



NFPA HAZARD RATING				U.S. TRANSPORT SUMMARY	
0	Least				Not regulated for ground shipment in packages less than 20 gallons. See Section 14 for full information.
1	Slight	2	Health		
2	Moderate	2	Flammability		
3	High	0	Reactivity		
4	Severe				

SECTION 1: IDENTIFICATION	
Product Name: Malathion 5 EPA Registration #: 9779-5 Product ID/Unity #: 10001200, 64477415, 64477455 Common Name: Malathion Chemical Description: O,O-dimethyl dithiophosphate of diethyl mercaptosuccinate Recommended Uses: Agricultural insecticide – See product label for complete list of uses and use sites. Restrictions for Use: See product label for information regarding restrictions on the use of this product.	MEDICAL EMERGENCY TELEPHONE NUMBER: 1-877-424-7452 (24hrs) Non-Emergency Business Inquiries: 1-855-494-6343 Mon – Fri 8am – 5pm (Central Standard Time)
Manufactured For: WINFIELD SOLUTIONS, LLC P. O. Box 64589 St. Paul, MN 55164-0589	
FOR EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, CALL: CHEMTREC 1-800-424-9300 (24 hours)	

SECTION 2: HAZARDS IDENTIFICATION	
EMERGENCY OVERVIEW: Amber to light yellow liquid with a pungent odor. Causes serious eye irritation. Causes skin irritation. Flammable liquid. May cause respiratory irritation. Harmful if swallowed as it may be aspirated into the lungs.	
POTENTIAL HEALTH EFFECTS: Eyes: Causes serious, but temporary, eye irritation. Skin: Causes moderate but reversible irritation including redness and swelling. Inhalation: May cause irritation of the upper respiratory system and weakness or dizziness. Malathion can affect you when breathed in and can cause organophosphorous poisoning. Symptoms of poisoning may include headache, nausea, vomiting, blurred vision, tightness in chest, drooling, frothing of mouth and nose, convulsions, coma and death. Ingestion: Malathion is a poison through ingestion and causes symptoms similar to those listed for inhalation. Preexisting Conditions: Preexisting skin or respiratory conditions may be aggravated by exposure. Chronic Health Effects: Cholinesterase inhibitor. Prolonged or repeated overexposure may cause behavioral changes.	
Carcinogenicity	NTP: Not listed IARC: Not listed OSHA: Not listed
OSHA HCS 2012 CLASSIFICATION: Aspiration Hazard Category 1; Eye Irritation Category 2A; Skin Irritation Category 2; Acute Oral Toxicity Category 4; Acute Dermal Toxicity Category 4; Specific Target Organ Toxicity – Single Exposure Category 3; Flammable Liquids Category 3	
SIGNAL WORD: DANGER	
HAZARD STATEMENTS: May be fatal if swallowed and enters airways. Causes serious eye irritation. Causes skin irritation. Harmful if swallowed. Harmful in contact with skin May cause respiratory irritation. Flammable liquid and vapor.	
	
Percent of product with unknown toxicity: 0%	

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PRECAUTIONARY STATEMENTS:

Prevention: Wash hands thoroughly after handling. Wear protective gloves, protective clothing, and eye and face protection (See Section 8). Do not eat, drink or smoke when using this product. Avoid breathing mist, spray, or fumes. Use only outdoors in a well-ventilated area. Keep away from heat, sparks, open flames, hot surfaces. - No Smoking. Keep container tightly closed. Ground/Bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

Response: **If swallowed:** Immediately call a poison control center (1-877-424-7452) or doctor. Do Not induce vomiting. Rinse mouth. **If in eyes:** Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. **If on skin:** Wash with plenty of water. Immediately call a poison control center (1-877-424-7452) or doctor for treatment advice. Take off immediately all contaminated clothing and wash it before reuse. **If inhaled:** Remove person to fresh air and keep comfortable for breathing. Call a poison control center (1-877-424-7452) or doctor for treatment advice if you feel unwell. **In case of fire:** Use dry chemical, foam, carbon dioxide, water spray or water fog to extinguish.

