Material Safety Data Sheet
U.S. Department of Labor (OSHA 29 CFR 1910.1200)

Manufacturer's Name: **Prentiss Incorporated**
C. B. 2000
Floral Park, NY 11001
Telephone Number: **(516) 326-1919**

Section 1: Chemical Identification

Product: 655-587 **Prentox® Emulsifiable Spray Concentrate #96**
EPA Signal Word: CAUTION

Active Ingredients (%): Pyrethrins (0.96%) (CAS # 8003-34-7)
Piperonyl Butoxide Technical (9.6%) (CAS# 51-03-6)
Chemical Class: Insecticide mixture

Section 2: Composition/Information on Ingredients

Material:	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Pyrethrins	Not Est.	(TWA) 5 mg/m^3	Not Est.	No
Piperonyl Butoxide Technical	Not Est.	Not Est.	Not Est.	No
Emulsifier (CAS# - Supplier confidential)	Not Est.	Not Est.	Not Est.	No
Petroleum solvent (CAS # 64742-47-8)			(TWA) 300 ppm*	

*Supplier recommendation

Section 3: Hazards Identification

Symptoms of Acute Exposure

Ingestion: May cause gastrointestinal effects, such as nausea, cramps, vomiting and diarrhea. Ingestion of large quantities can result in nervous system effects, such as dizziness, loss of coordination, tremors, and loss of consciousness. Symptoms usually regress with no long lasting effects. At high oral doses, the type of solvent in this product has caused irreversible damage to the liver and kidney (male only) in rats. These effects are not relevant to humans at occupational levels of exposure.
Eyes: May cause temporary eye irritation.
Skin: May be irritating to skin. Repeated contact may cause dermatitis.
Inhalation: May cause nasal and respiratory irritation at high concentrations.
Medical Conditions Generally Aggravated by Exposure: None known.

Section 4: First Aid Measures

Ingestion: Do not induce vomiting. This product contains a petroleum solvent. Vomiting may cause aspiration pneumonia. Call a physician or Poison Control Center immediately.
Inhalation: Remove victim to fresh air. Administer artificial respiration if necessary.
Eye Contact: Flush eyes with plenty of water for 15 minutes. Call a physician if irritation persists.
Skin Contact: Remove contaminated clothing and wash affected areas with soap and water. Contact a physician if irritation persists.

Section 5: Fire Fighting Measures

Fire and Explosion
Flash Point (Method Used): 152º F. (Closed cup)
Flammable Limits: **LEL:** 0.6 **UEL:** 7.0 (solvent)

In case of fire: Use CO_2, foam, dry chemical, or sand extinguishing media. Do not inhale smoke or vapors. Use self-contained breathing apparatus and wear full protective clothing. Evacuate non-essential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area and equipment until decontaminated. This product is toxic to fish, birds and other wildlife, prevent spread of contaminated runoff.
Unusual Fire and Explosion Hazards: Combustible liquid. Keep containers cool to avoid explosive ignition.

Section 6: Accidental Release Measures

Wear chemical safety glasses with side shields or chemical goggles, chemical resistant gloves, such as barrier laminate, nitrile rubber, neoprene rubber or viton®, shoes and socks, long-sleeved shirt and long pants to prevent contact with the product or its vapors. Cover the spilled area with generous amounts of absorbent material, such as clay, diatomaceous earth, sand or sawdust. Sweep the contaminated absorbent onto a shovel and put the sweepings into a salvage drum. Wash the spill area with water containing a strong detergent, absorb the rinsate, sweep up and put into salvage drum. Dispose of wastes as below.
Waste disposal method: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. This product is toxic to fish, birds and other wildlife. Do not contaminate the environment through improper disposal.

Section 7: Handling and Storage

Do not use or store near heat or open flame. Exposure to temperatures above 130º F. may cause bursting of containers. Store in a well ventilated, secure area, out of reach of children, domestic animals. Do not contaminate water, food or feed by storage or disposal. Periodically inspect stored materials. Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Always wash thoroughly after handling.

