

Safety Data Sheet

PT WASP FREEZE II

Revision date : 2014/08/11
Version: 2.0

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(30599963/SDS_CPA_US/EN)

1. Identification

Product identifier used on the label

PT WASP FREEZE II

Recommended use of the chemical and restriction on use

Recommended use*: insecticide

* The "Recommended use" identified for this product is provided solely to comply with a US Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Registrant:
Whitmire Micro-Gen Research Laboratories, Inc.
3568 Tree Court Industrial Blvd.
St. Louis, MO 63122

Other means of identification

Substance number: 597802
EPA Register number: 499-550
Synonyms: Prallethrin

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Asp. Tox. 1 Aspiration hazard

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Label elements

Pictogram:



Signal Word:
Danger

Hazard Statement:
H304 May be fatal if swallowed and enters airways.

Precautionary Statements (Response):
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331 Do NOT induce vomiting.

Precautionary Statements (Storage):
P405 Store locked up.

Precautionary Statements (Disposal):
P501 Dispose of contents/container to hazardous or special waste collection point.

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Emergency overview

CAUTION:
KEEP OUT OF REACH OF CHILDREN.
May cause moderate but temporary irritation to the eyes.
Avoid contact with the skin, eyes and clothing.
Wash thoroughly after handling.
FLAMMABLE LIQUID AND VAPOR.
Aerosol container contains flammable gas under pressure.

3. Composition / Information on Ingredients

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
23031-36-9	0.1 %	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-1-propen-1-yl)-, 2-methyl-4-oxo-3-(2-propyn-1-yl)-2-cyclopenten-1-yl ester
124-38-9	>= 1.0 - <= 5.0 %	carbon dioxide
64742-47-8	>= 95.0 %	Distillates (petroleum), hydrotreated light Proprietary ingredients

4. First-Aid Measures

Description of first aid measures

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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.

If on skin:

Rinse skin immediately with plenty of water for 15 - 20 minutes.

If in eyes:

Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing.

If swallowed:

Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Do not induce vomiting. Have person sip a glass of water if able to swallow.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

Indication of any immediate medical attention and special treatment needed

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
foam, dry powder, carbon dioxide

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
carbon monoxide, carbon dioxide,
If product is heated above decomposition temperature, toxic vapours will be released. The substances/groups of substances mentioned can be released in case of fire. Aerosol container contains flammable gas under pressure.

Advice for fire-fighters

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, protective equipment and emergency procedures

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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. A spill of or in excess of the reportable quantity requires notification to state, local and national emergency authorities. This product is not regulated by CERCLA ("Superfund").

Methods and material for containment and cleaning up

Dike spillage. Pick up with suitable absorbent material. 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

Precautions for safe handling

RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS & WORKERS must refer to the Product Label and Directions for Use attached to the product. Provide good ventilation of working area (local exhaust ventilation if necessary). Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect against heat. Handle and open container with care. Do not open until ready to use. Once container is opened, content should be used as soon as possible. Provide means for controlling leaks and spills. 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:

Aerosol container contains flammable gas under pressure. The relevant fire protection measures should be noted. Fire extinguishers should be kept handy. Avoid all sources of ignition: heat, sparks, open flame. Avoid extreme heat. Ground all transfer equipment properly to prevent electrostatic discharge. Electrostatic discharge may cause ignition.

Conditions for safe storage, including any incompatibilities

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

Suitable materials for containers: High density polyethylene (HDPE), Low density polyethylene (LDPE)

Storage stability:

May be kept indefinitely if stored properly.

If an expiry date is mentioned on the packaging/label this takes priority over the statements on storage duration in this safety data sheet.

Protect from temperatures above: 130 °F

Explosive at or above indicated temperature.

