | not flammable | |
| Self-ignition temperature: | | not self-igniting |

Suitable extinguishing media:

foam, dry powder, carbon dioxide, water spray

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Hazards during fire-fighting:

carbon monoxide, carbon dioxide, nitrogen dioxide, nitrogen oxide, Hydrocarbons,
If product is heated above decomposition temperature, toxic vapours will be released. The substances/groups of substances mentioned can be released if the product is involved in a fire.

Protective equipment for fire-fighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

Evacuate area of all unnecessary personnel. Contain contaminated water/firefighting water. Do not allow to enter drains or waterways.

6. Accidental release measures

Personal precautions:

Take appropriate protective measures. Clear area. Shut off source of leak only under safe conditions. Extinguish sources of ignition nearby and downwind. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

Environmental precautions:

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water.

Cleanup:

Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

7. Handling and Storage

Handling

General advice:

Ensure adequate ventilation. Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect contents from the effects of light. Protect against heat. Protect from air. Handle and open container with care. Avoid aerosol formation. Avoid dust formation. Provide means for controlling leaks and spills. Do not return residues to the storage containers. Follow label warnings even after container is emptied. The substance/product may be handled only by appropriately trained personnel. Avoid all direct contact with the substance/product. Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts/mists/vapours. Wear suitable personal protective clothing and equipment.

Protection against fire and explosion:

No special precautions necessary. The substance/product is non-combustible.

Storage

General advice:

Keep away from heat. Protect against moisture. Protect from direct sunlight. Store protected against freezing.

Storage incompatibility:

General advice: Segregate from incompatible substances. Segregate from foods and animal feeds. Segregate from textiles and similar materials.

Temperature tolerance

Protect from temperatures below: 0 °C

Changes in the properties of the product may occur if substance/product is stored below indicated temperature for extended periods of time.

Protect from temperatures above: 40 °C

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Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

8. Exposure Controls and Personal Protection

Users of a pesticidal product should refer to the product label for personal protective equipment requirements.

Advice on system design:

Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

Personal protective equipment

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) TC23C Chemical/Mechanical type filter system to remove a combination of particles, gas and vapours. For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:

Chemical resistant protective gloves

Eye protection:

Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:

Wear long sleeved work shirt and long work pants in addition to other stated personal protective equipment. Work place should be equipped with a shower and an eye wash. Handle in accordance with good industrial hygiene and safety practice. Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

9. Physical and Chemical Properties

| | | |
|----------------------|------------------------------|--|
| Form: | liquid | |
| Odour: | musty | |
| Odour threshold: | No data available. | |
| Colour: | green to dark brown | |
| pH value: | 6.5 - 7 | |
| Freezing point: | approx. < 0 °C | Information applies to the solvent. |
| Boiling point: | approx. 100 °C | (1 ATM) Information applies to the solvent. |
| Vapour pressure: | approx. 23.3 kPa | (20 °C) Information applies to the solvent. |
| Density: | 1.1 - 1.12 g/cm ³ | (21 °C) |
| Viscosity, dynamic: | approx. > 1 mPa.s | (20 °C) |
| Solubility in water: | | miscible |
| Molar mass: | 289.3 g/mol | |

10. Stability and Reactivity

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Conditions to avoid:

Avoid all sources of ignition: heat, sparks, open flame. Avoid prolonged storage. Avoid contamination. Avoid prolonged exposure to extreme heat. Avoid extreme temperatures.

Substances to avoid:

oxidizing agents

Hazardous reactions:

The product is chemically stable.

Hazardous polymerization will not occur. No hazardous reactions if stored and handled as prescribed/indicated.

Decomposition products:

Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated., Prolonged thermal loading can result in products of degradation being given off.

Thermal decomposition:

No decomposition if stored and handled as prescribed/indicated.

Corrosion to metals:

zinc iron mild steel brass copper

Oxidizing properties:

not fire-propagating

Not an oxidizer.

11. Toxicological information

Acute toxicity

Oral:

Type of value: LD50
Species: rat (male/female)
Value: > 5,000 mg/kg

Inhalation:

Type of value: LC50
Species: rat (male/female)
Value: > 2.67 mg/l
Highest concentration available for testing. No mortality was observed.

Dermal:

Type of value: LD50
Species: rabbit (male/female)
Value: > 5,000 mg/kg

Irritation / corrosion

Skin:

Species: rabbit
Result: non-irritant

Eye:

Species: rabbit
Result: non-irritant

Sensitization:

Buehler test
Species: guinea pig
Result: Skin sensitizing effects were not observed in animal studies.