Section 8: Exposure Controls/Personal Protection

Ingestion: Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Always wash thoroughly after handling.
Eye contact: To avoid eye contact, wear safety glasses with side shields or chemical goggles.
Skin Contact: To avoid skin contact, wear chemical resistant gloves, such as barrier laminate, nitrile rubber, neoprene rubber or viton®, shoes and socks, long-sleeved shirt and long pants.
Inhalation: To avoid breathing vapors or mist, wear a NIOSH approved chemical cartridge respirator with organic vapor cartridges and a pesticide pre-filter, or a supplied air respirator.

Section 9: Physical and Chemical Properties

Appearance:	Yellow to amber liquid.
Odor:	Pleasant woody odor.
Melting Point:	Not applicable.
Boiling Point:	Not determined.
Specific Gravity (H_2O = 1):	0.8250
pH:	Not applicable.
Solubility in Water:	Emulsifies.
Vapor Pressure:	Not determined.

Section 10: Stability and Reactivity

Reactivity:

Stability	Stable.
Hazardous Polymerization:	Will not occur.
Conditions to avoid:	Flame, heat, ignition sources, strong acids and alkalies.

Hazardous Decomposition Products: None known.

Section 11: Toxicological Information

Acute toxicity/irritation studies:

Pyrethrins (58%):

Ingestion:	Slightly toxic	
	Oral LD50 (Rat)	2,370 mg/kg (58% pyrethrins)
Dermal:	Slightly toxic	
	Dermal LD50 (Rabbit)	>2,000 mg/kg (58% pyrethrins)
Inhalation:	Slightly toxic	
	Inhalation LC50	3.4 mg/L (58% pyrethrins)
Eye Contact:	Minimally irritating (Rabbit)	
Skin Contact:	Minimally irritating (Rabbit)	
Skin Sensitization:	Not a sensitizer (Guinea Pig)	
Mutagenic Potential:	Pyrethrins – none observed.	
Reproductive Hazard Potential:	Pyrethrins – none observed.	
Chronic/Subchronic Toxicity:	Pyrethrins – none observed.	

Carcinogenicity/Oncogenicity - Carcinogenicity/Oncogenicity – Pyrethrum has been tested in chronic feeding studies in mice and rats. Slightly elevated incidences of benign tumors of the thyroid and liver were seen in rats following high doses of Pyrethrum. Further detailed scientific studies into the mechanism causing these responses indicate that these effects in animals only occur at doses greatly exceeding the likely human exposure levels. Thus, the effects seen in animals are of little relevance to humans.

Other toxicity information: Not available.

Piperonyl Butoxide (technical grade):

Acute toxicity/irritation studies:

Ingestion:	Minimally toxic	
	Oral LD50 (Rat)	4,570 mg/kg – males 7,220 mg/kg - females
Dermal:	Slightly toxic	
	Dermal LD50 (Rabbit)	>2,000 mg/kg
Inhalation:	Slightly toxic	
	Inhalation LC50	>5.9 mg/L
Eye Contact:	Slightly irritating (Rabbit)	
Skin Contact:	Minimally irritating (Rabbit)	
Skin Sensitization:	Not a sensitizer (Guinea Pig)	

Mutagenic Potential: None observed.

Reproductive Hazard Potential: None observed.

Chronic/Subchronic Toxicity: None observed.

Carcinogenic Potential: Marginally higher incidences of benign liver tumors in mice were observed following lifetime high dose exposures to Piperonyl Butoxide. The significance of this observation is questionable and under review. The doses at which tumors were observed greatly exceeded potential human exposure from labeled uses. Doses at which these effects were observed greatly exceeded human dietary intake. At anticipated dietary exposure levels, it is highly unlikely that this product would result in carcinogenic effects.

Other toxicity information:

Mutagenicity: Piperonyl Butoxide was not genotoxic in several tests, including the Ames mutagenicity assay, chromosome aberration in Chinese hamster ovary (CHO) cells, CHO/HGPRT assay with S9 activation, and in the unscheduled DNA synthesis (UDS) assay in cultured human liver cells.