Storage: Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

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

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	% (wt)	CAS Reg. #
Malathion	56.8%	121-75-5
Light Aromatic Solvent Naphtha	16.7 – 21.5%	64742-95-6
1,2,4-Trimethylbenzene	9.2 – 15.1%	95-63-6
Xylenes	3.7 – 5.6%	1330-20-7
Ethylbenzene	0.0 – 1.9%	100-41-4
Butanol	<0.7%	71-36-3
*Ingredients not specifically listed are non-hazardous and/or are considered to be confidential business information under 29 CFR 1910.1200(j).		
See Section 8 for exposure limits.		

SECTION 4: FIRST AID MEASURES

Inhalation: Remove person from contaminated area to fresh air and assist breathing as needed. Get medical attention immediately.

Ingestion: Seek medical attention or call a poison control center immediately for treatment advice. Do not induce vomiting. Rinse mouth with water. Do not give anything by mouth to an unconscious person.

Eyes: Flush eyes with clean water for at least 15 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. Seek medical attention immediately.

Skin: Remove contaminated clothing and wash before re-using. Flush skin with water and then wash with soap and water. Seek medical attention immediately.

NOTE TO PHYSICIAN: Malathion is an acetyl cholinesterase inhibitor. Atropine is antidotal. Contains petroleum distillate. May pose an aspiration pneumonia hazard.

SECTION 5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Water fog, Water spray, Carbon dioxide, Foam, Dry chemical

Special Fire Fighting Procedures: Wear NIOSH/MSHA approved self-contained breathing apparatus and full bunker gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later. Avoid breathing vapors; keep upwind.

Hazardous Combustion Products: Dimethyl sulfide, carbon oxides, phosphorous oxides, sulfur oxides.

Unusual Fire and Explosion Hazards: Closed containers may explode from vapor expansion in high heat.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.

Environmental Precautions: Do not allow spilled product to enter sewers or waterways.

Methods for Containment: Contain spilled product by diking area with sand or earth. Restrict access to area until clean-up is complete.

Methods for Clean-up: Eliminate all sources of heat, sparks and flame. Cover spilled product with an inert absorbent material such as sand, vermiculite or other appropriate material. Vacuum, scoop or sweep up material and place in a container for disposal. Do not place spilled material back in original container.

Other Information: Spills of this product may require reporting under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as the product contains Malathion with a reportable quantity (RQ) of 100 lbs. and Mixed xylenes with an RQ of 100 lbs. See Section 15 for additional information.

SECTION 7: HANDLING AND STORAGE

Handling: RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS AND WORKERS must refer to the pesticide 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. Ensure adequate ventilation. Immediately clean up spills that occur during handling. Keep containers closed when not in use. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Storage: Store in secured, cool, dry areas away from children, feed and food products and sources of heat. Store in original container with lid tightly closed. Do not store in direct sunlight. Product should be stored at temperatures not exceeding 68 - 77°F. The product should never be heated above 131°F. **See pesticide product label for additional storage information.**

Minimum Storage Temperature: Not determined

Other Precautions: Consult Federal, state and local laws and regulations pertaining to storage.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Component:	OSHA PEL	ACGIH TLV	NIOSH REL
Malathion	15 mg/m3 (skin)	10 mg/m3 (skin)	
Butanol	100ppm/300 mg/m3 TWA	20ppm TWA	
1,2,4-Trimethylbenzene	125 mg/m3 TWA	25 ppmTWA	

NOTE TO END USERS: PERSONAL PROTECTIVE EQUIPMENT (PPE) AND CLOTHING LISTED IN THIS SECTION IS FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD REFER TO THE PESTICIDE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT (PPE) AND CLOTHING.

Respiratory Protection: In areas with inadequate ventilation or where exposure limits are exceeded, use a NIOSH approved respirator with cartridges/canisters approved for organic vapors.

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

Protective Gloves: Wear chemical resistant gloves to prevent skin exposure.