8. Exposure Controls/Personal Protection

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

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Components with occupational exposure limits

Distillates (petroleum), hydrotreated light	ACGIH TLV	TWA value 200 mg/m ³ Non-aerosol (total hydrocarbon vapor); Application restricted to conditions in which there are negligible aerosol exposures. Skin Designation Non-aerosol (total hydrocarbon vapor); The substance can be absorbed through the skin.
carbon dioxide	OSHA PEL ACGIH TLV	PEL 5,000 ppm 9,000 mg/m ³ ; TWA value 5,000 ppm ; STEL value 30,000 ppm ;
carbon dioxide	OSHA PEL ACGIH TLV	PEL 5,000 ppm 9,000 mg/m ³ ; TWA value 5,000 ppm ; STEL value 30,000 ppm ;
Distillates (petroleum), hydrotreated light	ACGIH TLV	TWA value 200 mg/m ³ Non-aerosol (total hydrocarbon vapor); Application restricted to conditions in which there are negligible aerosol exposures. Skin Designation Non-aerosol (total hydrocarbon vapor); The substance can be absorbed through the skin.

Advice on system design:

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

Personal protective equipment

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator. 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, Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:

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

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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:

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS 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:	aerosol
Odour:	characteristic, of petroleum distillate (e.g. gasoline, kerosene)
Colour:	colourless
pH value:	approx. 5.7 (23.7 °C)
Flammability of Aerosol Products:	> 18 in (ASTM D 3065)
NFPA 30B flammability:	no flashback
Density:	Level 3 Aerosol approx. 0.8 g/cm ³ (25 °C)
Partitioning coefficient n-octanol/water (log Pow):	not applicable
Thermal decomposition:	carbon monoxide, carbon dioxide Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released. To avoid thermal decomposition, do not overheat.
Viscosity, dynamic:	2.32 cps (21.6 °C)
Solubility in water:	dispersible

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:

Corrosive effects to metal are not anticipated.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

The product is chemically stable.

Conditions to avoid

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

Incompatible materials

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strong oxidizing agents, alkali or alkaline-earth metal

Hazardous decomposition products

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:

Possible thermal decomposition products:

carbon monoxide, carbon dioxide

Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released. To avoid thermal decomposition, do not overheat.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Relatively nontoxic after single ingestion. Relatively nontoxic after short-term skin contact. Relatively nontoxic after short-term inhalation.

Oral

Type of value: LD50

Species: rat (female)

Value: > 5,000 mg/kg

Inhalation

Type of value: LC50

Species: rat (male/female)

Value: > 2.08 mg/l

Exposure time: 4 h

Dermal

Type of value: LD50

Species: rat (male/female)

Value: > 5,000 mg/kg

Irritation / corrosion

Assessment of irritating effects: May cause slight but temporary irritation to the eyes. May cause moderate irritation to the skin.

Skin

Species: rabbit

Result: moderately irritating

Eye

Species: rabbit

Result: Slightly irritating.

Sensitization

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Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

Buehler test

Species: guinea pig

Result: Skin sensitizing effects were not observed in animal studies.

Chronic Toxicity/Effects

Genetic toxicity

Information on: Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-1-propen-1-yl)-, 2-methyl-4-oxo-3-(2-propyn-1-yl)-2-cyclopenten-1-yl ester

Assessment of mutagenicity: Results from a number of mutagenicity studies with microorganisms, mammalian cell culture and mammals are available. Taking into account all of the information, there is no indication that the substance is mutagenic.

Carcinogenicity

Information on: Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-1-propen-1-yl)-, 2-methyl-4-oxo-3-(2-propyn-1-yl)-2-cyclopenten-1-yl ester

Assessment of carcinogenicity: Not carcinogenic.

Reproductive toxicity

Information on: Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-1-propen-1-yl)-, 2-methyl-4-oxo-3-(2-propyn-1-yl)-2-cyclopenten-1-yl ester

Assessment of reproduction toxicity: Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Teratogenicity

Information on: Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-1-propen-1-yl)-, 2-methyl-4-oxo-3-(2-propyn-1-yl)-2-cyclopenten-1-yl ester

Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

12. Ecological Information

Toxicity

Toxicity to fish

Information on: Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-1-propen-1-yl)-, 2-methyl-4-oxo-3-(2-propyn-1-yl)-2-cyclopenten-1-yl ester

LC50 (96 h) 0.012 mg/l, Oncorhynchus mykiss

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Aquatic invertebrates

Information on: Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-1-propen-1-yl)-, 2-methyl-4-oxo-3-(2-propyn-1-yl)-2-cyclopenten-1-yl ester
EC50 (48 h) 0.0062 mg/l, daphnia

13. Disposal considerations

Waste disposal of substance:

Pesticide wastes are regulated. If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container disposal:

Do not cut, puncture, crush, or incinerate empty aerosol containers. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Empty aerosol cans may meet the definition of RCRA D003. Consult local and/or regional EPA for further guidance.

