SAFETY DATA SHEET
according to the OSHA Hazard Communication Standard

FYFANON EW INSECTICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.3	04/04/2024	50001290	Date of first issue: 05/02/2018

SECTION 1. IDENTIFICATION

Product identifier
Product name FYFANON EW INSECTICIDE

Other means of identification
Product code 50001290

Recommended use of the chemical and restrictions on use
Recommended use Can be used as insecticide only.

Restrictions on use Use as recommended by the label.

Details of the supplier of the safety data sheet

Manufacturer
FMC Corporation
2929 WALNUT ST
PHILADELPHIA PA 19104
USA
(215) 299-6000
SDS-Info@fmc.com

Supplier Address
FMC Corporation
2929 Walnut Street
Philadelphia PA 19104
USA

Emergency telephone
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 emergency:
U.S.A. & Canada: +1 800 / 331-3148
All other countries: +1 651 / 632-6793 (Collect)

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin sensitization : Sub-category 1B

Carcinogenicity : Category 1B

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H317 May cause an allergic skin reaction.
H350 May cause cancer.

Precautionary Statements :

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing mist or vapors.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of water and soap.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
malathion (ISO) [containing ≤ 0,03 % isomalathion]	121-75-5	41

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.

Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
Malathion is a cholinesterase inhibitor affecting the central and peripheral nervous systems producing respiratory depression. 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.

This product contains an anticholinesterase compound. Do not use if under medical advice not to work with such compounds.

If inhaled : Move to fresh air.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : Take off all contaminated clothing immediately.
Wash contaminated clothing before re-use.
Wash off immediately with plenty of water for at least 15 minutes.
Get medical attention if irritation develops and persists.

In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Do not induce vomiting without medical advice.
Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed : Exposure may result in nausea, vomiting, tremors, cramps, weakness, shortness of breath, a slowed heart rate, headache, abdominal pain, and diarrhea.
Exposure to skin may result in mild symptoms include itching, hives or rash, and skin redness. More severe symptoms include sneezing, itchy watery eyes, and difficulty breathing.
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, labored breathing, nervousness, sweating, watering of eyes, drooling or frothing of mouth and nose, muscle spasms and coma.

May cause an allergic skin reaction.
May cause cancer.

Protection of first-aiders	:	First Aid responders should pay attention to self-protection and use the recommended protective clothing Avoid inhalation, ingestion and contact with skin and eyes. If potential for exposure exists refer to Section 8 for specific personal protective equipment.
Notes to physician	:	Treat symptomatically. ANTIDOTE: If symptoms of cholinesterase inhibition (see subsection 4.2.) are present, administer atropine sulphate, which often is a lifesaving antidote, in large doses, TWO to FOUR mg intravenously or intramuscularly as soon as possible. Repeat at 5 to 10 minute intervals until signs of atropinisation appear and maintain full atropinisation until the chemical product is fully metabolised. Relapse can occur after initial improvement. VERY CLOSE SUPERVISION OF THE PATIENT IS INDICATED FOR AT LEAST 48 HOURS, DEPENDING ON THE SEVERITY OF POISONING. If any of the signs 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. In an industrial setting, the antidote atropine sulphate should be available at the workplace. Decontamination procedures such as whole body washing, gastric lavage and administration of activated charcoal are often required. Obidoxime chloride (Toxogonin), alternatively pralidoxime chloride(2-PAM), may be administered as an adjunct to, but not a substitute for atropine sulphate. Treatment with oxime should be maintained as long as atropine sulphate is administered. At first sign of pulmonary oedema the patient should be given supplementary oxygen and treated symptomatically. Much information on (acetyl)cholinesterase inhibition and its treatment can be found on the internet. This product contains a reversible cholinesterase inhibitor. Atropine sulfate is antidotal. Support respiration as needed with removal of secretions, maintenance of a patent airway and, if necessary, artificial ventilation. If cyanosis is absent: Adults - start treatment by giving 2 mg atropine intravenously or intramuscularly, if necessary, and repeat with 0.4 - 2.0 mg atropine at 15 minute intervals until atropinization occurs (tachycardia, flushed skin, dry mouth, mydriasis); Children under 12 - initial dose = 0.05 mg/kg body weight and repeat dose = 0.02 - 0.05 mg/kg body weight. Start 2-PAM at the same time, following manufacturer's recommended dosages and administration. Morphine, reserpine,phenothiazines and theophylline are probably contraindicated. At first sign of pulmonary edema, the patient should be given

