

Safety Data Sheet

DURAPLEX TR

Revision date : 2012/03/06
Version: 3.1

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(30487414/SDS_CPA_US/EN)

1. Product and Company Identification

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

24 Hour Emergency Response Information
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

Substance number: 000000414179
Chemical family: organophosphates
Synonyms: Chlorpyrifos + cyfluthrin

2. Hazards Identification

Emergency overview

WARNING:
EXTREMELY FLAMMABLE.
KEEP OUT OF REACH OF CHILDREN.
KEEP OUT OF REACH OF DOMESTIC ANIMALS.
May be fatal if swallowed.
HARMFUL IF INHALED.
HARMFUL IF ABSORBED THROUGH SKIN.
Moderately irritating to the eyes.
Avoid contact with the skin, eyes and clothing.
Avoid inhalation of mists/vapours.
Wash thoroughly after handling.
Aerosol container contains flammable gas under pressure.

See Product Label for additional precautionary statements.

State of matter: liquid
Odour: characteristic

Potential health effects

Primary routes of exposure:

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

Acute toxicity:

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Slightly toxic after single ingestion. Slightly toxic after short-term skin contact. Slightly toxic after short-term inhalation.

Irritation / corrosion:

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

Sensitization:

Skin sensitizing effects were not observed in animal studies.

Signs and symptoms of overexposure:

inhibition of cholinesterase

weakness, muscular spasms, twitching, headache, tightness in the chest, difficulty breathing, shortness of breath, chest discomfort, disturbance of vision, nonreactive pinpoint pupils, salivation, nausea, vomiting, diarrhea, abdominal cramps, urination, perspiration

Risk of decrease in cholinesterase activity. If poisoning is probable, treat the patient immediately. Treatment should be given simultaneously with decontamination procedures in severe cases. Proceed concurrently with decontamination using proper protective gear; for example, chemical resistant gloves (neoprene or nitrile) rather than cotton or leather gloves.

3. Composition / Information on Ingredients

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
2921-88-2	8.0 %	chlorpyrifos
68359-37-5	1.6 %	Cyfluthrin
67-63-0		2-Propanol
68476-40-4		Hydrocarbons, C3-4
	<= 90.4 %	Proprietary ingredients

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.

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.

Note to physician

Antidote:

Administer atropine. Pralidoxime chloride (2-PAM) is antidotal when administered early, and in conjunction with antidote.

Treatment:

Pralidoxime chloride (2-PAM, PROTOPAM chloride) may be effective as an adjunct to atropine. Use according to label directions. Before administering pralidoxime chloride, obtain a blood sample for cholinesterase analysis. Adjusting for age and weight, pralidoxime may be administered as a continuous infusion after a loading dose or using a bolus method. Clear airway and provide oxygen before administering atropine. Tissue oxygenation should be improved

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as much as possible before administering atropine, so as to minimize the risk of arrhythmia. Give atropine intravenously (IV), or if not immediately possible IV, through an alternative route such as an endotracheal tube or intramuscularly (IM). Give atropine intramuscularly or intravenously, depending on severity of poisoning. Atropine may be administered through an alternative route such as an endotracheal tube. Avoid opiates, parasympathomimetic agents (e.g. succinylcholine), theophylline, reserpine and or phenothiazines. The dosage for atropine is as follows: 1 to 2 mg/kg initially IV in adults (or 0.05 mg/kg in children under 12 years) then give appropriate doses every 15 minutes until excessive secretions and sweating have been controlled. Use soap (preferably Tincture Green Soap) and water or dilute hypochlorite solution for decontaminating skin. Suction oral secretions and emesis to avoid aspiration. Artificial respiration or oxygen administration may be necessary. Observe patient continuously for at least 72 hours. Allow no further exposure to any cholinesterase inhibitor until cholinesterase regeneration has taken place as determined by blood tests.

5. Fire-Fighting Measures

Flash point:	approx. -100 °C	The statements are based on the properties of the individual components.
Autoignition:	399 °C	Information applies to the solvent.
Lower explosion limit:	1.8 %(V)	(air)
Upper explosion limit:	9.5 %(V)	(air)
Flammability of Aerosol	> 18 in	(ASTM D 3065)
Products:		
NFPA 30B flammability:	Level 3 Aerosol	

Suitable extinguishing media:

foam, dry powder, carbon dioxide, water spray

Hazards during fire-fighting:

carbon monoxide, carbon dioxide, nitrogen dioxide, nitrogen oxide, Sulphur dioxide, Hydrogen chloride, 2-(ethylthio)ethanol, hydrogen fluoride, sulfur oxides, Phosphorus compounds, mercaptans, toxic gases/vapours
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. Vapours may form explosive mixture with air.

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. 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').

Cleanup:

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,

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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:

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.

Storage

General advice:

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

Storage incompatibility:

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

Storage stability:

Storage temperature: 100 °F

Do not store above indicated temperature for extended periods. If substance/product crystallizes, thaw at room temperature.

Temperature tolerance

Protect from temperatures above: 130 °F

Explosive at or above indicated temperature.

8. Exposure Controls and Personal Protection

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

Components with workplace control parameters

chlorpyrifos

ACGIH TWA value 0.1 mg/m3 Inhalable fraction and vapor ;
Skin Designation Inhalable fraction and vapor ;
The substance can be absorbed through the skin.