14. Transport Information

Land transport

USDOT

Hazard class: 2.1
ID number: UN 1950
Hazard label: 2.1
Proper shipping name: AEROSOLS (contains HYDROTREATED LIGHT DISTILLATES (PETROLEUM))

Sea transport

IMDG

Hazard class: 2.1
ID number: UN 1950
Hazard label: 2.1
Marine pollutant: NO
Proper shipping name: AEROSOLS (contains HYDROTREATED LIGHT DISTILLATES (PETROLEUM))

Air transport

IATA/ICAO

Hazard class: 2.1
ID number: UN 1950
Hazard label: 2.1
Proper shipping name: AEROSOLS, FLAMMABLE (contains HYDROTREATED LIGHT DISTILLATES (PETROLEUM))

Further information

DOT: This product may be classified as ORM-D (Consumer Commodity) or Limited Quantity. After 12/31/2020, ORM-D will not apply.

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15. Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US blocked / not listed

Crop Protection TSCA, US released / exempt

EPCRA 311/312 (Hazard categories): Acute; Chronic; Fire; Sudden release of pressure

State regulations

State RTK

MA, NJ, PA

MA, NJ, PA

CAS Number

124-38-9

64742-47-8

Chemical name

carbon dioxide

Distillates (petroleum), hydrotreated light

16. Other Information

SDS Prepared by:

BASF NA Product Regulations

SDS Prepared on: 2014/08/11

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.

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE , IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY OUR COMPANY HEREUNDER ARE GIVEN GRATIS AND WE ASSUME NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.
END OF DATA SHEET



We create chemistry

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1. Identification

Product identifier used on the label

PT 565 PLUS XLO FORMULA 2

Recommended use of the chemical and restriction on use

Recommended use*: insecticide

* The "Recommended use" identified for this product is provided solely to comply with a US Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Registrant:

St. Louis, MO 63122
3568 Tree Court Industrial Blvd.
Whitmire Micro-Gen Research Laboratories, Inc.

Other means of identification

Substance number: 458813
EPA Register number: 499-290

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Skin Corr./Irrit.	2	Skin corrosion/irritation
Eye Dam./Irrit.	2B	Serious eye damage/eye irritation
STOT SE	3 (Vapours may cause	Specific target organ toxicity — single exposure

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The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 0 - 1 % oral

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 5 - 7 % Inhalation - vapour

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 6 - 7 % Inhalation - mist

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Emergency overview

CAUTION:

EXTREMELY FLAMMABLE.

KEEP OUT OF REACH OF CHILDREN.

KEEP OUT OF REACH OF DOMESTIC ANIMALS.

HARMFUL IF SWALLOWED.

HARMFUL IF ABSORBED THROUGH SKIN.

Avoid contact with the skin, eyes and clothing.

Wash thoroughly after handling.

Aerosol container contains flammable gas under pressure.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
8003-34-7	0.5 %	Pyrethrins
67-64-1	50.0 - 75.0 %	Acetone
64742-47-8	1.0 - 3.0 %	Distillates (petroleum), hydrotreated light
51-03-6	1.0 - 3.0 %	Piperonylbutoxide
113-48-4	0.3 - 3.0 %	n-Octyl bicycloheptene dicarboximide

4. First-Aid Measures

Description of first aid measures

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

Hazards: Vomiting may cause aspiration pneumonia due to the ingredients.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:

Treat according to symptoms (decontamination, vital functions), no known specific antidote. Aspiration of this product during induced emesis can result in lung injury. If evacuation of stomach contents is considered necessary, use method least likely to cause aspiration, such as gastric lavage after endotracheal intubation.

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5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
carbon dioxide, foam, dry powder, water spray

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
carbon monoxide, carbon dioxide, nitrogen dioxide, nitrogen oxide,
Aerosol container contains flammable gas under pressure. Pressure inside container is increased when heated, and may cause explosion. If product is heated above decomposition temperature, toxic vapours will be released. The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

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, protective equipment and emergency procedures

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. A spill of or in excess of the reportable quantity requires notification to state, local and national emergency authorities. This product is regulated by CERCLA ('Superfund').