supplemental oxygen and treated symptomatically. Observe patient to ensure that these symptoms do not recur as atropinization wears off.If in eyes,instill one drop of homatropine.
It may be helpful to show this safety data sheet to physician.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Dry chemical, CO2, water spray or regular foam.
Unsuitable extinguishing media	:	Do not spread spilled material with high-pressure water streams.
Specific hazards during fire fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	phosphorus oxides Carbon oxides Sulfur oxides
Specific extinguishing methods	:	Remove undamaged containers from fire area if it is safe to do so. Use a water spray to cool fully closed containers.
Further information	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	Firefighters should wear protective clothing and self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Ensure adequate ventilation. If it can be safely done, stop the leak. Do not touch or walk through the spilled material. Never return spills in original containers for re-use. Mark the contaminated area with signs and prevent access to unauthorized personnel. Only qualified personnel equipped with suitable protective equipment may intervene. For disposal considerations see section 13.
Environmental precautions	:	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Never return spills in original containers for re-use. Collect as much of the spill as possible with a suitable absor-

bent material.
Pick up and transfer to properly labeled containers.
Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Do not breathe vapors/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. In an industrial environment, it is recommended to avoid all personal contact with the product, if possible, by using closed systems with remote system control. The material should be handled by mechanical means as much as possible. Adequate ventilation or local exhaust ventilation is required. The exhaust gases should be filtered or treated otherwise. For personal protection in this situation, see section 8. The product should never be heated above 55°C. Local heating above this temperature should be avoided as well.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Electrical installations / working materials must comply with the technological safety standards.
Materials to avoid	:	Do not store near acids.
Recommended storage temperature	:	<= 77 °F / <= 25 °C
Further information on storage stability	:	No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
malathion (ISO) [containing ≤ 0,03 % isomalathion]	121-75-5	TWA	10 mg/m3	NIOSH REL
		TWA (total dust)	15 mg/m3	OSHA Z-1
		TWA (Total dust)	10 mg/m3	OSHA P0
		TWA (Inhalable fraction and vapor)	1 mg/m3	ACGIH

Personal protective equipment

Respiratory protection : In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

Hand protection

Material : Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Ensure that eyewash stations and safety showers are close to the workstation location.

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Wear appropriate chemical resistant clothing to prevent skin contact depending on the extent of exposure. During most normal work situations where exposure to the material cannot be avoided for a limited time span, waterproof pants and apron of chemical resistant material or coveralls of polyethylene (PE) will be sufficient. Coveralls of PE must be discarded after use if contaminated. In cases of excessive or prolonged exposure, coveralls of barrier laminate may be required.

Protective measures : Plan first aid action before beginning work with this product.
Always have on hand a first-aid kit, together with proper instructions.
Ensure that eye flushing systems and safety showers are located close to the working place.
Wear suitable protective equipment.
The precautions mentioned relate mainly to the handling of the undiluted product and the preparation of the spray solution, but may also be recommended for spraying.

In the context of professional phytosanitary use as recom-

mended, the end user must refer to the indications on the label. In other cases, it is recommended to use the protections above.

Hygiene measures : General industrial hygiene practice.
Avoid contact with skin, eyes and clothing.
Do not inhale aerosol.
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	liquid
Form	:	suspension
Color	:	off-white
Odor	:	glue-like
Odor Threshold	:	No data available
pH	:	4.53 (77 °F / 25 °C) Concentration: 100 % (undiluted)
Melting point/range	:	< 32 °F / < 0 °C
Boiling point/boiling range	:	No data available
Flash point	:	> 212 °F / 100 °C Method: Pensky-Martens closed cup - PMCC
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Self-ignition	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available

Vapor pressure	:	No data available
Relative vapor density	:	No data available
Relative density	:	1.072 (68 °F / 20 °C)
Density	:	No data available
Bulk density	:	No data available
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	1,092 mPa.s (68 °F / 20 °C) 973 mPa.s (104 °F / 40 °C)
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	Non-oxidizing
Molecular weight	:	Not applicable
Particle size	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Malathion will decompose rapidly when heated to temperatures above 140°C, significantly increasing the risk of explosion. Direct local heating such as electric heating or by steam must be avoided. The decomposition is dependent on time as well as temperature due to self-accelerating exothermic and autocatalytic reactions. The reactions involve rearrangements and polymerisation releasing volatile malodorous and inflammable compounds such as dimethyl sulphide and methyl mercaptan.
Possibility of hazardous reac-	:	No decomposition if stored and applied as directed.

