



SAFETY DATA SHEET

DURAFLEX ZC

SECTION 1: IDENTIFICATION

Product Name: Duraflex ZC
EPA Registration No.: 53883-426
Recommended Use: Insecticide; See product label for a complete list of uses and use sites.
Restrictions on Use: See product label for any restrictions on the use of this product.
Chemical Family: N/A - Mixture
Chemical Name of Active Ingredient(s): Bifenthrin
Novaluron
Pyriproxyfen
Manufactured for: Control Solutions, Inc.
5903 Genoa-Red Bluff
Pasadena, TX 77507

FOR FIRE, SPILL, AND/OR LEAK EMERGENCIES CONTACT: CHEMTREC 1-800-424-9300

FOR MEDICAL EMERGENCIES AND HEALTH AND SAFETY INQUIRIES CONTACT: Safety Call 1-866-897-8050

SECTION 2: HAZARD(S) IDENTIFICATION

EMERGENCY OVERVIEW: White liquid with a mildly bitter odor. Harmful if swallowed.

OSHA HCS CLASSIFICATION (29 CFR 1910.1200)

Acute Oral Toxicity

Category 4

Signal Word: WARNING



Hazard Statement(s): Harmful if swallowed.

Precautionary Statement(s):

Prevention: Wash hands thoroughly after handling.

Do not eat, drink or smoke when using this product.

Response: **IF SWALLOWED:** Call a poison center/doctor if you feel unwell. Rinse mouth.

Storage: No statements required. See section 7 for storage information.

Disposal: Dispose of contents/container in accordance with Federal, state and local laws and regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Weight %
Bifenthrin	82657-04-3	3.95%
Novaluron	116714-46-6	1.3%
Pyriproxyfen	95737-68-1	1.3%

*Ingredients not listed or listed with a weight % range are considered a trade secret and are withheld under 29 CFR 1910.1200(i).

SECTION 4: FIRST AID MEASURES	
IF IN EYES:	Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eye. Call a poison control center or doctor for treatment advice.
IF ON SKIN:	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.
IF INHALED:	Move person to fresh air. If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
IF INGESTED:	Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed: Dizziness, vomiting, loss of coordination. Mild but temporary skin irritation. Gastrointestinal discomfort.

Note to Physician: This product contains a pyrethroid. If large amounts have been ingested, the stomach and intestine should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided.

SECTION 5: FIRE-FIGHTING MEASURES	
Suitable Extinguishing Media:	Water spray, alcohol-resistant foam, dry chemical or carbon dioxide
Unsuitable Extinguishing Media:	Water jet as it may spread fire.
Hazardous Combustion Products:	Thermal decomposition may produce toxic carbon, nitrogen and sulfur oxides.
Special Protective Equipment & Precautions:	Evacuate area and fight fire upwind from a safe distance to avoid hazardous vapors and decomposition products. Foam and/or dry chemical are preferred to minimize environmental contamination. If water is used, dike and collect water to prevent run-off. Wear self-contained breathing apparatus and full fire-fighting turn-out gear (Bunker gear).
Unusual Fire & Explosion Hazards:	None known

SECTION 6: ACCIDENTAL RELEASE MEASURES	
Personal Precautions:	See Section 8 for personal protection equipment.
Environmental Precautions:	Keep spilled material and any rinsate from contaminating soil or from entering sewage and drainage systems and bodies of water.
Methods for Containment:	Isolate the spill area. Keep unnecessary and unprotected personnel from entering. Absorb small spills with sand, vermiculite or other inert absorbent. Dike large spills using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible for reuse. Allow absorbed material to solidify and scrape up for disposal.
Methods for Clean-up:	Place contaminated material in appropriate container for disposal. After removal, flush contaminated area thoroughly with soap and water. Pick up wash liquid with additional absorbent and place in a disposable container. Do not put spilled material back in the original container.
Other Information:	None known

SECTION 7: HANDLING AND STORAGE

Handling: RECOMMENDATIONS ARE INTENDED FOR MANUFACTURING, PACKAGING AND COMMERCIAL BLENDING WORKERS. PESTICIDE APPLICATORS AND WORKERS must refer to the product label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Handle and open container in a manner as to prevent spillage. Do not eat, drink or smoke while handling this product. Immediately wash off accidental splashes of the concentrate or spray mixture from skin, clothing and out of eyes.