Eye Protection: Wear chemical goggles or safety glasses and full-face shield. Contact lenses are not eye protective devices. An emergency eyewash or water supply should be readily accessible to the work area.

Other Protective Clothing or Equipment: Wear long sleeve shirt, long pants and chemical resistant footwear plus socks to prevent skin exposure.

Work/Hygienic Practices: Never eat, drink, nor use tobacco in work areas. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES			
Physical State:	Liquid	Specific Gravity (H ₂ O=1):	1.045 – 1.060 (typical)
Vapor Pressure (mm Hg):	Not determined	Density (lbs/gallon):	8.72 – 8.85 (typical)
Vapor Density (Air=1):	Not determined	Melting Point/Freezing Point:	Not determined
Solubility in Water (wt %):	Emulsifiable	Boiling Point/Range:	Not determined
Viscosity:	4.09 centipoise at 40°C	pH (1% dispersion):	3.25
Appearance and odor:	Amber to light yellow liquid with a pungent odor	Flash Point:	108°F

SECTION 10: STABILITY AND REACTIVITY	
Reactivity: Malathion can corrode iron, steel, tin plate and copper. It can be rapidly hydrolyzed at pH >7.	
Chemical Stability: Product is stable at ambient temperature and pressure, under normal storage and handling conditions. At temperatures higher than 131°F, decomposition of malathion may take place and the released heat from decomposition of malathion can raise the temperature further and accelerate decomposition.	
Possibility of Hazardous Reactions: Will not occur	
Conditions to Avoid: Heat, flame and direct sunlight.	
Incompatible Materials: Strong alkalis, amines, strong acids and strong oxidizing compounds. Malathion can corrode iron, steel, tin plate and copper.	
Hazardous Decomposition Products: Dimethyl sulfide, carbon oxides, phosphorous oxides, sulfur oxides.	

SECTION 11: TOXICOLOGICAL INFORMATION	
ACUTE TOXICITY	
Eye Effects:	Anticipated to cause moderate but temporary eye irritation based upon component data.
Skin Effects:	Anticipated to cause moderate skin irritation based upon component data. Estimated LD50 = 1,538 mg/kg. Not anticipated to be a skin sensitizer based upon component data.
Acute Inhalation Effects:	Estimated LC50 = 8 mg/L
Acute Oral Effects:	Estimated LD50 = 1,267 mg/kg
Specific Target Organ Toxicity:	Central nervous system and respiratory tract.
CHRONIC TOXICITY	
Chronic Effects:	Malathion is a cholinesterase inhibitor. Repeated exposures to cholinesterase inhibitors, such as Malathion, may without warning cause increased susceptibility to doses of any cholinesterase inhibitor.
Carcinogenicity:	No component is anticipated to have carcinogenic effects.
Mutagenicity:	No component is anticipated to have mutagenic effects.
Teratogenicity:	No component is anticipated to have teratogenic effects.
Reproductive Toxicity:	No component is anticipated to have effects on the reproductive system.
POTENTIAL HEALTH EFFECTS:	
Eyes: Causes serious, but temporary, eye irritation.	
Skin: Causes moderate but reversible irritation including redness and swelling.	
Inhalation: May cause irritation of the upper respiratory system and weakness or dizziness. Malathion can affect you when breathed in and can cause organophosphorous poisoning. Symptoms of poisoning may include headache, nausea, vomiting, blurred vision, tightness in chest, drooling, frothing of mouth and nose, convulsions, coma and death.	
Ingestion: Malathion is a poison through ingestion and causes symptoms similar to those listed for inhalation.	