Teratology/Reproductive effects: There were no birth defects or adverse effects on reproductive parameters in rats or rabbits. Piperonyl Butoxide is not considered to be teratogenic.

Toxicity of other components:

Emulsifier: The supplier notes that the emulsifier may cause severe eye irritation from contact. Also, prolonged skin contact with soaked clothing may cause irritation. Inhalation may cause chest pain and coughing. Ingestion may cause nausea, vomiting and diarrhea. The supplier does not note any chronic toxicity.

Petroleum solvent: The supplier reports that overexposure to this solvent may cause kidney damage. Exposure to the liquid may cause eye irritation and mild skin irritation. Breathing can cause nasal and respiratory irritation, central nervous system effects including dizziness, weakness, fatigue, nausea, headache, possible unconsciousness and even death. Swallowing can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration into the lungs can cause aspiration pneumonia, which can be fatal.

Target Organs:

Active Ingredients: Central nervous system.

Inert Ingredients:

Emulsifier: Eyes, skin, respiratory tract.

Petroleum Solvent: Respiratory tract, central nervous system and skin.

Section 12: Ecological information

Summary of Effects: Pyrethrins are highly toxic to fish and aquatic organisms.

Eco-Acute Toxicity:

Pyrethrins (58%)	Rainbow trout 96-hour LC50	5.2 μg/L
	Bluegill sunfish 96-hour LC50	10 μg/L
	Honeybee Acute	0.022 μg/bee
	Daphnia magna 48-hour LC50	12 μg/L
	Bobwhite Quail Oral LD50	>2,000 mg/kg
	Bobwhite 5 day dietary LC50	>5,620 ppm
	Mallard 5 day dietary LC50	>5,620 ppm
Piperonyl Butoxide (technical grade):		
	Rainbow Trout 96-hour LC50	6.12 ppm
	Bluegill Sunfish 96-hour LC50	5.37 ppm
	Daphnia Magna 48-hour LC50	0.51 ppm
	Honeybee Acute	>25 μg/bee
	Bobwhite Quail Oral LD50	>2,250 mg/kg
	Bobwhite 5 day dietary LC50	>5,620 ppm
	Mallard 5 day dietary LC50	>5,620 ppm

Eco-Chronic Toxicity:

Pyrethrins (58%)		
	Fish (Fathead Minnow) Early life stage MATC	>1.9 μg total pyrethrins/L
	Invertebrate (Daphnia Magna) Life cycle MATC	1.3 μg total pyrethrins/L
Piperonyl Butoxide (technical grade):		
	Fish (Fathead Minnow) Early life stage MATC	>0.18 mg/L - <0.42 mg/L
	Invertebrate (Daphnia Magna) life cycle MATC	>30 μg/L - <47 μg/L

Environmental Fate: Not available.

Section 13: Disposal Considerations

Disposal: do not reuse product containers. Dispose of product containers, waste containers, and residues according to Federal, State and local health and environmental regulations.

Characteristic Waste: Ignitable.

Listed Waste: None.

Section 14: Transport Information

DOT Classification: COMBUSTIBLE LIQUID, N.O.S. (PETROLEUM NAPHTHA), NA1993, PGIII, RQ (PYRETHRINS)
B/L Freight Classification: INSECTICIDES; OTHER THAN POISON, NMFC ITEM 102120
International Transportation: Not available.

Section 15: Regulatory Information

SARA Title III Classification:

Section 311/312:	Acute health hazard Fire hazard
Section 313 Chemicals:	Piperonyl Butoxide Technical (9.6%)

This product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III and of 40 CFR 372. Any copies or redistribution of this MSDS must include this notice.

Proposition 65:	Not applicable.
CERCLA Reportable Quantity (RQ):	104.17 lb. (15.14 gal.)
RCRA Classification:	Ignitable
TSCA Status:	Exempt from TSCA.

Section 16: Other Information

NFPA Hazard Ratings:

Health:	1	0	Least
Flammability:	2	1	Slight
Reactivity:	0	2	Moderate
		3	High
		4	Severe

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Reason:	Revision of Section 11

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