Storage: See pesticide label for full information on product storage. Do not contaminate water, food or feed by storage of this product. Store away from sources of heat, out of direct sunlight and away from incompatible materials. Pesticides should be stored in secured areas away from children and animals.

Storage Temperature (Min/Max): Store at room temperature and avoid extreme temperatures.

Product Incompatibilities: Strong oxidizing agents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Users of a pesticide product must refer to the product label for personal protective equipment requirements.

Exposure Guidelines:

COMPONENT	OSHA PEL	ACGIH TLV	NIOSH REL
No components listed			

Engineering Controls: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs or other specified exposure limits. Local exhaust ventilation is preferred.

Respiratory Protection: In areas of poor ventilation, use a NIOSH approved respirator with cartridges/canisters approved for pesticides.

Eye Protection: Chemical goggles or safety glasses and full-face shield.

Protective Gloves: Chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile, neoprene rubber, polyvinyl chloride (PVC) or Viton.

Other Protective Clothing: Long-sleeved shirt, long pants and shoes plus socks.

General Safety Measures: Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing immediately after handling this product. Wash outside of gloves before removing. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product’s concentrate. Do not reuse them. Follow manufacturer’s instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White liquid	Upper/Lower Flammability Limits:	Not determined
Odor:	Mildly bitter	Vapor Pressure:	Not determined
Odor Threshold:	Not determined	Vapor Density:	Not determined
pH (1% dispersion):	6.0 – 7.0	Relative Density (@24°C):	1.01 (typical)
Melting /Freezing Point:	Not determined	Solubility (water):	Not determined
Boiling Point/Range:	Not determined	Partition Coefficient:	Not determined
Flash Point:	>230°F (>110°C)	Auto-ignition Temperature:	Not determined
Evaporation Rate:	Not determined	Decomposition Temperature:	Not determined
Flammability:	Not applicable	Viscosity:	Not determined

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	No hazardous chemical reactions known.
Chemical Stability:	Stable under normal storage and handling conditions.
Possibility of Hazardous Reactions:	No potential for hazardous reactions known.
Conditions to Avoid:	Excessive heat, sources of ignition
Incompatible Materials:	Strong oxidizing agents
Hazardous Decomposition Products:	Thermal decomposition may produce toxic carbon, nitrogen and sulfur oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Likely Routes of Exposure:	Eye contact, Skin contact, Inhalation, Ingestion
Symptoms of Exposure:	Dizziness, vomiting, loss of coordination. Mild but temporary skin irritation. Gastrointestinal discomfort.
Oral LD₅₀:	550 mg/kg (rat)(Based upon similar formulation)
Dermal LD₅₀:	>5,050 mg/kg (rat)(Based upon similar formulation)
Inhalation LC₅₀:	Not determined. Product is not able to be aerosolized at a sufficient concentration for testing.
Eye Irritation/Damage:	Non-irritant (rabbit)(Based upon similar formulation)
Skin Corrosion/Irritation:	Non-irritant (rabbit)(Based upon similar formulation)
Skin Sensitization:	Non-sensitizer (guinea pig)(Based upon similar formulation)
Chronic/Subchronic Toxicity:	No data available on the mixture.
Mutagenicity:	No data available on the mixture.
Reproductive Toxicity:	No data available on the mixture.
Neurotoxicity:	No data available on the mixture.
Target Organs:	No data available on the mixture.
Aspiration Hazard:	Not anticipated to be an aspiration hazard.
Carcinogenicity:	The EPA considers bifenthrin to be a possible human carcinogen based upon animal studies.