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL SUMMARY: Not determined	
ECOTOXICITY DATA:	
Fish Acute and Prolonged Toxicity:	Estimated 96-hour LC50 = 0.31 mg/L (Based upon component data)
Aquatic Invertebrate Acute Toxicity:	Malathion Technical: <i>Daphnia magna</i> 48-hour EC50 = 0.72 ug/L
Aquatic Plant Toxicity:	Malathion Technical: Green algae (<i>Selenastrum capricornutum</i>) 72-hour LC50 = 4.06 mg/L
Bird Acute and Prolonged Toxicity:	Malathion Technical: Bobwhite quail (<i>Colinus virginianus</i>) LD50 = 359 mg/kg Mallard duck (<i>Anas platyrhynchos</i>) LD50 = 1,485 mg/kg
Honeybee Toxicity:	Malathion Technical: Worker honeybees, acute oral LD50 = 0.38 ug/bee Worker honeybees, topical LD50 = 0.27 ug/bee
ENVIRONMENTAL EFFECTS:	
Soil Absorption/Mobility:	Not determined
Persistence and degradability:	Not determined
Bioaccumulative Potential:	Not determined
Other adverse effects:	Not determined

SECTION 13: DISPOSAL CONSIDERATIONS

Waste: Dispose of in accordance with applicable Federal, state and local laws and regulations.
Container: Triple rinse and recycle the container or dispose of in accordance with Federal, state and local laws and regulations. See pesticide product label for full instructions on disposal.
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: TRANSPORT INFORMATION

DOT: (Ground)	This product is not regulated by the U.S. DOT as a hazardous material for ground shipment in packages less than 20 gallons. For packages of 20 gallons to 118 gallons: UN1993, Flammable liquid, n.o.s. (1,2,4-trimethylbenzene, xylenes), 3, III, RQ (malathion) For packages with a capacity of 119 gallons to 199 gallons: UN1993, Flammable liquid, n.o.s. (1,2,4-trimethylbenzene, xylenes), 3, III, RQ (malathion), Marine Pollutant For packages with a capacity of 200 gallons or greater: UN1993, Flammable liquid, n.o.s. (1,2,4-trimethylbenzene, xylenes), 3, III, RQ (malathion, xylenes), Marine Pollutant
IMDG: (Sea)	Not determined
IATA: (Air)	Not determined
TDG: (Canada)	Not determined

SECTION 15: REGULATORY INFORMATION

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 listed
Section 311/312 - Hazard Categories: Immediate (Acute), Delayed (Chronic), Fire
Section 313 - The following chemicals are subject to the reporting requirements of Section 313 of Title III, Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372:
 Malathion (121-75-5) 56.8%; 1,2,4-Trimethylbenzene (95-63-6) 9.2 - 15.1%; Xylenes (1330-20-7) 3.7 - 5.6%; Ethylbenzene (100-41-4) <1.9%; Butanol (71-36-3) <0.7%

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Malathion 5

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

Malathion has an RQ of 100 lbs. which is reached with 20 gallons of product.

Mixed xylenes have an RQ of 100 lbs. which is reached with approximately 200 gallons of product.

Ethylbenzene has an RQ of 1,000 lbs. which is reached with approximately 5,882 gallons of product.

Butanol has an RQ of 5,000 lbs. which is reached with approximately 83,333 gallons of product.

EPA Registration Information: 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:

WARNING

Causes substantial but temporary eye injury.

Harmful if absorbed through skin.

Do not get in eyes, on skin or on clothing.

California Proposition 65: This product does not contain chemicals known to the state of California to cause cancer and/or reproductive harm.

U.S. State Worker and Community Right-To-Know (RTK) Information (CT, IL, MA, MN, NH, NJ, PA, RI):

Chemical Name	CAS #	State(s)
Malathion	121-75-5	NJ, PA
1,2,4-Trimethylbenzene	95-63-6	MA, NJ, PA
Xylenes	1330-20-7	NJ, PA
Ethylbenzene	100-41-4	MA, NJ, PA
Butanol	71-36-3	MA, NJ, PA

Canadian Domestic Substances List: Not determined

WHMIS Classification: This product is not approved for use in Canada. WHMIS classification is not determined.

SECTION 16: OTHER

Disclaimer: The information presented herein is based on available data from reliable sources and is correct to the best of WinField Solutions' knowledge. WinField Solutions, LLC makes no warranty, express nor implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions. We disclaim all liability for injury or damage stemming from any improper use of the material or product described herein.

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Sections Revised: All