

# MATERIAL SAFETY DATA SHEET



OLYMPIC HORTICULTURAL PRODUCTS, CO.  
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MSDS Date: 12/19/2003

TRANSPORTATION EMERGENCY  
CHEMTREC: .....(800)-424-9300

EMERGENCY AND PRODUCT INFORMATION  
OLYMPIC: .....(800)-356-4647

## DISCUS™

EPA Registration Number: 432-1392-59807

### I. CHEMICAL PRODUCT AND COMPANY INFORMATION

**Product Name** .....: DISCUS  
**Chemical Name** .....: Imidacloprid + Cyfluthrin  
**Common Name** .....: Imidacloprid + Cyfluthrin  
**Chemical Family** .....: Chloronicotine + Pyrethroid  
**Chemical Formulation** .....:  
**EPA Registration No.** .....: 432-1392-59807  
**Product Use Description** .....: For broad-spectrum foliar and systemic insect control on ornamentals, fruit and nut trees, in field and container nurseries. Not for use in Greenhouses.

### II. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS No.	Concentration % by Weight	
		Minimum	Maximum
Imidacloprid Technical	138261-41-3	2.8000	3.1000
Cyfluthrin Technical	68359-37-5	0.6300	0.7700
Heptyl Acetate	90438-79-2	1.5000	2.4000
Glycerine	56-81-5	10.0000	12.3000

### III. HAZARDS IDENTIFICATION

*NOTE: Please refer to Section 11 for detailed toxicological information.*

#### Emergency Overview

Caution! Hazards to humans and domestic animals. This product is extremely toxic to fish and aquatic invertebrates. Highly toxic to bees. A moderate eye irritant. Harmful if swallowed, inhaled or absorbed through the skin. Avoid contact with skin or clothing. Avoid breathing vapors and spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

**Physical State** .....: Liquid  
**Odor** .....: Mild hydrocarbon  
**Appearance** .....: Tan to Brown  
**Immediate Effects**

**Eye** .....: Causes eye irritation.  
Avoid contact with eyes or clothing.

**Skin** .....: Harmful if absorbed through the skin. Avoid contact with skin or clothing.

**Ingestion** .....: Harmful if swallowed.

**Inhalation** .....: Harmful if inhaled. Avoid breathing vapors and spray mist.

### IV. FIRST AID MEASURES

**Eye** .....: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**Skin** .....: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**Ingestion** .....: Call a poison control center or doctor 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.

**Inhalation** .....: Remove victim 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 treatment advice.

**Note to Physician** .....: No specific antidote is available. Treat the patient symptomatically.

### V. FIRE FIGHTING MEASURES

**Flash Point** .....: > 93 °C / > 199 °F

**Suitable Extinguishing Media** ..: Foam, Dry chemical

**Fire Fighting Instructions** .....: Cool containers exposed to fire with water. Fight fire from upwind position. Fire fighters should wear self-contained breathing apparatus. Dike area to prevent runoff and contamination of water sources. Keep out of smoke. Equipment or materials involved in pesticide fires may become contaminated.

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### VI. ACCIDENTAL RELEASE MEASURES

**General and Disposal** . . . . .: Recover material, if possible. Soak up with an absorbent material such as sand, sawdust, earth, fuller's earth, etc. Sweep up and shovel into suitable containers for disposal. Clean up residual material by washing area with water and detergent. Flush with water. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

**Land Spill or Leaks** . . . . .: Isolate area and keep unauthorized people away. Do not walk through spilled material. Avoid breathing vapors and skin contact. Remove sources of ignition if combustible or flammable vapors may be present and ventilate area. Wear proper protective equipment. Do not allow material to enter streams, sewers, or other waterways.

### VII. HANDLING AND STORAGE

**Handling Procedures** . . . . .: Use proper protective equipment to minimize personal exposure (see Section VIII).

**Storing Procedures** . . . . .: Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed.

**Work/Hygienic Procedures** . . . . .: Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet. Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.

**Min/Max Storage Temperatures** . . . . .: Do not transport or store above 38°C / 100°F

### VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls** . . . . .: Use local exhaust at all process locations to control employee exposure.

**Eye/Face Protection** . . . . .: Eye contact should be prevented through use of chemical safety glasses with side shields or splash proof goggles.

**Hand Protection** . . . . .: Chemical resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.

**Body Protection** . . . . .: Long-sleeved shirt and long pants. Shoes plus socks.

**Respiratory Protection** . . . . .: When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.

**General Protection** . . . . .: Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

### Exposure Limits

Glycerine	56-81-5	ACGIH	TWA	10 mg/m3
		OSHA Z1	PEL	5 mg/m3
		Form of Exposure	Respirable fraction.	
		OSHA Z1	PEL	15 mg/m3
		Form of Exposure	Total dust.	
		OSHA Z1A	TWA	5 mg/m3
		Form of Exposure	Respirable fraction.	
		OSHA Z1A	TWA	10 mg/m3
		Form of Exposure	Total dust.	
		US CA OEL	TWA PEL	5 mg/m3
		Form of Exposure	Respirable fraction.	
		US CA OEL	TWA PEL	10 mg/m3
		Form of Exposure	Total dust.	

