

SAFETY DATA SHEET
Fyfanon EW Insecticide

SDS # : FO002270-A
Revision date: 2018-05-02
Format: NA
Version 1.02



1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name Fyfanon EW Insecticide

Other means of identification

Product Code(s) FO002270-A

Legacy Product Code F4279-1; 3110-03

Synonyms MALATHION: diethyl [(dimethoxyphosphinothioyl)thio]butanedioate (CAS Name); diethyl(dimethoxyphosphinothioylthio)succinate (IUPAC Name)

Active Ingredient(s) Malathion

Formula C₁₀H₁₉O₆PS₂ (Malathion)

Chemical Family Organophosphate

Recommended use of the chemical and restrictions on use

Recommended Use: Insecticide

Restrictions on Use: Use as recommended by the label.

Supplier Address

FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104
(215) 299-6000 (General Information)
msdsinfo@fmc.com (E-Mail General Information)

Emergency telephone number

For leak, fire, spill or accident emergencies, call:
1 800 / 424 9300 (CHEMTREC - U.S.A.)
1 703 / 741-5970 (CHEMTREC - International)
1 703 / 527 3887 (CHEMTREC - Alternate)

Medical Emergencies:
1 800 / 331-3148 (ProPharma Group - U.S.A. & Canada)
1 651 / 632-6793 (ProPharma Group - All Other Countries - Collect)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)


Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2B
Skin sensitization	Category 1
Carcinogenicity	Category 2

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

Warning

Hazard Statements
H302 - Harmful if swallowed
H315 - Causes skin irritation
H320 - Causes eye irritation
H317 - May cause an allergic skin reaction
H351 - Suspected of causing cancer
H410 - Very toxic to aquatic life with long lasting effects



Precautionary Statements - Prevention

- P202 - Do not handle until all safety precautions have been read and understood
- P264 - Wash face, hands and any exposed skin thoroughly after handling
- P270 - Do not eat, drink or smoke when using this product
- P280 - Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

- P308 + P313 - If exposed or concerned: Get medical advice/attention
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P337 + P313 - If eye irritation persists: Get medical advice/ attention
- P302 + P352 - IF ON SKIN: Wash with plenty of water and soap
- P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
- P362 - Take off contaminated clothing and wash before reuse
- P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
- P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
- P330 - Rinse mouth

Precautionary Statements - Storage

- P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
- P411 + P235 - Store at temperatures not exceeding 25°C/ 77°F. Keep cool.

Precautionary Statements - Disposal

- P501 - Dispose of contents/container according to label directions

Hazards not otherwise classified (HNOC)

No hazards not otherwise classified were identified.

Other Information

Very toxic to aquatic life with long lasting effects. May be harmful in contact with skin.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family Organophosphate.

Chemical name	CAS-No	Weight %
Malathion Technical	121-75-5	40.9
Sodium Hydroxide	1310-73-2	1-5

Synonyms are provided in Section 1.

4. FIRST AID MEASURES

Eye Contact	Hold eyes 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. Get medical attention if irritation develops and persists.
Skin Contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.
Inhalation	Move person from contaminated area to fresh air. Seek medical attention immediately. If person is not breathing, give artificial respiration, preferably by mouth-to-mouth, if possible.
Ingestion	Do not induce vomiting without medical advice. Rinse mouth with water and afterwards drink plenty of water or milk. If vomiting does occur, rinse mouth and drink fluids again. Never give anything by mouth to an unconscious person. Immediate medical attention is required.
Most important symptoms and effects, both acute and delayed	Malathion is a cholinesterase inhibitor affecting the central and peripheral nervous systems producing respiratory depression.
Indication of immediate medical attention and special treatment needed, if necessary	This product contains a reversible cholinesterase inhibitor. If any sign of cholinesterase inhibition occurs, call a doctor (physician), clinic or hospital immediately. Explain that the victim has been exposed to an organophosphorus insecticide. Describe his/her condition and the extent of exposure. Immediately remove the exposed person from the area where the product is present. Treatment is symptomatic and supportive. Atropine sulfate is antidotal.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Dry chemical, Carbon dioxide (CO ₂), Water spray, Foam. Avoid heavy hose streams.
Specific Hazards Arising from the Chemical	None known
Hazardous Combustion Products	The essential breakdown products are volatile, toxic, irritant and inflammable compounds such as: Dimethyl sulphide, methyl mercaptan, Sulfur dioxide, Carbon monoxide, Carbon dioxide (CO ₂), phosphorus pentoxide.
Explosion data	
Sensitivity to Mechanical Impact	No information available.
Sensitivity to Static Discharge	Yes.
Protective equipment and precautions for firefighters	Use water spray to cool fire exposed surfaces and protect personnel. Approach fire from upwind to avoid hazardous vapours and toxic decomposition products. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Dike to prevent runoff. As in any fire, wear self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Isolate and post spill area. Remove all sources of ignition. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.
Other	For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