tions

Conditions to avoid	:	Avoid extreme temperatures. Avoid formation of aerosol. Heating of the mixture may evolve harmful and irritant vapours.
Incompatible materials	:	Avoid strong acids, bases, and oxidizers. Amines The product can corrode metals (but does not meet the criteria for classification).
Hazardous decomposition products	:	Stable under recommended storage conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation

Acute toxicity

Based on available data, the classification criteria are not met.

Product:

Acute oral toxicity	:	LD50 (Rat, female): > 2,000 mg/kg Method: OECD Test Guideline 425 Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 5.75 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	LD50 (Rat): > 4,000 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity

Components:

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Acute oral toxicity	:	LD50 (Rat): 1,857 mg/kg Method: OECD Test Guideline 401 Remarks: Based on data from similar materials LD50 (Rat): > 5,000 mg/kg Method: FIFRA 81.01
Acute inhalation toxicity	:	LC50 (Rat): > 5.02 mg/l

Exposure time: 4 h
Test atmosphere: dust/mist
Method: EPA OPP 81 - 3
Assessment: The component/mixture is minimally toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Method: FIFRA 81.02

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Product:

Species : Rabbit
Method : OECD Test Guideline 404
Result : slight irritation

Components:

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Method : FIFRA 81.05
Result : slight irritation

Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Product:

Species : Rabbit
Result : slight irritation
Method : OECD Test Guideline 405

Remarks : Vapors may cause irritation to the eyes, respiratory system and the skin.

Components:

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Result : slight irritation
Method : FIFRA 81.04

Respiratory or skin sensitization

Skin sensitization

Based on available data, the classification criteria are not met.

Respiratory sensitization

Based on available data, the classification criteria are not met.

Product:

Test Type : Buehler Test
Species : Guinea pig
Method : EPA OPP 81-6

Result : Not a skin sensitizer.
Remarks : Not expected to cause skin sensitisation.

Components:

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Test Type : Buehler Test
Method : FIFRA 81.06
Result : Does not cause skin sensitization.

Test Type : Local lymph node assay (LLNA)
Method : OECD Test Guideline 429
Result : Does not cause skin sensitization.

Test Type : Magnussen-Kligman test
Method : OECD Test Guideline 406
Result : May cause sensitization by skin contact.
Remarks : Based on data from similar materials

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Components:

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Genotoxicity in vitro : Test Type: Ames test
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: positive
Remarks: Based on data from similar materials

Test Type: unscheduled DNA synthesis assay
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: chromosome aberration assay
Species: Rat
Result: negative
Remarks: Based on data from similar materials

Test Type: unscheduled DNA synthesis assay
Species: Rat
Result: negative
Remarks: Based on data from similar materials

Carcinogenicity

May cause cancer.

Components:

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Species : Rat

Application Route	:	Ingestion
Exposure time	:	24 month(s)
NOAEL	:	6,000 ppm
Result	:	positive
Remarks	:	Probably carcinogenic to humans (IARC 2A)
Carcinogenicity - Assessment	:	Occurrence of tumors has been observed at excessive exposure levels. This can be considered as not relevant for possible carcinogenicity to humans during normal use.

IARC Group 2A: Probably carcinogenic to humans
malathion (ISO) [containing ≤ 0,03 % isomalathion] 121-75-5

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Based on available data, the classification criteria are not met.

Components:

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Effects on fertility	:	Test Type: Two-generation study Species: Rat, male and female General Toxicity F1: NOAEL: 132 - 152 mg/kg bw/day Symptoms: Reduced offspring weight gain.
Effects on fetal development	:	Test Type: Embryo-fetal development Species: Rat General Toxicity Maternal: NOAEL: 400 mg/kg bw/day Teratogenicity: NOAEL: 800 mg/kg bw/day Result: No teratogenic effects. Test Type: Embryo-fetal development Species: Rabbit General Toxicity Maternal: NOAEL: 25 mg/kg bw/day Teratogenicity: NOAEL: 25 mg/kg bw/day Result: No teratogenic effects.
Reproductive toxicity - Assessment	:	Animal testing showed no reproductive toxicity.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Repeated dose toxicity

Components:

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Species	:	Rat
LOAEL	:	34.4 mg/kg
Application Route	:	Oral - feed
Exposure time	:	90 d
Target Organs	:	Nervous system
Symptoms	:	cholinesterase inhibition

Aspiration toxicity

Based on available data, the classification criteria are not met.