### IX. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance** . . . . .: Tan to Brown

**Physical State** . . . . .: Liquid

**Odor** . . . . .: Mild hydrocarbon

**pH** . . . . .: 6.5

**Specific Gravity** . . . . .: 1.10 at 20 °C

**Melting/Freezing Point** . . . . .: -7 °C

**Solubility (in water)** . . . . .: 88% of mixture is soluble in water.

**Viscosity** . . . . .: 800 mPa.s 20 °C

### X. STABILITY AND REACTIVITY

**Chemical Stability** . . . . .: This is a stable material.

**Incompatibility** . . . . .: Alkaline  
Strong oxidants

### Hazardous Products of

**Decomposition** . . . . .: Proposed compounds due to fire or other extreme conditions: May give off poisonous fumes including hydrogen chloride and oxides of nitrogen.

### Hazardous Polymerization

**(Conditions to avoid)** . . . . .: Will not occur.

### XI. TOXICOLOGICAL INFORMATION

Acute toxicity studies have not been conducted on this product as formulated. The acute toxicity data provided are bridged from similar formulations containing the two active ingredients, imidacloprid and cyfluthrin. The non-acute information pertains to the individual active ingredients, imidacloprid and cyfluthrin.

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### Acute Oral Toxicity

Male Rat: LD50: > 5,000 mg/kg  
Female Rat: LD50: > 5,100 mg/kg

### Acute Dermal Toxicity

Male/Female Combined Rat: LD50: > 5,030 mg/kg

### Acute Inhalation Toxicity

Male/Female Combined Rat: LC50: 4-hr exposure to liquid aerosol: > 2.23 mg/l (actual)  
Male/Female Combined Rat: 1-hr exposure to liquid aerosol (extrapolated from 4-hr LC50): > 8.92 mg/l (actual)

### Skin Irritation

Rabbit: Not a dermal irritant.

### Eye Irritation

Rabbit: Mild irritation to the conjunctiva was observed with all irritation clearing by 72 hours post-treatment.

### Sensitization

Guinea pig: Not a dermal sensitizer.

### Sub-Chronic Toxicity

Imidacloprid Technical:

In a 3 week dermal toxicity study, rabbits treated with imidacloprid showed no local or systemic effects at levels up to and including 1000 mg/Kg, the limit dose. In a 4 week inhalation study, rats exposed to high concentrations of imidacloprid exhibited decreased body weight gains and changes in clinical chemistries and organ weights.

Cyfluthrin Technical:

In a 3 week dermal toxicity study in rats treated with cyfluthrin, effects observed included clinical signs of toxicity, as well as, topical and microscopic alterations in the treated tissue at the dose site. In a 13 week inhalation study in rats exposed to cyfluthrin, effects included reduced body weight gains and nonspecific behavioral disturbances at the mid- and high concentrations (0.71 and 4.5 mg/cubic meter).

### Chronic Toxicity

Imidacloprid Technical:

In chronic dietary studies in rats and dogs exposed to imidacloprid, the target organs were the thyroids and/or liver.

Cyfluthrin Technical:

In chronic dietary studies in rats treated with cyfluthrin, compound-related effects included decreased body weight gains and slight changes in clinical chemistries. In chronic dietary studies in dogs treated with cyfluthrin, compound-related effects were observed at the higher concentrations ( $\geq$  360 ppm). These effects included an increased incidence of vomiting, decreased body weights, soft feces and clinical neurological symptoms.

### Assessment Carcinogenicity

Imidacloprid Technical:

In oncogenicity studies in rats and mice, imidacloprid was not considered carcinogenic in either species.

Cyfluthrin Technical:

In oncogenicity studies in rats and mice, cyfluthrin was not considered carcinogenic in either species.

ACGIH .....: None

NTP .....: None

IARC .....: None

OSHA .....: None

### Reproductive & Developmental Toxicity

REPRODUCTIVE TOXICITY:

Imidacloprid Technical:

In a two-generation reproduction study in rats, imidacloprid was not a primary reproductive toxicant. Offspring exhibited reduced body weights at the high dose and in conjunction with maternal toxicity.

Cyfluthrin Technical:

In reproduction studies in rats treated with cyfluthrin, reproductive effects occurred in conjunction with potential toxicity. These effects included reductions in viability, lactation, litter size, feed consumption and body weights. In addition, coarse tremors were observed in offspring at higher concentrations ( $\geq$  125 ppm).

DEVELOPMENTAL TOXICITY:

Imidacloprid:

In developmental toxicity studies in rats and rabbits, there was no evidence of an embryotoxic or teratogenic potential for imidacloprid. In both species, developmental effects were observed only at high doses and in conjunction with maternal toxicity.