Environmental Precautions Keep people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains.

Methods for Containment Dike to prevent runoff. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up If appropriate, surface water drains should be covered. Minor spills on the floor or other impervious surface should be swept up or preferably vacuumed up using equipment with high efficiency final filter. Transfer to suitable containers. Clean area with strong industrial detergent and much water. Absorb wash liquid onto a suitable absorbent such as hydrated lime, universal binder, attapulgate, bentonite or other absorbent clays and transfer contaminated absorbent to suitable containers. The used containers should be properly closed and labelled.

7. HANDLING AND STORAGE

Handling Handle in accordance with good industrial hygiene and safety practice. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal. Handle product only in closed system or provide appropriate exhaust ventilation at machinery. Use only in area provided with appropriate exhaust ventilation. Remove and wash contaminated clothing before re-use. Wash thoroughly after handling. Wear personal protective equipment. Refer to Section 8.

Storage Keep at a temperature not exceeding 25°C. Keep away from heat and sources of ignition i.e., steam pipes, radiant heaters, hot air vents or welding sparks. Keep container tightly closed in a dry and well-ventilated place. Keep out of reach of children and animals. Keep away from food, drink and animal feedingstuffs. Keep/store only in original container. Keep in properly labeled containers.

Incompatible products Strong alkalis, Amines, Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
Malathion Technical (121-75-5)	TWA: 1 mg/m ³	TWA: 15 mg/m ³ S*	IDLH: 250 mg/m ³ TWA: 10 mg/m ³	Mexico: TWA 10 mg/m ³
Sodium Hydroxide (1310-73-2)	Ceiling: 2 mg/m ³	TWA: 2 mg/m ³	IDLH: 10 mg/m ³ Ceiling: 2 mg/m ³	Mexico: Ceiling 2 mg/m ³
Chemical name	British Columbia	Quebec	Ontario TWA/EV	Alberta
Malathion Technical (121-75-5)	TWA: 1 mg/m ³ Skin	TWA: 10 mg/m ³ Skin	TWA: 1 mg/m ³ inhalable fraction and vapor Skin	TWA: 1 mg/m ³ Skin
Sodium Hydroxide (1310-73-2)	Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³	CEV: 2 mg/m ³	Ceiling: 2 mg/m ³

Appropriate engineering controls

Engineering measures Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Individual protection measures, such as personal protective equipment

Eye/Face Protection For exposure to mists or sprays, wear safety goggles or face shield for chemical agents. Maintain eye wash fountain and quick-drench facilities in work area.

Skin and Body Protection Minimize skin contamination by following good industrial hygiene practices.