Genetic toxicity

Information on: imazethapyr

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No mutagenic effect was found in various tests with microorganisms and mammals.

Carcinogenicity

Information on: imazethapyr
In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed.

Reproductive toxicity

Information on: imazethapyr
The results of animal studies gave no indication of a fertility impairing effect.

Development:

Information on: imazethapyr
No indications of a developmental toxic / teratogenic effect were seen in animal studies.

12. Ecological Information

Fish

Acute:
Flow through.
Oncorhynchus mykiss/LC50 (96 h): > 112 mg/l

Aquatic invertebrates

Acute:
Flow through.
Daphnia magna/EC50 (48 h): > 110 mg/l

Aquatic plants

Toxicity to aquatic plants:
static
Algae/EC50 (96 h): 21.5 mg/l

Degradability / Persistence **Biological / Abiological Degradation**

Evaluation: Not readily biodegradable (by OECD criteria).

Information on: imazethapyr
Test method: DIN ISO 11266, soil
Method of analysis: CO2 formation relative to the theoretical value
Degree of elimination: approx. 1 - 2 % (28 d)

Bioaccumulation

Information on: imazethapyr
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

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13. Disposal considerations

Waste disposal of substance:

See product label for disposal and recycling instructions.

14. Transport Information

Land transport

TDG

Not classified as a dangerous good under transport regulations

Sea transport

IMDG

Hazard class: 9
Packing group: III
ID number: UN 3082
Hazard label: 9, EHSM
Marine pollutant: YES
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(contains IMAZETHAPYR 22%)

Air transport

IATA/ICAO

Hazard class: 9
Packing group: III
ID number: UN 3082
Hazard label: 9, EHSM
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(contains IMAZETHAPYR 22%)

15. Regulatory Information

Federal Regulations

Registration status:

Chemical DSL, CA released; restriction on quantity / not listed

Crop Protection DSL, CA released / exempt

WHMIS does not apply to this product.

THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CPR AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

16. Other Information

Recommended use: herbicide

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We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

SDS Prepared by:

BASF NA Product Regulations

msds@basf.com

BASF HOTLINE (800) 454 – COPE (2673)

SDS Prepared on: 2013/05/24

END OF DATA SHEET

Monsanto Canada
Safety Data Sheet
Commercial Product

1. PRODUCT AND COMPANY IDENTIFICATION

Product name

Roundup WeatherMax® with Transorb® 2 Technology Liquid Herbicide

PCP Reg. No.

27487

Product use

Herbicide

Chemical name

Not applicable.

Synonyms

None.

Company

Monsanto Canada, 900 - One Research Road, Winnipeg, MB, R3T 6E3

Telephone: 204-985-1000 or 800-667-4944, **Fax:** 204-488-9599

E-mail: safety.datasheet@monsanto.com

Emergency numbers

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT Call CANUTEC - Day or Night: 613-996-6666 (collect calls accepted) or MONSANTO: 314-694-4000 (collect calls accepted).

FOR MEDICAL EMERGENCY - Day or Night: +1 (314) 694-4000 (collect calls accepted).

2. HAZARDS IDENTIFICATION

Emergency overview

Appearance and odour (colour/form/odour): Blue / Liquid / Odourless

WARNING!

POISON

HARMFUL IF SWALLOWED

HARMFUL IF INHALED

CAUSES EYE IRRITATION

CAUSES SKIN IRRITATION

Potential health effects

Likely routes of exposure

Skin contact, eye contact, inhalation

Eye contact, short term

May cause temporary eye irritation.

Skin contact, short term

Irritating to skin.

Inhalation, short term

Harmful by inhalation.

Single ingestion

Harmful if swallowed.

Refer to section 11 for toxicological and section 12 for environmental information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Active ingredient

Potassium salt of N-(phosphonomethyl)glycine; {Potassium salt of glyphosate }

Composition

| COMPONENT | CAS No. | % by weight (approximate) |
|------------------------------|------------|---------------------------|
| Potassium salt of glyphosate | 70901-12-1 | 49 |
| Other ingredients | | 51 |

The specific chemical identity is being withheld because it is trade secret information of Monsanto Company.

