Safety Data Sheet
PRO-CONTROL® PLUS

1. Product and Company Identification

Company
BASF CORPORATION
100 Campus Drive
Florham Park, NJ 07932, USA

24 Hour Emergency Response Information
CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP

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

Synonyms: Pyrethrins + cyfluthrin + piperonyl butoxide

2. Hazards Identification

Emergency overview

CAUTION:
EXTREMELY FLAMMABLE.
KEEP OUT OF REACH OF CHILDREN.
KEEP OUT OF REACH OF DOMESTIC ANIMALS.
HARMFUL IF ABSORBED THROUGH SKIN.
Avoid contact with the skin, eyes and clothing.
Wash thoroughly after handling.
Aerosol container contains flammable gas under pressure.

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

Irritation / corrosion:
May cause slight but temporary irritation to the eyes. Prolonged contact with the product can result in skin irritation.

Potential environmental effects

Aquatic toxicity:

Acutely toxic for fish.

3. Composition / Information on Ingredients

CAS Number	Content (W/W)	Chemical name
8003-34-7	0.5 %	Pyrethrins
68359-37-5	0.1 %	Cyfluthrin
51-03-6	1.0 %	Piperonylbutoxide
67-64-1		Acetone
115-10-6		dimethyl ether
	<= 98.4 %	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.

5. Fire-Fighting Measures

Flash point:	< -6 °C	
		NFPA 30 B Flammability: Level 2 aerosol
Lower explosion limit:	3.4 %(V)	(air)
Upper explosion limit:	18 %(V)	(air)

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

Hazards during fire-fighting:
carbon monoxide, carbon dioxide, Hydrogen chloride, hydrogen fluoride, halogenated hydrocarbons, hydrocarbons
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.

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, 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:
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.

Temperature tolerance
Protect from temperatures above: 130 °F
Explosive at or above indicated temperature.

8. Exposure Controls and Personal Protection

Components with workplace control parameters

Pyrethrins	OSHA	PEL 5 mg/m3 ;
	ACGIH	TWA value 5 mg/m3 ;
Acetone	OSHA	PEL 1,000 ppm 2,400 mg/m3 ;
	ACGIH	TWA value 500 ppm ; STEL value 750 ppm ;

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) 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:	approx. 9	(10 %(m), 20 °C) The statements are based on the properties of the individual components.
Density:	0.825 g/cm3	(approx. 20 °C)
Solubility in water:		slightly soluble

10. Stability and Reactivity

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

Substances to avoid:
organic acids, oxidizing agents, acid anhydrides

Hazardous reactions:
The product is chemically stable.

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, Hydrogen chloride, 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:

Information on: pyrethrum
Type of value: LD50
Species: rat (female)
Value: 700 mg/kg
Type of value: LD50
Species: rat (male)
Value: 2,140 mg/kg

Information on: cyfluthrin
Type of value: LD50
Species: rat
Value: 77 mg/kg

Information on: piperonyl butoxide
Type of value: LD50
Species: rat
Value: 7,500 mg/kg

Inhalation:

Information on: pyrethrum
Type of value: LC50
Species: rat (male)
Value: 3.9 mg/l
Type of value: LC50
Species: rat (female)
Value: 2.5 mg/l

Information on: cyfluthrin
Type of value: LC50
Species: rat
Value: 0.081 - 0.7 mg/l
Exposure time: 4 h

Information on: piperonyl butoxide
Type of value: LC50
Species: rat (male/female)
Value: > 5.9 mg/l

Dermal:

Information on: pyrethrum
Type of value: LD50
Species: rabbit
Value: > 2,000 mg/kg

Information on: cyfluthrin
Type of value: LD50
Species: rat
Value: > 5,000 mg/kg

Information on: piperonyl butoxide
Type of value: LD50
Species: rat
Value: > 2,000 mg/kg

Irritation / corrosion:

Skin:

Information on: pyrethrum
Species: rabbit
May cause slight irritation to the skin.