Methods and material for containment and cleaning up

Dike spillage. Pick up with suitable absorbent material. 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

Precautions for safe handling

RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS & WORKERS must refer to the Product Label and Directions for Use attached to the product. Provide good ventilation of working area (local exhaust ventilation if necessary). Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect against heat. Handle and open container with care. Do not open until ready to use. Once container is opened, content should be used as soon as possible. Provide means for controlling leaks and spills. 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

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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:

Aerosol container contains flammable gas under pressure. The relevant fire protection measures should be noted. Fire extinguishers should be kept handy. Avoid all sources of ignition: heat, sparks, open flame. Avoid extreme heat. Ground all transfer equipment properly to prevent electrostatic discharge. Electrostatic discharge may cause ignition.

Conditions for safe storage, including any incompatibilities

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

Further information on storage conditions: Protect containers from physical damage. Store in a cool, dry, well-ventilated area. Avoid all sources of ignition: heat, sparks, open flame.

Storage stability:

May be kept indefinitely if stored properly.

If an expiry date is mentioned on the packaging/label this takes priority over the statements on storage duration in this safety data sheet.

Protect from temperatures above: 130 °F

Explosive at or above indicated temperature.

8. Exposure Controls/Personal Protection

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

Components with occupational exposure limits

Acetone	OSHA PEL	PEL 1,000 ppm 2,400 mg/m ³ ; STEL value 1,000 ppm 2,400 mg/m ³ ; TWA value 750 ppm 1,800 mg/m ³ ;
	ACGIH TLV	TWA value 500 ppm ; STEL value 750 ppm ;
carbon dioxide	OSHA PEL	PEL 5,000 ppm 9,000 mg/m ³ ; TWA value 10,000 ppm 18,000 mg/m ³ ; STEL value 30,000 ppm 54,000 mg/m ³ ;
	ACGIH TLV	TWA value 5,000 ppm ; STEL value 30,000 ppm ;
Distillates (petroleum), hydrotreated light	ACGIH TLV	TWA value 200 mg/m ³ Non-aerosol (total hydrocarbon vapor); Application restricted to conditions in which there are negligible aerosol exposures. Skin Designation Non-aerosol (total hydrocarbon vapor); The substance can be absorbed through the skin.

Advice on system design:

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

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Personal protective equipment

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator. 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, Protective glove selection must be based on the user's assessment of the workplace hazards.

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:

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS 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, aerosol	
Odour:	characteristic, of acetone	
Odour threshold:		Not determined due to potential health hazard by inhalation.
Colour:	amber, cloudy	
pH value:	approx. 8 - 10	(1 %(m), 20 - 25 °C)
Flammability:	not applicable	
Flammability of Aerosol Products:	> 18 in	(ASTM D 3065
NFPA 30B flammability:	Level 2 Aerosol	
Lower explosion limit:	3.4 %(V)	The product has not been tested. The statement has been derived from the properties of the individual components.
Upper explosion limit:	18 %(V)	The product has not been tested. The statement has been derived from the properties of the individual components.
Autoignition:	350 °C	The product has not been tested. The statement has been derived from the properties of the individual components.

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Density:	approx. 0.86 g/cm ³	(20 °C)
Vapour density:		not applicable
Partitioning coefficient n-octanol/water (log Pow):		not applicable
Thermal decomposition:	carbon monoxide, carbon dioxide, nitrogen dioxide, nitrogen oxide Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released. To avoid thermal decomposition, do not overheat.	
Viscosity, dynamic:	0.99 mPa.s	(20 °C)
Solubility in water:		slightly soluble
Evaporation rate:		not applicable
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.	

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:

Corrosive effects to metal are not anticipated.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

The product is chemically stable.

Conditions to avoid

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

Incompatible materials

No substances known that should be avoided.

Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:

Possible thermal decomposition products:

carbon monoxide, carbon dioxide, nitrogen dioxide, nitrogen oxide

Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released. To avoid thermal decomposition, do not overheat.

11. Toxicological information

Primary routes of exposure

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Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Slightly toxic after single ingestion. Slightly toxic after short-term skin contact. Relatively nontoxic after short-term inhalation.

Oral

Type of value: LD50

Species: rat

Value: > 2,000 mg/kg

No mortality was observed.