Components:

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

The substance does not have properties associated with aspiration hazard potential.

Further information

Product:

Remarks	:	No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	LC50 (Salmo gairdneri): 0.74 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 1.8 µg/l Exposure time: 48 h Remarks: Based on data from similar materials
Toxicity to soil dwelling organisms	:	LC50 (Eisenia fetida (earthworms)): 285 mg/kg Exposure time: 14 d
Toxicity to terrestrial organisms	:	LD50 (Colinus virginianus (Bobwhite quail)): 528 mg/kg

Components:

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0.18 mg/l Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.72 µg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	IC50 (Selenastrum capricornutum (green algae)): 4.06 mg/l Exposure time: 72 h
Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): 0.021 mg/l Exposure time: 37 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0.00006 mg/l Exposure time: 21 d
Toxicity to soil dwelling organisms	:	(Eisenia fetida (earthworms)): 613 mg/kg Exposure time: 14 d Remarks: No significant adverse effect on Nitrogen mineralization. No significant adverse effect on Carbon mineralization.
Toxicity to terrestrial organisms	:	LD50 (Colinus virginianus (Bobwhite quail)): 359 mg/kg Exposure time: 5 d LC50 (Colinus virginianus (Bobwhite quail)): 3,497 mg/kg Exposure time: 5 d Remarks: Dietary LD50 (Anas platyrhynchos (Mallard duck)): > 2,250 mg/kg LD50 (Apis mellifera (bees)): 0.38 µg/bee End point: Acute oral toxicity

Ecotoxicology Assessment

Toxicity Data on Soil	:	Harmful to the soil environment.
Other organisms relevant to the environment	:	Harmful to terrestrial vertebrates., Harmful to terrestrial invertebrates.

Persistence and degradability

Product:

Biodegradability	:	Remarks: Malathion is biodegradable but does not meet the criteria for being readily biodegradable. It undergoes rapid degradation in the environment and in wastewater treatment plants. No adverse effects are found at concentrations up to 100 mg/l in wastewater treatment plants. Degradation occurs both aerobically and anaerobically, mostly biologically.

Components:

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Biodegradability : Result: Not readily biodegradable.

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available

Components:

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 95
Remarks: Bioaccumulation is unlikely.
See section 9 for octanol-water partition coefficient.

Partition coefficient: n-octanol/water : log Pow: 2.75

Mobility in soil

Components:

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Distribution among environmental compartments : Remarks: medium mobility in soil

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : According to the Waste Framework Directive (2008/98/EC), possibilities for reuse or reprocessing should first be considered. If this is not possible, the material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing.

Do not contaminate water, foodstuffs, feed or seed by storage

or disposal. Do not discharge to sewer systems.

The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
It is recommended to consider possible ways of disposal in the following order:
1. Reuse or recycling should first be considered. If offered for recycling, containers must be emptied and triply rinsed (or equivalent). Do not discharge rinsing water to sewer systems.
2. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.
3. Delivery of the packaging to a licensed service for disposal of hazardous waste.
4. Disposal in a landfill or burning in open air should only occur as a last resort. For disposal in a landfill, containers should be emptied completely, rinsed and punctured to make them unusable for other purposes. If burned, stay out of smoke.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Malathion)
Class	:	9
Packing group	:	III
Labels	:	9
Environmentally hazardous	:	yes

IATA-DGR

UN/ID No.	:	UN 3082
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (Malathion)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	964
Packing instruction (passenger aircraft)	:	964

Environmentally hazardous : yes

IMDG-Code

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Malathion)
Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR Road

UN/ID/NA number	:	UN 3082
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. ()
Class	:	9
Packing group	:	III
Labels	:	CLASS 9
ERG Code	:	171
Marine pollutant	:	yes()
Remarks	:	Shipment by ground under DOT is non-regulated; however it may be shipped per the applicable hazard classification to facilitate multi-modal transport involving ICAO (IATA) or IMO.

