

Product: 655-598 Prentox^(R) Malathion 50% Emulsifiable Insecticide

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: 655-598 Prentox^(R) Malathion 50% Emulsifiable Insecticide
EPA Signal Word: WARNING
Active Ingredient (%): Malathion (50%) (CAS# 121-75-5)
Chemical Name: *O,O*-dimethyl dithiophosphate of diethyl mercaptosuccinate
Chemical Class: Organophosphate Insecticide Mixture

Section 2: Composition/Information on Ingredients

Material:	OSHA PEL	ACGIH TLV	NTP/IARC/OSHA Carcinogen
Malathion	10 mg/M ³ (Skin) (TWA)	10 mg/M ³ (Skin) (TWA)	No/No/No
Xylene Range Aromatic Solvent (CAS # 64742-95-6) (40.84%)	See below		
Contains the following regulated ingredients, by weight (typical):			
1,2,4-Trimethyl Benzene (CAS # 95-63-6)	32.0		(TWA) 25 ppm
Mixed Xylenes (CAS # 1330-20-7)	3.0		(TWA) 100 ppm
Cumene (CAS # 98-82-8)	1.5		(TWA) 50 ppm
Ethyl Benzene (CAS # 100-41-4)	0.5		(TWA) 100 ppm
Emulsifier (CAS # N/A) (6.0%)	N/D	N/D	

Section 3: Hazards Identification

Routes of Exposure:

Inhalation: Yes **Skin:** Yes **Ingestion:** Yes

Acute and Chronic Exposure: Causes severe but reversible eye damage. Malathion is a cholinesterase inhibitor of low mammalian toxicity. However, prolonged storage at temperatures exceeding 78 F (25 C) causes formation of the more toxic and synergistic contaminant isomalathion (LD₅₀, oral, rat, 89 mg/Kg). Acute exposure to malathion may cause death due to cholinesterase inhibition. Repeated exposure to cholinesterase inhibitors such as malathion may, without warning, cause increased susceptibility to doses of any cholinesterase inhibitor. Signs and symptoms of exposure include headache, nausea, vomiting, cramps, weakness, blurred vision, pinpoint pupils, tightness in chest, labored breathing, nervousness, sweating, watering of eyes, drooling or frothing of mouth and nose, muscle spasms and coma. **Note to Physician:** Malathion, upon repeated, prolonged or careless use may cause cholinesterase inhibition. Atropine is antidotal. **Toxicity of other components:** **Xylene Range Aromatic Solvent:** Inhalation: high vapor concentrations are irritating to the eyes and the respiratory tract, may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness, and other central nervous system effects, including death. Skin contact: frequent or prolonged contact may irritate and cause dermatitis, low order of toxicity. Skin contact may aggravate an existing dermatitis condition. Eye contact: Slightly irritating but

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does not injure eye. **Ingestion:** Small amounts aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury, possibly progressing to death. **Emulsifier:** Eye contact: May cause irritation and burns. Skin contact: May cause irritation. Prolonged or repeated skin contact may cause defatting, drying, dermatitis. Inhalation: May cause irritation, coughing, headache, nausea, drowsiness. Prolonged or repeated overexposure by inhalation may cause central nervous system depression (CNS). Symptoms of early to moderate CNS depression include giddiness, dizziness, confusion, drunken behavior, headache, nausea, diarrhea, vomiting, tiredness and drowsiness. In extreme cases, CNS depression may cause stupor, convulsions, unconsciousness, coma and even death.

Ingestion: May cause nausea, vomiting, diarrhea, aspiration (breathing) of liquid, mist or vomitus into lungs may cause aspiration pneumonia, hemorrhaging, lung damage and even death. Symptoms of aspiration pneumonia include coughing, labored breathing and bluish skin.

Carcinogenicity: Malathion is not listed by NTP, IARC or regulated by OSHA as a carcinogen.

Medical Conditions Generally Aggravated by Exposure: Repeated exposures to cholinesterase inhibitors such as this product may, without warning, cause increased susceptibility to doses of any cholinesterase inhibitor.

Section 4: First Aid

Call a physician, Poison Control Center, or the National Pesticide Information Center at 1-800-858-7378 for treatment advice.

If swallowed: Do not induce vomiting unless told to do so by a physician or Poison Control Center. Do not give anything by mouth to an unconscious or convulsing person. **If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with water for 15-20 minutes. **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. **If in eyes:** 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.

Note to physician: Malathion upon repeated, prolonged or careless use may cause cholinesterase inhibition. Atropine is antidotal.

Section 5: Fire Fighting Measures

Flash Point (Method Used): 110° F. closed cup.

Flammable Limits: **LEL:** 1.9 **UEL:** 12.6 (Solvent - approximate)

Extinguishing Media: Dry chemical, CO₂, foam or water spray. Avoid heavy hose streams to prevent spread of contaminated runoff.

Special Fire Fighting Procedures: Keep containers cool by spraying with water if exposed to fire. Fight fires from upwind. This pesticide is toxic to aquatic invertebrates and aquatic life stages of amphibians. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or public waters. Do not use heavy streams of water in order to prevent spread of contaminated runoff. Wear self contained breathing apparatus.

Unusual Fire and Explosion Hazards: Malathion decomposes when heated above 100° C. Explosions of sealed containers may occur. May give off dimethyl sulfoxide, sulfur dioxide, CO, CO₂ and phosphorus pentoxide upon exposure to high temperatures.

Section 6: Accidental Release Measures

Wear long sleeved shirt and long pants, chemical resistant gloves, such as barrier laminate, or Viton®, protective eyewear such as goggles and shoes plus socks. In enclosed areas wear suitable respiratory protection to prevent inhalation of vapors. Cover the spilled material with generous amounts of absorbent material, such as clay, diatomaceous earth, sand or sawdust. Sweep up the contaminated absorbent onto a shovel and put the sweepings into a salvage drum. Dispose of wastes as below. Place any leaking container into a similar drum or glass container.