Inhalation

Type of value: LC50

Species: rat

Value: > 7.4 mg/l

Type of value: LC50

Species: rat

Value: > 2.1 mg/l

No mortality was observed.

Dermal

Type of value: LD50

Species: rat

Value: > 2,000 mg/kg

No mortality was observed.

Assessment other acute effects

Assessment of STOT single:

Possible narcotic effects (drowsiness or dizziness).

Irritation / corrosion

Assessment of irritating effects: May cause slight but temporary irritation to the eyes. May cause slight irritation to the skin.

Skin

Species: rabbit

Result: non-irritant

May cause slight irritation to the skin.

Eye

Species: rabbit

Result: Slightly irritating.

May cause slight irritation to the eyes.

Sensitization

Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

Species: guinea pig

Result: Non-sensitizing.

Chronic Toxicity/Effects

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Repeated dose toxicity

Assessment of repeated dose toxicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Piperonyl butoxide

Assessment of repeated dose toxicity: The substance may cause damage to the liver after repeated ingestion of high doses, as shown in animal studies. The substance may cause damage to the liver after repeated inhalation of high doses. Repeated dermal uptake of the substance did not cause substance-related effects.

Information on: n-Octyl bicycloheptene dicarboximide

Assessment of repeated dose toxicity: The substance may cause damage to the liver after repeated ingestion of high doses, as shown in animal studies.

Genetic toxicity

Assessment of mutagenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

Carcinogenicity

Assessment of carcinogenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: pyrethrum

Assessment of carcinogenicity: The results of various animal studies gave no indication of a carcinogenic effect. The product has not been tested. The statement has been derived from the properties of the individual components.

Not Likely to Be Carcinogenic to Humans.

Information on: Piperonyl butoxide

Assessment of carcinogenicity: In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed. The US EPA has classified this substance with the rating of 'C', possible human carcinogen.

Reproductive toxicity

Assessment of reproduction toxicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

Teratogenicity

Assessment of teratogenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Other Information

Misuse can be harmful to health.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

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12. Ecological Information

Toxicity

Toxicity to fish

Information on: pyrethrum

LC50 (96 h) 0.0052 mg/l, *Oncorhynchus mykiss* (static)

No observed effect concentration 0.0019 mg/l, *Pimephales promelas*

LC50 (96 h) 0.01 mg/l, *Lepomis macrochirus*

Information on: Piperonyl butoxide

LC50 (96 h) 6.12 mg/l, *Oncorhynchus mykiss* (other)

Information on: dimethyl ether

No observed effect concentration (96 h) > 4,000 mg/l, *Poecilia reticulata* (other, semistatic)

The product is highly volatile. Tested in a closed test system.

Aquatic invertebrates

Information on: Piperonyl butoxide

EC50 (48 h) 0.51 mg/l, *Daphnia magna* (other)

Information on: dimethyl ether

No observed effect concentration (48 h) > 4,000 mg/l, *Daphnia magna* (other, static)

The product is highly volatile. Tested in a closed test system.

Persistence and degradability

Assessment biodegradation and elimination (H2O)

The product has not been tested. The statement has been derived from the properties of the individual components.

Bioaccumulative potential

Assessment bioaccumulation potential

The product has not been tested. The statement has been derived from the properties of the individual components.

Bioaccumulation potential

Information on: pyrethrum

Bioconcentration factor: 471

Accumulation in organisms is not to be expected.

Information on: Piperonylbutoxide

Bioconcentration factor: 91 - 380 (28 d), *Lepomis macrochirus* (OECD Guideline 305 E)

Mobility in soil

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Assessment transport between environmental compartments

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: pyrethrum

Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

Information on: Piperonylbutoxide

Adsorption to solid soil phase is not expected.

Information on: n-Octyl bicycloheptene dicarboximide

*The substance will not evaporate into the atmosphere from the water surface.
Adsorption to solid soil phase is expected.*

13. Disposal considerations

Waste disposal of substance:

Pesticide wastes are regulated. Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law. If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container disposal:

Do not cut, puncture, crush, or incinerate empty aerosol containers. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Empty aerosol cans may meet the definition of RCRA D003. Consult local and/or regional EPA for further guidance.