4. FIRST AID MEASURES

Use personal protection recommended in section 8.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

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 poison control centre 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.
Continue for at least 15 minutes.

Inhalation

If inhaled, move person to fresh air. If person is not breathing, call emergency number or ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.

Ingestion

Call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

Advice to doctors

This product is not an inhibitor of cholinesterase.

Antidote

Treatment with atropine and oximes is not indicated.

5. FIRE-FIGHTING MEASURES

Flash point

Does not flash.

Extinguishing media

Recommended: Water, foam, dry chemical, carbon dioxide (CO₂)

Unusual fire and explosion hazards

Minimise use of water to prevent environmental contamination.
Environmental precautions: see section 6.

Hazardous products of combustion

Carbon monoxide (CO), phosphorus oxides (PxOy), nitrogen oxides (NOx)

Fire fighting equipment

Self-contained breathing apparatus.

Equipment should be thoroughly decontaminated after use.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protection recommended in section 8.

Environmental precautions

SMALL QUANTITIES:

Low environmental hazard.

LARGE QUANTITIES:

Minimise spread.

Keep out of drains, sewers, ditches and water ways.

Methods for cleaning up

SMALL QUANTITIES:

Absorb in earth, sand or absorbent material.

Sweep, scoop or vacuum to remove.

LARGE QUANTITIES:

Dig up heavily contaminated soil.

Refer to section 7 for types of containers.

Collect in containers for disposal.

Wash spill area with detergent and water.

Minimise use of water to prevent environmental contamination.

Refer to section 13 for disposal of spilled material.

Use handling recommendations in Section 7 and personal protection recommendations in Section 8.

7. HANDLING AND STORAGE

Good industrial practice in housekeeping and personal hygiene should be followed.

Handling

Avoid contact with eyes, skin and clothing.

Avoid breathing vapour or mist.

When using do not eat, drink or smoke.

Wash hands thoroughly after handling or contact.

Wash contaminated clothing before re-use.

Thoroughly clean equipment after use.

Do not contaminate drains, sewers and water ways when disposing of equipment rinse water.

Refer to section 13 of the safety data sheet for disposal of rinse water.

Emptied containers retain vapour and product residue.

FOLLOW LABELLED WARNINGS EVEN AFTER CONTAINER IS EMPTIED.

Storage

Compatible materials for storage: stainless steel, fibreglass, plastic, aluminium

Incompatible materials for storage: galvanised steel, unlined mild steel, see section 10.

Keep out of reach of children.

Keep away from food, drink and animal feed.

Keep only in the original container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne exposure limits

| Components | Exposure Guidelines |
|------------------------------|---|
| Potassium salt of glyphosate | No specific occupational exposure limit has been established. |
| Other ingredients | No specific occupational exposure limit has been established. |

Engineering controls

No special requirement when used as recommended.

Eye protection

If there is significant potential for contact:
 Wear chemical goggles.

Skin protection

Wear chemical resistant gloves.
 Applicators and other handlers must wear:
 Wear long sleeved shirt, long pants and shoes with socks.
 If there is significant potential for contact:
 Wear face shield.
 Wear chemical resistant clothing/footwear.

Respiratory protection

If airborne exposure is excessive:
 Wear respirator.
 Full facepiece/hood/helmet respirator replaces need for chemical goggles.

When recommended, consult manufacturer of personal protective equipment for the appropriate type of equipment for a given application.

9. PHYSICAL AND CHEMICAL PROPERTIES

These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

| | |
|---|--|
| Colour/colour range: | Blue |
| Odour: | Odourless |
| Form: | Liquid |
| Physical form changes (melting, boiling, etc.): | |
| Melting point: | Not applicable. |
| Boiling point: | No data. |
| Flash point: | Does not flash. |
| Explosive properties: | Upper explosion limit: Not applicable.; Lower explosion limit: Not applicable. |
| Auto ignition temperature: | Not applicable. |
| Specific gravity: | 1.3573 20 °C / 15.6 °C |
| Vapour pressure: | No significant volatility; aqueous solution. |
| Vapour density: | Not applicable. |
| Evaporation rate: | No data. |
| Dynamic viscosity: | No data. |
| Kinematic viscosity: | No data. |

| | |
|------------------------|------------------------------------|
| Density: | No data. |
| Solubility: | Water: Soluble |
| pH: | 4.5 - 4.9 67.7 g/l |
| Partition coefficient: | log Pow: -3.2 @ 25 °C (glyphosate) |

10. STABILITY AND REACTIVITY

Stability

Stable under normal conditions of handling and storage.