Hand Protection	Use protective gloves made of chemical materials such as nitrile or neoprene. Wash the outside of gloves with soap and water before reuse. Check regularly for leaks.
Respiratory Protection	The product does not automatically present an airborne exposure concern during normal handling. In the event of an accidental discharge of the material which produces a heavy vapour or mist, workers should put on officially approved respiratory protection equipment with a universal filter type including particle filter.
Hygiene measures	Clean water should be available for washing in case of eye or skin contamination. Remove and wash contaminated clothing before re-use. Wash skin prior to eating, drinking, chewing gum or using tobacco. Shower or bathe at the end of working. Launder work clothing separately from regular household laundry.
General information	If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Suspension
Physical State	Liquid
Color	Off-white
Odor	Glue-like
Odor threshold	No information available
pH	4.53 @ 25°C (undiluted); 5.32 @25°C (1% dilution in water) The pH is expected to decrease on prolonged storage
Melting point/freezing point	< 0 °C
Boiling Point/Range	No information available
Flash point	> 100 °C / 212 °F (PMCC)
Evaporation Rate	No information available
Flammability (solid, gas)	Not applicable (Product is a liquid)
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	No information available
Vapor density	No information available
Density	1.072 g/mL @ 20°C
Specific gravity	No information available
Water solubility	Miscible with water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	1092 mPa.s at 20°C, 973 mPa.s at 40°C
Explosive properties	Not explosive
Oxidizing properties	Non-oxidizing
Molecular weight	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity	None under normal use conditions
Chemical Stability	Stable up to 100 °C. Heating above this temperature may cause explosive decomposition.
Possibility of Hazardous Reactions	None known.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Heating can release hazardous gases. The product should never be heated above 55°C. Local heating above this temperature should be avoided as well.
Incompatible materials	Strong alkalis, Amines, Strong oxidizing agents.
Hazardous Decomposition Products	See Section 5 for more information.

11. TOXICOLOGICAL INFORMATION

Product Information

LD50 Oral : > 2000 mg/kg (rat)
 LD50 Dermal : > 4000 mg/kg (rat)
 LC50 Inhalation : > 5.75 mg/L 4 hr (rat)

Serious eye damage/eye irritation Mildly irritating (rabbit).
 Skin corrosion/irritation Mildly irritating (rabbit).
 Sensitization May cause sensitization by skin contact

Information on toxicological effects

Symptoms Malathion is a cholinesterase inhibitor affecting the central and peripheral nervous systems producing respiratory depression. On contact, the first symptoms to appear may be irritation. Symptoms of cholinesterase inhibition: nausea, headache, vomiting, cramps, weakness, blurred vision, pin-point pupils, tightness in chest, laboured breathing, nervousness, sweating, watering of eyes, drooling or frothing of mouth and nose, muscle spasms and coma.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Mutagenicity The product contains no ingredients known to be mutagenic.
Carcinogenicity Malathion Limited evidence of a carcinogenic effect
Neurological effects Malathion: No information available
Reproductive toxicity This product does not contain any known or suspected reproductive hazards.
STOT - single exposure No known effects under normal use conditions.
STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure. See listed target organs below.
Target organ effects Nervous System, Acetylcholinesterase Inhibition
Neurological effects Malathion: No information available
Aspiration hazard The product does not present an aspiration pneumonia hazard.

Chemical name	ACGIH	IARC	NTP	OSHA
Malathion Technical 121-75-5		Group 2A		X

Legend:

IARC (International Agency for Research on Cancer)
 Group 2A - Probably Carcinogenic to Humans
 OSHA (Occupational Safety and Health Administration of the US Department of Labor)
 X - Present

12. ECOLOGICAL INFORMATION

Ecotoxicity

Malathion Technical (121-75-5)				
Active Ingredient(s)	Duration	Species	Value	Units
Malathion	96 h LC50	Oncorhynchus mykiss (rainbow trout)	0.18	mg/L
	37-day NOEC	Oncorhynchus mykiss (rainbow trout)	21	µg/L
	48 h EC50	Daphnia magna	0.72	µg/L
	21 d NOEC	Daphnia magna	0.06	µg/L
	72-h IC50	Selenastrum capricornutum	4.06	mg/L
	LD50	Bobwhite quail	359	mg/kg
	5-day dietary LC50	Bobwhite quail	3497	mg/kg

	LD50	Mallard duck	1485	mg/kg
	14-day LC50	Earthworm	613	mg/kg
	LD50 acute oral	Honey bees	0.38	µg/bee
	LD50 topical	Honey bees	0.27	µg/bee

Persistence and degradability Malathion: Biodegradable, but does not meet the criteria for being readily biodegradable, Non-persistent.