Cyfluthrin Technical:

In developmental toxicity studies in rats treated with cyfluthrin, there were no embryotoxic or teratogenic effects via the oral route of exposure. When rats were exposed to cyfluthrin via inhalation, embryotoxic effects occurred in conjunction with maternal toxicity. In rabbits treated orally with cyfluthrin, there was an increased incidence of post-implantation losses at maternally toxic dose levels.

### Neurotoxicity

Imidacloprid Technical:

In acute and subchronic neurotoxicity screening studies in rats, imidacloprid produced slight neurobehavioral effects in each study at the highest dose tested. There were no correlating morphological changes observed in the neural tissues.

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In a one-generation developmental neurotoxicity screening study in rats, offspring exposed to imidacloprid showed decreased body weights and motor activities. These effects occurred at the highest dose tested and in conjunction with maternal toxicity. There were no correlating morphological changes observed in the neural tissues.

#### Cyfluthrin Technical:

In neurotoxicity studies with cyfluthrin, minimal nerve damage occurred in rats and hens treated by oral gavage. In dermal and inhalation studies, which are more relevant to field exposure, there was no evidence of delayed neurotoxicity in hens treated with cyfluthrin.

In a special investigative inhalation study with cyfluthrin in neonatal mice, effects observed included clinical signs of toxicity, mortality and neurobehavior effects indicative of treatment-related hyperactivity. There were no correlating morphological changes in neural tissues in mice at 4 months of age.

#### Mutagenicity

##### Imidacloprid:

The imidacloprid mutagenicity studies, taken collectively, demonstrate that the active ingredient is not genotoxic or mutagenic.

##### Cyfluthrin:

Numberous in vitro and in vivo mutagenicity studies have been conducted on cyfluthrin, all of which are negative.

#### XII. ECOLOGICAL INFORMATION

**Environmental Precautions** . . . . .: This product is extremely toxic to fish and aquatic organisms. For terrestrial uses, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below mean high water mark. Do not apply when weather conditions favor drift from areas treated. Drift or runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water by cleaning of equipment or disposal of equipment wash waters. Do not contaminate water when disposing of equipment wash waters. This product is highly toxic to bees exposed to direct treatment or residues remaining on the treated areas. Do not apply this product or allow drift when bees are actively visiting the treatment area. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.

**Ecological Information** . . . . .: This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamina-

tion. For ecotoxicological data call the product information phone number listed in Section I.

#### XIII. DISPOSAL CONSIDERATIONS

**General Disposal Guidance** . . . . .: Follow container label instructions for disposal of wastes generated during use in compliance with the product label. In other situations, bury in an approved landfill or burn in an incinerator approved for pesticide destruction. Do not reuse container.

**RCRA Classification** . . . . .: Not regulated under this statute.

#### XIV. TRANSPORT INFORMATION

**DOT CLASSIFICATION** . . . . .: Not regulated for transportation

**FREIGHT CLASSIFICATION** . . . . .: Insecticides or Fungicides, N.O.I.; other than poison

#### XV. REGULATORY INFORMATION

**EPA Registration No.** . . . . .: 432-1392-59807

##### US Federal Regulations

**TSCA list** . . . . .: None

**TSCA 12b export notification** . . . . .: None

##### SARA Title III - section 302

**Notification and information** . . . . .: None

##### SARA Title III - section 313 -

##### toxic chemical release reporting

Cyfluthrin Technical . . . . .: 68359-37-5 1.0%

##### US States Regulatory

##### Reporting CA Prop65

. . . . .: This product does not contain any substances known to the State of California to cause cancer. This product does not contain any substances known to the State of California to cause reproductive harm.

##### US State right-to-know ingredients

Cyfluthrin Technical . . . . .: 68359-37-5 US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

Glycerine . . . . .: 56-81-5 IL, MN, PA, RI

##### Canadian Regulations

##### Canadian Domestic

**Substance List** . . . . .: None

##### Environmental

**CERCLA** . . . . .: None

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### Clean Water Section 307

Priority Pollutants . . . . .: None

### Safe Drinking Water Act Maximum

Contaminant Levels . . . . .: None

### International Regulations

EU Classification . . . . .: None

### European Inventory of Existing Commercial

Substances (EINECS) . . . . .: None

## XVI. OTHER INFORMATION

	Health	Flammability	Reactivity	Others
NFPA	1	1	0	

**Reason to Issue:** . . . . .: Correct ingredients to correspond to new formulation recipe.

**Approval Date:** . . . . .: 12/19/2003

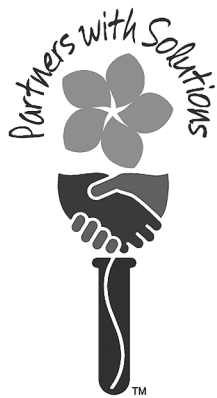
**MSDS Number** . . . . .: 2036

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