Oxidizing properties

No data.

Materials to avoid/Reactivity

Reacts with galvanised steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode.

Hazardous decomposition

Thermal decomposition: Hazardous products of combustion: see section 5.

Self-accelerating decomposition temperature (SADT)

No data.

Hazardous polymerization

No data.

11. TOXICOLOGICAL INFORMATION

This section is intended for use by toxicologists and other health professionals.

Data obtained on similar products and on components are summarized below.

Similar formulation

Acute oral toxicity

Rat, LD50: > 5,000 mg/kg body weight

Practically non-toxic.

FIFRA category IV.

Acute dermal toxicity

Rat, LD50: > 5,000 mg/kg body weight

Practically non-toxic.

FIFRA category IV.

Skin irritation

Rabbit, 3 animals, OECD 404 test:

Days to heal: 14

Primary Irritation Index (PII): 2.2/8.0

Moderate irritation.

FIFRA category III.

Eye irritation

Rabbit, 3 animals, OECD 405 test:

Days to heal: 10

Moderate irritation.

FIFRA category III.

Acute inhalation toxicity

Rat, LC50, 4 hours, aerosol: > 1.20 mg/L

Slightly toxic.
FIFRA category III.

No mortality. For purposes of the inhalation test, product was artificially aerosolized. Since this material will not become aerosolized to a hazardous concentration during transport, it is classified as non-hazardous under the transportation regulations in accordance with 2.6.2.2.4.7(b) and (c) of the UN Recommendations on the Transport of Dangerous Goods.

Skin sensitization

Guinea pig, 3-induction Buehler test:

Positive incidence: 0 %

N-(phosphonomethyl)glycine; { glyphosate}

Mutagenicity

In vitro and in vivo mutagenicity test(s):

Not mutagenic.

Repeated dose toxicity

Rabbit, dermal, 21 days:

NOAEL toxicity: > 5,000 mg/kg body weight/day

Target organs/systems: none

Other effects: none

Rat, oral, 3 months:

NOAEL toxicity: > 20,000 mg/kg diet

Target organs/systems: none

Other effects: none

Chronic effects/carcinogenicity

Mouse, oral, 24 months:

NOAEL toxicity: ~ 5,000 mg/kg diet

Target organs/systems: liver

Other effects: decrease of body weight gain, histopathologic effects

NOEL tumour: > 30,000 mg/kg diet

Tumours: none

Rat, oral, 24 months:

NOAEL toxicity: ~ 8,000 mg/kg diet

Target organs/systems: eyes

Other effects: decrease of body weight gain, histopathologic effects

NOEL tumour: > 20,000 mg/kg diet

Tumours: none

Toxicity to reproduction/fertility

Rat, oral, 2 generations:

NOAEL toxicity: 10,000 mg/kg diet

NOAEL reproduction: > 30,000 mg/kg diet

Target organs/systems in parents: none

Other effects in parents: decrease of body weight gain

Target organs/systems in pups: none

Other effects in pups: decrease of body weight gain

Effects on offspring only observed with maternal toxicity.

Developmental toxicity/teratogenicity

Rat, oral, 6 - 19 days of gestation:

NOAEL toxicity: 1,000 mg/kg body weight

NOAEL development: 1,000 mg/kg body weight

Other effects in mother animal: decrease of body weight gain, decrease of survival

Developmental effects: weight loss, post-implantation loss, delayed ossification

Effects on offspring only observed with maternal toxicity.

Rabbit, oral, 6 - 27 days of gestation:

NOAEL toxicity: 175 mg/kg body weight

NOAEL development: 175 mg/kg body weight

Target organs/systems in mother animal: none
Other effects in mother animal: decrease of survival
Developmental effects: none

12. ECOLOGICAL INFORMATION

This section is intended for use by ecotoxicologists and other environmental specialists.

Data obtained on similar products and on components are summarized below.

Similar formulation

Aquatic toxicity, fish

Rainbow trout (*Oncorhynchus mykiss*):

Acute toxicity, 96 hours, semi-static, LC50: 3.13 mg/L
Moderately toxic.

Aquatic toxicity, algae/aquatic plants

Green algae (*Selenastrum capricornutum*):

Acute toxicity, 72 hours, static, EbC50 (biomass): 0.124 mg/L
Highly toxic.