Waste disposal method: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use 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.

Container disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

Section 7: Handling and Storage

Precautions for handling and storage: Do not contaminate water, food or feed. Wash hands, arms and face with soap and water after use and before eating or smoking. Remove contaminated clothing and wash with soap and hot water before reuse.

Other precautions: Harmful if swallowed. Avoid breathing of vapors. Avoid contact with skin. Avoid contamination of water, feed or foodstuffs. Periodically inspect stored materials.

Section 8: Exposure Controls/Personal Protection

Respiratory protection: Use an approved pesticide respirator protecting against organophosphorus vapors.

Ventilation:

Local Exhaust: As required to meet TLV values.

Special: None.

Mechanical: As required to meet TLV values.

Other: None.

Protective Gloves: Chemical resistant such as barrier laminate or Viton®

Eye Protection: Safety glasses or goggles.

Other protective clothing or equipment: Wear long sleeved shirt, long pants, shoes and socks.

Work/Hygienic practices: Wash thoroughly after handling and before eating or smoking. Persons working with this product for long periods of time, or on a frequent basis, should have frequent blood tests of their cholinesterase levels. If the cholinesterase falls below the critical point, no further exposure should be allowed until it has been determined by means of blood tests the cholinesterase levels have returned to normal. Before removing gloves, wash them with soap and water. As soon as possible, wash thoroughly and change into clean clothing.

Section 9: Physical and Chemical Properties

Boiling Point: N/D

Specific Gravity (H₂O = 1): 1.0284

Vapor Pressure (mmHg): N/D

Melting Point: N/D

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Vapor Density (Air = 1): N/D
Evaporation Rate (Butyl Acetate = 1): N/D
Solubility in Water: Emulsifies.
Appearance and Odor: Water white to yellow liquid, mercaptan like odor.

Section 10: Stability and Reactivity

Stability: Stable.
Conditions to avoid for stability: Avoid storage at temperatures in excess of 78° F. for best stability.
Incompatibility: Alkalies, iron and strong oxidizers.
Hazardous Decomposition or Byproducts: CO, CO₂, phosphorus pentoxide, malaoxon, dimethyl sulfide, sulfur dioxide, and oxides of nitrogen.
Hazardous Polymerization: Will not occur.
Conditions to avoid for Hazardous Polymerization: None.

Section 11: Toxicological Information

Acute Toxicity (Malathion, except where noted):

Ingestion: Oral LD₅₀ (Rat) 5,500 mg/Kg
Dermal: Dermal LD₅₀ (Rat) >2,000 mg/Kg
Inhalation: Inhalation LC₅₀ (Rat) >5.2 mg/L/ 4 hour
Eye Contact: This product is a severe eye irritant
Skin Contact: This product is a moderate primary skin irritant
Skin Sensitization: Not a skin sensitizer
Carcinogenicity: IARC evaluation: the available data provide no evidence that malathion is likely to present a carcinogenic risk to humans.
Reproductive Effects: No effects on reproduction are found for malathion in rats and rabbits at maternal non toxic doses.
Teratogenicity: No indications of teratogenic effects of malathion are found.
Mutagenicity: Malathion is not mutagenic.

Section 12: Ecological Information

Malathion is biodegradable. It undergoes rapid degradation in the environment and in waste water treatment plants. No adverse effects are observed at concentrations up to 100 mg/L in waste water treatment plants. Degradation occurs both aerobically and anaerobically, biologically as well as abiologically. Under normal conditions malathion is of medium mobility in soil, but is degraded rapidly. Malathion is toxic to fish, aquatic invertebrates, and aquatic life stages of amphibians. Malathion is highly toxic to bees.

Acute toxicity:

Fish	96-h LC ₅₀ , Rainbow Trout	0.200 mg/L
Invertebrates	48-h LC ₅₀ , <i>daphnia magna</i>	1.0 ìg/L
Birds	LD ₅₀ , Bobwhite Quail	400 mg/Kg
Honeybee	24-h LD ₅₀ , topical	0.27 ìg/bee
	24-h LD ₅₀ , oral	0.38 ìg/bee

Section 13: Disposal Considerations

Waste disposal method – follow label instructions for disposal of wastes generated during use in compliance with FIFRA product label. Container disposal – if empty, place in trash or offer for recycling if available. If partially full, call your local solid waste agency or 1-800-CLEANUP for disposal instructions.

Section 14: Transport Information

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

Section 15: Regulatory Information

OSHA Status: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.
TSCA Status: This product is exempt from TSCA regulation under FIFRA Section 3 (2) (B) (ii) when used as a pesticide.

SARA Title III Classification:

Section 302, Extremely Hazardous Substances:

Ethyl Benzene
Mixed Xylenes

Section 311/312: Acute health hazard, chronic health hazard, fire hazard

Section 313 chemicals:

Malathion (50%)	(CAS# 121-75-5)
1,2,4-Trimethyl Benzene (13.07%)	(CAS # 95-63-6)
Mixed Xylenes (1.23%)	(CAS # 1330-20-7)
Cumene (0.61%)	(CAS # 98-82-8)
Ethyl Benzene (0.002%)	(CAS # 100-41-4)

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.

CERCLA Reportable Quantity: 200 lb. of this formula which contains 100 lb. of malathion

RCRA Status: This product does not contain any RCRA listed hazardous wastes

Section 16: Other Information

NFPA Hazard Ratings: Health: 2 Flammability: 2 Reactivity: 1

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