Information on: cyfluthrin
Species: rabbit
May cause slight irritation to the skin.

Information on: piperonyl butoxide
Species: rabbit
Result: non-irritant

Eye:

Information on: pyrethrum
Species: rabbit
May cause moderate but temporary irritation to the eyes.

Information on: cyfluthrin
Species: rabbit
May cause moderate but temporary irritation to the eyes.

Information on: piperonyl butoxide
Species: rabbit
Result: non-irritant

Sensitization:

Information on: pyrethrum

Skin sensitizing effects were not observed in animal studies.

Information on: cyfluthrin

Information on: piperonyl butoxide

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

Genetic toxicity

Information on: pyrethrum
No mutagenic effects reported.

Information on: cyfluthrin
No mutagenic effects reported.

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

Information on: Acetone
In the majority of tests performed (bacteria/microorganisms/cell cultures) a mutagenic effect was not found. A mutagenic effect was also not observed in in-vivo assays.

Information on: dimethyl ether
No mutagenic effect was found in various tests with microorganisms and mammalian cell culture. Literature data.

Carcinogenicity

Information on: pyrethrum
Not Likely to Be Carcinogenic to Humans.
Information on: cyfluthrin
In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed.
Information on: Piperonyl butoxide
The US EPA has classified this substance with the rating of 'C', possible human carcinogen.

Reproductive toxicity

Information on: pyrethrum
No reproductive toxic effects reported.
Information on: cyfluthrin
No reproductive toxic effects reported.
Information on: Piperonyl butoxide
No reproductive toxic effects reported.
Information on: Acetone
In high doses a potential to impair fertility cannot be fully excluded.
Information on: dimethyl ether
The results of animal studies gave no indication of a fertility impairing effect. Literature data.

Development:

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

Information on: cyfluthrin
No teratogenic effects reported.
Information on: Piperonyl butoxide
No indications of a developmental toxic / teratogenic effect were seen in animal studies.
Information on: Acetone
In animal studies the substance did not cause malformations.
Information on: dimethyl ether
In animal studies the substance did not cause malformations. Literature data.
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12. Ecological Information

Fish

Information on: pyrethrum
Acute:
Oncorhynchus mykiss/LC50 (96 h): 0.0051 mg/l

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

Information on: Piperonyl butoxide
Acute:
other Oncorhynchus mykiss/LC50 (96 h): 6.12 mg/l

Information on: Acetone
Acute:
other Flow through.
Salvelinus fontinalis/LC50 (96 h): 6,070 mg/l

Information on: dimethyl ether
Acute:
other semistatic
Poecilia reticulata/NOEC (96 h): > 4,000 mg/l
The product is highly volatile. Tested in a closed test system.

Aquatic invertebrates

Information on: pyrethrum
Acute:
Daphnia magna/EC50 (48 h): 0.0116 mg/l

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

Information on: Piperonyl butoxide
Acute:
other Daphnia magna/EC50 (48 h): 0.51 mg/l

Information on: Acetone
Acute:
other static
Daphnia sp. (48 h): 7,635 mg/l

Information on: dimethyl ether
Acute:
other static
Daphnia magna/No observed effect concentration (48 h): > 4,000 mg/l
The product is highly volatile. Tested in a closed test system.

Aquatic plants

Information on: cyfluthrin
Toxicity to aquatic plants:
green algae/EC50 (96 h): > 10 mg/l

Information on: Acetone
Toxicity to aquatic plants:
other static
green algae/Toxic limit concentration (192 h): 7,500 mg/l
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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

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

CERCLA RQ	CAS Number	Chemical name
5000 LBS	67-64-1	Acetone
1 LBS	121-21-1	pyrethrin I

State regulations

State RTK	CAS Number	Chemical name
MA, NJ, PA	8003-34-7	Pyrethrins
MA, NJ, PA	67-64-1	Acetone

16. Other Information

Recommended use: insecticide

BASF supports 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.