Arthropod toxicity

Honey bee (*Apis mellifera*):

Contact, 48 hours, LD50: > 250 µg/bee
Practically non-toxic.

Honey bee (*Apis mellifera*):

Oral, 48 hours, LD50: > 238.8 µg/bee
Practically non-toxic.

Soil organism toxicity, invertebrates

Earthworm (*Eisenia foetida*):

Acute toxicity, 14 days, LC50: > 10,000 mg/kg dry soil
Practically non-toxic.

Soil organism toxicity, microorganisms

Nitrogen and carbon transformation test:

40 L/ha, 28 days: Less than 25% effect on nitrogen or carbon transformation processes in soil.

Similar formulation

Aquatic toxicity, invertebrates

Water flea (*Daphnia magna*):

Acute toxicity, 48 hours, static, EC50: 8.0 mg/L
Moderately toxic.

N-(phosphonomethyl)glycine: { glyphosate }

Avian toxicity

Bobwhite quail (*Colinus virginianus*):

Dietary toxicity, 5 days, LC50: > 4,640 mg/kg diet
No more than slightly toxic.

Mallard duck (*Anas platyrhynchos*):

Dietary toxicity, 5 days, LC50: > 4,640 mg/kg diet
No more than slightly toxic.

Bobwhite quail (*Colinus virginianus*):

Acute oral toxicity, single dose, LD50: > 3,851 mg/kg body weight
Practically non-toxic.

Bioaccumulation

Bluegill sunfish (*Lepomis macrochirus*):

Whole fish: BCF: < 1

No significant bioaccumulation is expected.

Dissipation

Soil, field:

Half life: 2 - 174 days

Koc: 884 - 60,000 L/kg

Adsorbs strongly to soil.

Water, aerobic:

Half life: < 7 days

13. DISPOSAL CONSIDERATIONS

Product

Keep out of drains, sewers, ditches and water ways.

Recycle if appropriate facilities/equipment available.

Burn in proper incinerator.

Follow all local/regional/national/international regulations.

Container

See the individual container label for disposal information.

Emptied containers retain vapour and product residue.

Observe all labelled safeguards until container is cleaned, reconditioned or destroyed.

Empty packaging completely.

Triple or pressure rinse empty containers.

Do NOT contaminate water when disposing of rinse waters.

Ensure packaging cannot be reused.

Do NOT re-use containers.

Store for collection by approved waste disposal service.

Recycle if appropriate facilities/equipment available.

Follow all local/regional/national/international regulations.

Use handling recommendations in Section 7 and personal protection recommendations in Section 8.

14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

This product is not hazardous under the applicable DOT, ICAO/IATA, or IMDG regulations.

15. REGULATORY INFORMATION

PCPA registered.

16. OTHER INFORMATION

The information given here is not necessarily exhaustive but is representative of relevant, reliable data.

Follow all local/regional/national/international regulations.

Please consult supplier if further information is needed.

In this document the British spelling was applied.

|| Significant changes versus previous edition.

Full denomination of most frequently used acronyms. BCF (Bioconcentration Factor), BOD (Biochemical Oxygen Demand), COD (Chemical Oxygen Demand), EC50 (50% effect concentration), ED50 (50% effect dose), I.M. (intramuscular), I.P. (intraperitoneal), I.V. (intravenous), Koc (Soil adsorption coefficient), LC50 (50% lethality concentration), LD50 (50% lethality dose), LDLo (Lower limit of lethal dosage), LEL (Lower Explosion Limit), LOAEC (Lowest Observed Adverse Effect Concentration), LOAEL (Lowest Observed Adverse Effect Level), LOEC (Lowest Observed Effect Concentration), LOEL (Lowest Observed Effect Level), MEL (Maximum Exposure limit), MTD (Maximum Tolerated Dose), NOAEC (No Observed Adverse Effect Concentration), NOAEL (No Observed Adverse Effect Level), NOEC (No Observed Effect Concentration), NOEL (No Observed Effect Level), OEL (Occupational Exposure Limit), PEL (Permissible Exposure Limit), PII (Primary Irritation Index), Pow (Partition coefficient n-octanol/water), S.C. (subcutaneous), STEL (Short-Term Exposure Limit), TLV-C (Threshold Limit Value-Ceiling), TLV-TWA (Threshold Limit Value - Time Weighted Average), UEL (Upper Explosion Limit)

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