2-Propanol

OSHA PEL 400 ppm 980 mg/m3 ;
ACGIH TWA value 200 ppm ; STEL value 400 ppm ;

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:	aerosol	
Odour:	characteristic	
pH value:		negligible
Density:	0.8596 g/cm ³	(approx. 20 °C)
Relative density:	0.8596	(20 °C)
Vapour density:		not determined
Partitioning coefficient n-octanol/water (log Pow):		not applicable
Viscosity, dynamic:	2.56 mPa.s	(approx. 24 °C)
Solubility in water:		soluble

10. Stability and Reactivity

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.

Substances to avoid:

strong acids, strong bases, strong oxidizing agents

Hazardous reactions:

The product is chemically stable.

Decomposition products:

carbon monoxide, carbon dioxide, nitrogen dioxide, nitrogen oxide, Sulphur dioxide, ethanethiol, hydrogen sulphide, 2-(ethylthio)ethanol, Prolonged thermal loading can result in products of degradation being given off.

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Thermal decomposition:

Possible thermal decomposition products:

carbon monoxide, carbon dioxide, nitrogen dioxide, nitrogen oxide, Sulphur dioxide, ethanethiol, hydrogen sulphide, 2-(ethylthio)ethanol, hydrogen fluoride

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

Corrosion to metals:

Corrosive effects to metal are not anticipated.

11. Toxicological information

Acute toxicity

Oral:

Type of value: LD50

Species: rat

Value: 630 mg/kg

Inhalation:

Type of value: LC50

Species: rat

Value: > 0.86 mg/l

Dermal:

Type of value: LD50

Species: rabbit

Value: > 2,000 mg/kg

Irritation / corrosion

Skin:

Species: rabbit

Result: Slightly to moderately irritating.

Eye:

Species: rabbit

Result: Slightly to moderately irritating.

Sensitization:

Species: guinea pig

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

Genetic toxicity

Information on: chlorpyrifos

No mutagenic effect was found in various tests with bacteria, microorganisms and mammalian cell culture.

Information on: cyfluthrin

No mutagenic effects reported.

Information on: 2-Propanol

The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture.

The substance was not mutagenic in a test with mammals.

Carcinogenicity

Information on: chlorpyrifos

Not carcinogenic.

Information on: cyfluthrin

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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: chlorpyrifos
The results of animal studies gave no indication of a fertility impairing effect.
Information on: cyfluthrin
No reproductive toxic effects reported.*

Development:

*Information on: chlorpyrifos
No indications of a developmental toxic / teratogenic effect were seen in animal studies.
Information on: cyfluthrin
No teratogenic effects reported.
Information on: 2-Propanol
Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.*

12. Ecological Information

Fish

*Information on: chlorpyrifos
Acute:
Oncorhynchus mykiss/LC50 (96 h): = 7.1 ppb
Lepomis macrochirus/LC50 (96 h): = 1.8 - 2.4 ppb
Ictalurus punctatus, syn: I. robustus/LC50 (96 h): = 280 ppb*

*Information on: cyfluthrin
Acute:
Oncorhynchus mykiss/LC50 (96 h): 0.000068 mg/l*

*Information on: 2-Propanol
Acute:
EPA 72-1 Flow through.
Pimephales promelas/LC50 (96 h): 9,640 mg/l
Literature data.*

Aquatic invertebrates

*Information on: chlorpyrifos
Acute:
Daphnia magna/EC50 (48 h): 0.1 ppb*

*Information on: cyfluthrin
Acute:
Daphnia magna/EC50 (48 h): 0.00029 mg/l*

*Information on: 2-Propanol
Acute:
Daphnia test acute static
Daphnia magna/EC50 (24 h): > 10,000 mg/l
Nominal concentration. Literature data.*

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Aquatic plants

Information on: 2-Propanol

Toxicity to aquatic plants:

OECD Guideline 201 green algae/EC50 (72 h): > 1,000 mg/l

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

Sea transport

IMDG

Hazard class:	2.1
ID number:	UN 1950
Hazard label:	2.1
Marine pollutant:	NO
Proper shipping name:	AEROSOLS

Air transport

IATA/ICAO

Hazard class:	2.1
ID number:	UN 1950
Hazard label:	2.1
Proper shipping name:	AEROSOLS, FLAMMABLE

Further information

DOT: This product may be classified as ORM-D (Consumer Commodity) or Limited Quantity. After 12/31/2013, ORM-D will not apply.

15. Regulatory Information

Federal Regulations

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Registration status:

Chemical TSCA, US blocked / not listed

Crop Protection TSCA, US released / exempt

OSHA hazard category: Chronic target organ effects reported; Acute target organ effects reported; ACGIH TLV established; Highly toxic - inhalation; Flammable Liquid

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

<u>CERCLA RQ</u>	<u>CAS Number</u>	<u>Chemical name</u>
100 LBS	67-63-0	2-Propanol
1 LBS	2921-88-2	chlorpyrifos

State regulations

<u>State RTK</u>	<u>CAS Number</u>	<u>Chemical name</u>
MA, NJ, PA	2921-88-2	chlorpyrifos
NJ	68359-37-5	Cyfluthrin
MA, NJ, PA	67-63-0	2-Propanol

16. Other Information

Refer to product label for EPA registration number.

Recommended use: insecticide

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.

MSDS Prepared by:

BASF NA Product Regulations
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MSDS Prepared on: 2012/03/06

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