Special precautions for user

Remarks : 49CFR: no dangerous good in non-bulk packaging

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
malathion (ISO) [containing ≤ 0,03 % isomalathion]	121-75-5	100	305
ethyl acetate	141-78-6	100	100 (F003)
benzene	71-43-2	10	10 (D018)

SARA 304 Extremely Hazardous Substances Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Respiratory or skin sensitization
Carcinogenicity

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

malathion (ISO) [containing ≤ 0,03 % isomalathion]	121-75-5	>= 30 - < 50 %

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

malathion (ISO) [containing ≤ 0,03 % isomalathion]	121-75-5	>= 30 - < 50 %
calcium dodecylbenzenesulphonate	26264-06-2	>= 0.1 - < 1 %
cyclohexane	110-82-7	>= 0 - < 0.1 %
benzene	71-43-2	>= 0 - < 0.1 %

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

malathion (ISO) [containing ≤ 0,03 % isomalathion]	121-75-5	>= 30 - < 50 %
calcium dodecylbenzenesulphonate	26264-06-2	>= 0.1 - < 1 %
cyclohexane	110-82-7	>= 0 - < 0.1 %
benzene	71-43-2	>= 0 - < 0.1 %

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307
This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

malathion (ISO) [containing ≤ 0,03 % isomalathion]	121-75-5
hydrogen peroxide	7722-84-1

Pennsylvania Right To Know

water	7732-18-5
malathion (ISO) [containing ≤ 0,03 % isomalathion]	121-75-5
Monobutyl ether of polymer of 2-methyloxirane / oxirane	9038-95-3

calcium dodecylbenzenesulphonate	26264-06-2
hydrogen peroxide	7722-84-1

Maine Chemicals of High Concern

benzene	71-43-2

Vermont Chemicals of High Concern

benzene	71-43-2

Washington Chemicals of High Concern

benzene	71-43-2

California Prop. 65

WARNING: This product can expose you to chemicals including malathion (ISO) [containing ≤ 0,03 % isomalathion], benzene, which is/are known to the State of California to cause cancer, and
benzene, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California List of Hazardous Substances

malathion (ISO) [containing ≤ 0,03 % isomalathion]	121-75-5

California Permissible Exposure Limits for Chemical Contaminants

malathion (ISO) [containing ≤ 0,03 % isomalathion]	121-75-5

The ingredients of this product are reported in the following inventories:

TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	Product contains substance(s) not listed on TSCA inventory.
AIIC	:	Not in compliance with the inventory
DSL	:	All components of this product are on the Canadian DSL
ENCS	:	On the inventory, or in compliance with the inventory
ISHL	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	Not in compliance with the inventory

TSCA list

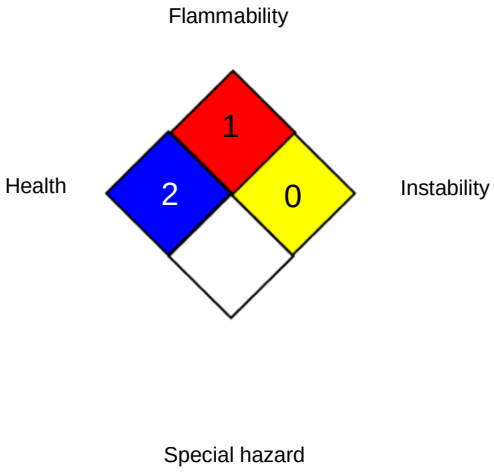
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

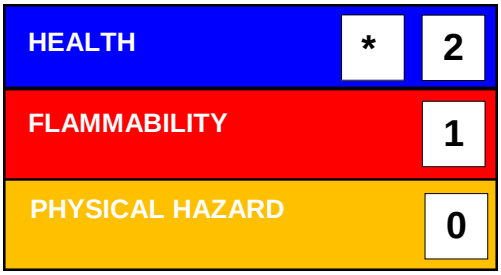
Further information

NFPA 704:



0 No health threat, **1** Slightly Hazardous, **2** Hazardous, **3** Extreme danger, **4** Deadly

HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA	:	8-hour, time-weighted average
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
OSHA P0 / TWA	:	8-hour time weighted average
OSHA Z-1 / TWA	:	8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Indus-

trial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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End of Material Safety Data Sheet