14. Transport Information

Land transport

USDOT

Hazard class: 2.1
ID number: UN 1950
Hazard label: 2.1, EHSM
Proper shipping name: AEROSOLS (contains DIMETHYLETHER)

Sea transport

IMDG

Hazard class: 2.1
ID number: UN 1950
Hazard label: 2.1, EHSM
Marine pollutant: YES
Proper shipping name: AEROSOLS (contains DIMETHYLETHER)

Air transport

IATA/ICAO

Hazard class: 2.1
ID number: UN 1950

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Hazard label: 2.1
Proper shipping name: AEROSOLS, FLAMMABLE (contains DIMETHYLETHER)

15. Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US blocked / not listed

Crop Protection TSCA, US released / exempt

EPCRA 311/312 (Hazard categories): Acute; Chronic

EPCRA 313:

<u>CAS Number</u>	<u>Chemical name</u>
51-03-6	Piperonylbutoxide

<u>CERCLA RQ</u>	<u>CAS Number</u>	<u>Chemical name</u>
5000 LBS	67-64-1	Acetone
100 LBS	115-10-6	dimethyl ether
1 LBS	8003-34-7	Pyrethrins

NFPA Hazard codes:

Health : 1 Fire: 3 Reactivity: 1 Special:

Labeling requirements under FIFRA

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 workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

CAUTION:

EXTREMELY FLAMMABLE.
KEEP OUT OF REACH OF CHILDREN.
KEEP OUT OF REACH OF DOMESTIC ANIMALS.
HARMFUL IF SWALLOWED.
HARMFUL IF ABSORBED THROUGH SKIN.

Avoid contact with the skin, eyes and clothing.

Wash thoroughly after handling.

Aerosol container contains flammable gas under pressure.

16. Other Information

SDS Prepared by:

BASF NA Product Regulations
SDS Prepared on: 2015/02/12

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

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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.

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END OF DATA SHEET

Material Safety Data Sheet

Vimar Corporation

9230 Neils Thompson Dr. Suite #111

Austin, TX 78758

(512) 680-5304

Emergency Number: (512) 680-5304

Manufacturer:

SECTION 1 – PRODUCT INFORMATION

PRODUCT NAME: Rat Sorb Fragrance

SECTION 2 – PHYSICAL DATA

APPEARANCE: Yellow Liquid

ODOR: Camphoraceous citric odor

SPECIFIC GRAVITY: 1.046

H₂O SOLUBILITY: Insoluble

SECTION 3 – FIRE AND EXPLOSION HAZARDS

FLASH POINT: 1800 F

(METHOD – TCC)

FIRE/EXPLOSION HAZARD: Combustible Liquid

EXTINGUISHING MEDIA: Foam, Dry Chemical, CO₂.

HAZARDOUS COMBUSTION PRODUCTS: Burning will produce carbon dioxide, carbon monoxide and smoke.

SPECIAL FIRE FIGHTING PROCEDURES: Self-contained breathing apparatus and protective clothing should be worn when fighting chemical fires.

STABILITY: Stable

CONDITIONS/MATERIALS TO AVOID: Avoid strong oxidizing agents.

SECTION 4 – HEALTH HAZARD INFORMATION

The identity of individual components of this mixture is proprietary information and is regarded to be a trade secret.

The mixture as a whole has not been tested. However, we will apply a health hazard statement based on any component present at greater than or equal to 1% (carcinogens greater than or equal to 0.1%)

Carcinogen:

NTP: no

OSHA: no

IARC: no

Liquid may be irritating to the skin and eyes.

Vapors may irritate respiratory tract.

Overexposure may cause nausea, vomiting and dizziness.

BOILING POINT: N/A

MELTING POINT: N/A

VAPOR DENSITY: N/A

VAPOR PRESSURE: N/A

SECTION 5 – EMERGENCY AND FIRST AID PROCEDURES

INHALATION: Remove victim from contaminated area. Call a physician as necessary. If not breathing, begin resuscitation procedures promptly.

EYE CONTACT: Flush eyes with running water for at least 15 minutes. If irritation persists, obtain medical advice.

SKIN CONTACT: Remove contaminated clothing. Wash affected area for at least 15 minutes. If irritation persists, obtain medical advice.

INGESTION: Dilute with water. Do not induce vomiting. Contact physician.