Chemical Name	ACGIH	IARC	NTP	OSHA
No components listed				

SECTION 12: ECOLOGICAL INFORMATION**Environmental Hazards Statement from FIFRA Regulated Pesticide Label:**

This pesticide is extremely toxic to fish and aquatic invertebrates. To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems. Care should be used when spraying to avoid fish and reptile pets in/around ornamental ponds.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow to drift to blooming crops if bees are visiting the treatment area.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other public waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

ECOTOXICITY DATA:**Fish Toxicity:**

The data presented below is on the technical active ingredients.

Bifenthrin: Rainbow trout: 96 hr LC₅₀ = 0.00015 ppm

Bluegill sunfish: 96 hr LC₅₀ = 0.00035 ppm

Pyriproxyfen: *L. macrochirus*: 96 hr LC₅₀ >0.27 mg/L

Novaluron: *L. macrochirus*: 96 hr LC₅₀ >960 ppb

Aquatic Invertebrate Toxicity:

Pyriproxyfen: *Daphnia magna*: 48 hr EC₅₀ = 0.4 mg/L

Novaluron: *Daphnia magna*: 48 hr EC₅₀ = 0.058 mg/L

Aquatic Plant Toxicity:

Pyriproxyfen: *Selenastrum capricornutum*: 72 hr EC₅₀ = 0.15 mg/L

Avian Toxicity:

Bifenthrin: Bobwhite quail: Oral LD₅₀ = 1,800 mg/kg

Mallard duck: Oral LD₅₀ = 2,150 mg/kg

Pyriproxyfen: Bobwhite quail: Oral LD₅₀ >1,906 mg/kg

Novaluron: Bobwhite quail: Oral LD₅₀ >2,000 mg/kg

Honeybee Toxicity:

Pyriproxyfen: Oral LD₅₀ >98.3 µg/bee

Novaluron: Oral LD₅₀ >100 µg/bee

ENVIRONMENTAL EFFECTS:

Persistence and Degradability: No data available on the mixture

Bioaccumulation: No data available on the mixture

Mobility: No data available on the mixture

Other Adverse Effects: No data available on the mixture

SECTION 13: DISPOSAL CONSIDERATIONS

- Waste Disposal:** Refer to the pesticide label for full information on disposal. Pesticide wastes are toxic. Improper disposal of unused pesticide, spray mixture, or rinse water is a violation of Federal law. If these wastes cannot be used according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance in proper disposal methods.
- Container Disposal:** Refer to the pesticide label for full information on disposal. When possible, triple rinse the container and offer for recycling if available.
- RCRA Characteristics:** It is the responsibility of the individual disposing of this product to determine the RCRA classification and hazard status of the waste.

SECTION 14: TRANSPORTATION INFORMATION

- DOT (Ground):** Not regulated
- IMDG (Sea):** UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bifenthrin, Pyriproxyfen, Novaluron), 9, PGIII, Marine Pollutant
- IATA (Air):** UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bifenthrin, Pyriproxyfen, Novaluron), 9, PGIII

SECTION 15: REGULATORY INFORMATION

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

CAUTION

Harmful if swallowed. Harmful if inhaled. Avoid breathing spray mist. Wash thoroughly with soap and warm water after handling and before eating, drinking, chewing gum or using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

TSCA Inventory: This product is exempt from TSCA inventory listing requirements as it is solely for FIFRA regulated use.

SARA Title III Information:

Section 302 – Extremely hazardous substances: None

Section 311/312 – Hazard Categories: Immediate (Acute)

Section 313 – This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	CAS Number	Weight %
Bifenthrin	82657-04-3	3.95%

CERCLA – This product contains the following chemicals which have a reportable quantity (RQ) under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):

Chemical Name	CAS Number	RQ	Quantity of Finished Product
None listed			

CALIFORNIA PROPOSITION 65:

Chemical Name	CAS Number	Prop 65 Category(ies)
None listed		

U.S. STATE RIGHT-TO-KNOW REGULATIONS:

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Bifenthrin	X		
Propylene glycol			X

SECTION 16: OTHER INFORMATION

NFPA	Health Hazards 2	Flammability 0	Instability 0	Special Hazards – None
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