Bioaccumulation Malathion: Not expected to bioaccumulate.

Mobility Malathion: Medium mobility; has some potential to reach groundwater.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance. Proper personal protective equipment, as described in Sections 7 and 8, must be worn while handling materials for waste disposal.

Contaminated Packaging Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions.

14. TRANSPORT INFORMATION

DOT NOT REGULATED Classification below is only applicable when this material is packaged in quantities of 240 lbs or more

UN/ID no UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Hazard class 9
Packing Group III
Reportable Quantity (RQ) Malathion
Marine Pollutant Malathion.
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Malathion), 9, III, RQ

TDG Classification below is only applicable when shipped by vessel and is not applicable when shipped by road or rail only.

UN/ID no UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Hazard class 9
Packing Group III
Marine Pollutant Malathion.
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Malathion), 9, III, RQ

ICAO/IATA

UN/ID no UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Hazard class 9
Packing Group III
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Malathion), 9, III
Limited quantity 30 kg G

IMDG/IMO

UN/ID no UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Hazard class 9
Packing Group III
EmS No. F-A, S-F
Marine Pollutant Malathion

Fyfanon EW Insecticide

SDS # : FO002270-A

Revision date: 2018-05-02

Version 1.02

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UN3082, Environmentally hazardous substance, liquid, n.o.s. (Malathion), 9, III

15. REGULATORY INFORMATION**U.S. Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). 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-No	Weight %	SARA 313 - Threshold Values %
Malathion Technical - 121-75-5	121-75-5	40.9	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic health hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Malathion Technical 121-75-5	100 lb			X
Sodium Hydroxide 1310-73-2	1000 lb			X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Malathion Technical 121-75-5	100 lb 45.4 kg	
Sodium Hydroxide 1310-73-2	1000 lb 454 kg	
Hydrogen peroxide 7722-84-1		1000 lb

FIFRA 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:

CAUTION

Harmful if swallowed or absorbed through skin.

Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing.

Toxic to aquatic organisms, including fish and invertebrates

Highly toxic to bees exposed to direct treatment on blooming crops or weeds.

US State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals.

Fyfanon EW Insecticide

SDS # : FO002270-A
 Revision date: 2018-05-02
 Version 1.02

Chemical name	California Prop. 65
Malathion Technical - 121-75-5	Carcinogen

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Malathion Technical 121-75-5	X	X	X
Sodium Hydroxide 1310-73-2	X	X	X

International Inventories

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Malathion Technical 121-75-5		X	X	X	X	X	X	X
Sodium Hydroxide 1310-73-2	X	X	X	X	X	X	X	X

Mexico - Grade Serious risk, Grade 3

Chemical name	Carcinogen Status	Mexico
Malathion Technical		Mexico: TWA 10 mg/m ³
Sodium Hydroxide		Mexico: Ceiling 2 mg/m ³

CANADA

WHMIS Statement

This product has been classified in accordance with the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

WHMIS Hazard Class D2B - Toxic materials



16. OTHER INFORMATION

NFPA	Health Hazards 2	Flammability 2	Instability 0	Special Hazards -
HMIS	Health Hazards 2*	Flammability 2	Physical hazard 0	Personal Protection X

*Indicates a chronic health hazard.

NFPA/HMIS Ratings Legend Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0

Revision date: 2018-05-02
Reason for revision: (M)SDS sections updated

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Fyfanon EW Insecticide

SDS # : FO002270-A
Revision date: 2018-05-02
Version 1.02

applicable where such product is used in combination with any other materials or in any process. Use of this product is regulated by the U.S. Environmental Protection Agency (EPA). It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Further, since the conditions and methods of use are beyond the control of FMC Corporation, FMC corporation expressly disclaims any and all liability as to any results obtained or arising from any use of the products or reliance on such information.

Prepared By:

FMC Corporation

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End of Safety Data Sheet