SECTION 6 – PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY: NIOSH/OSHA approved vapor respirator recommended when working in poorly ventilated areas.

VENTILATION: Local exhaust meeting ACGIH criteria.

PROTECTIVE GLOVES: Use chemical resistant glove as needed to avoid prolonged or repeated contact.

EYE PROTECTION: Splash protective goggles or face shield.

SECTION 7 – HANDLING AND STORAGE PROCEDURES

HANDLING PROCEDURES:

Avoid inhalation and contact with skin and eyes. Good personal hygiene practices should be used. Wash after any contact, before breaks and meals, and at the end of work period.

Contaminated clothing and shoes should be cleaned before reuse. Good manufacturing practices dictate that an eyewash fountain and/or safety shower should be available in the work area.

STORAGE REQUIREMENTS

Store in cool, dry, ventilated area away from any heat sources. Keep containers tightly closed when not in use.

SECTION 8 – SPILL, LEAK AND DISPOSAL PROCEDURES

Eliminate all ignition sources. If this product is liquid it can be absorbed using standard absorbents (sawdust/vermiculite) and swept up. If this product is powder or crystal it can be

swept up. Dispose of this product in accordance with federal, state, and local regulations.

SECTION 9 – SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) TITLE III NOTIFICATION

This mixture doesn't contain any toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Vimar Corporation considers the specific identity of such ingredients to be a trade secret under provisions of 29 CFR 1910.1200. However the toxic chemical(s) subject to these requirements fall into the following generic classification(s) and concentrations

SECTION 10 – TOXIC SUBSTANCE AND CONTROL ACT

The components of this product are listed in the TSCA Inventory.

MATERIAL SAFETY DATA SHEET PREPARED BY:

PRODUCT SAFETY DEPARTMENT

Vimar Corporation

March 6, 2001

The information on this MSDS was obtained from current and reputable sources. However, the data is provided without any warranty, expressed or implied regarding its correctness or accuracy. Since the conditions for use, handling, storage and disposal of this product are beyond Vimar Corporation control, it is the responsibility of the user both to determine safe conditions for use of this product and to assume liability for loss,

damage, or expense arising out of the product's improper use.

No warranty expressed or implied regarding the product described herein shall be created by or inferred from any statement or omission in the MSDS. This MSDS supersedes any previous MSDS for this product.

Various federal, state, or provincial agencies may have specific regulations concerning the transportation, handling, storage, use or disposal of this product which may not be reflected in this MSDS. The user should review these regulations to ensure full compliance.

NE = not established

NF = not found

NA = not applicable

MONSANTO COMPANY

Safety Data Sheet Commercial Product

1. PRODUCT AND COMPANY IDENTIFICATION

Product name

Roundup PROMAX[™] Herbicide

EPA Reg. No.

524-579

Chemical name

Not applicable.

Synonyms

None.

Company

MONSANTO COMPANY, 800 N. Lindbergh Blvd., St. Louis, MO, 63167

Telephone: 800-332-3111, **Fax:** 314-694-5557

E-mail: TS-SAFETYDATASHEET@DOMINO.MONSANTO.COM

Emergency numbers

FOR CHEMICAL EMERGENCY, SPILL LEAK, FIRE, EXPOSURE, OR ACCIDENT Call CHEMTREC - Day or Night: 1-800-424-9300 toll free in the continental U.S., Puerto Rico, Canada, or Virgin Islands. For calls originating elsewhere: 703-527-3887 (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): Amber - Yellow / Liquid / Soapy

CAUTION!

CAUSES MODERATE EYE IRRITATION

Potential health effects

Likely routes of exposure

Skin contact, eye contact

Eye contact, short term

May cause temporary eye irritation.

Skin contact, short term

Not expected to produce significant adverse effects when recommended use instructions are followed.

Inhalation, short term

Not expected to produce significant adverse effects when recommended use instructions are followed.

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

OSHA Status

This product is hazardous according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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	48.7
Other ingredients		51.3

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.

Eye contact

If in eyes, hold eye open and rinse slowly and gently for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing.

Skin contact

Take off contaminated clothing, wristwatch, jewellery.
Wash affected skin with plenty of water.
Continue for at least 15 minutes.

Inhalation

Remove to fresh air.

Ingestion

Immediately offer water to drink.
Do NOT induce vomiting unless directed by medical personnel.
If symptoms occur, get medical attention.

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 (P_xO_y), nitrogen oxides (NO_x)

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

- Minimise spread.
- Contain spillage with sand bags or other means.
- Keep out of drains, sewers, ditches and water ways.

Methods for cleaning up

- SMALL QUANTITIES:**
 - Flush spill area with water.
- LARGE QUANTITIES:**
 - Absorb in earth, sand or absorbent material.
 - Dig up heavily contaminated soil.
 - Collect in containers for disposal.
 - Refer to section 7 for types of containers.
 - Flush residues with small quantities of 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.
- When using do not eat, drink or smoke.
- Wash hands thoroughly after handling or contact.
- Do not contaminate drains, sewers and water ways when disposing of equipment rinse water.
- Thoroughly clean equipment after use.
- Refer to section 13 of the safety data sheet for disposal of rinse water.
- Wash contaminated clothing before re-use.
- Emptied containers retain vapour and product residue.
- FOLLOW LABELLED WARNINGS EVEN AFTER CONTAINER IS EMPTIED.**

Storage

- Compatible materials for storage: stainless steel, fibreglass, plastic, glass lining
- 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.

If there is significant potential for contact:

Wear face shield.

Wear chemical resistant clothing/footwear.

Applicators and other handlers must wear:

Wear long sleeved shirt, long pants and shoes with socks.

Follow manufacturer's instructions for cleaning/maintaining Personal Protective Equipment.

If no such instructions for washables, use detergent and hot water.

Respiratory protection

No special requirement when used as recommended.

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:	Amber - Yellow
Odour:	Soapy
Form:	Liquid
Physical form changes (melting, boiling, etc.):	
Melting point:	200 °C
Boiling point:	Not available.
Flash point:	Does not flash.
Explosive properties:	No explosive properties
Auto ignition temperature:	No data.
Specific gravity:	1.356
Vapour pressure:	< 0.0000001 mmHg @ 25 °C
Vapour density:	Not applicable.
Evaporation rate:	No data.
Dynamic viscosity:	Not available.
Kinematic viscosity:	Not available.
Density:	Not available.
Solubility:	Water: Completely miscible.
pH:	4.7
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.

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

Skin irritation

Rabbit, 3 animals, OECD 404 test:

Days to heal: 7

Primary Irritation Index (PII): 1.9/8.0

Slight irritation.

FIFRA category IV.

Eye irritation

Rabbit, 3 animals, OECD 405 test:

Days to heal: 10

Moderate irritation.

FIFRA category III.

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.

Acute inhalation toxicity

Rat, LC50, 4 hours, aerosol:

Practically non-toxic.

FIFRA category IV.

No 4-hr LC50 at the maximum tested concentration. 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

Bluegill sunfish (*Lepomis macrochirus*):

Acute toxicity, 96 hours, static, LC50: 5.2 mg/L

Moderately toxic.

Common carp (*Cyprinus carpio*):

Acute toxicity, 96 hours, static, LC50: 4.0 mg/L

Moderately toxic.

Aquatic toxicity, invertebrates

Water flea (*Daphnia magna*):

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

Similar formulation

Aquatic toxicity, algae/aquatic plants

Green algae (*Selenastrum capricornutum*):

Acute toxicity, 72 hours, static, EC50: 0.46 mg/L
Highly toxic.

Avian toxicity

Bobwhite quail (*Colinus virginianus*):

Acute oral toxicity, single dose, LD50: > 2,250 mg/kg body weight
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:

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

Similar formulation

Arthropod toxicity

Honey bee (*Apis mellifera*):

Oral, 48 hours, LD50: > 242 µg/bee
Practically non-toxic.

Honey bee (*Apis mellifera*):

Contact, 48 hours, LD50: > 260 µg/bee
Practically non-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

TSCA Inventory

Exempt

OSHA Hazardous Components

Surfactant(s)

SARA Title III Rules

Section 311/312 Hazard Categories
Immediate
Section 302 Extremely Hazardous Substances
Not applicable.
Section 313 Toxic Chemical(s)
Not applicable.

CERCLA Reportable quantity

Not applicable.

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)

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABELING (attached to and accompanying the product container). This MSDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label.

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