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Product name	FYFANON® ULV	November 2018
Safety data sheet according to EU Reg. 1907/2006 as amended		Supersedes December 2015

SAFETY DATA SHEET

FYFANON® ULV

ULTRA LOW VOLUME CONCENTRATE INSECTICIDE

Revision: Sections containing a revision or new information are marked with a ♣.

♣ SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1. **Product identifier** **MALATHION**
CAS no. 121-75-5
- Trade name **Fyfanon® ULV**
ULTRA LOW VOLUME CONCENTRATE INSECTICIDE
- 1.2. **Relevant identified uses of the substance or mixture and uses advised against** Can be used as insecticide only.
- 1.3. **Details of the supplier of the safety data sheet** **CHEMINOVA A/S**, a subsidiary of FMC Corporation
 Thyborønvej 78
 DK-7673 Harboøre
 Denmark
SDS.Ronland@fmc.com
- 1.4. **Emergency telephone number**
Company +45 97 83 53 53 (24 h; for emergencies only)
- Medical emergencies:
- | | |
|-------------------------------------|---|
| Austria: +43 1 406 43 43 | Luxembourg: +352 8002 5500 |
| Belgium: +32 70 245 245 | Netherlands: +31 30 274 88 88 |
| Bulgaria: +359 2 9154 409 | Norway: +47 22 591300 |
| Cyprus: 1401 | Poland: +48 22 619 66 54 |
| Czech Republic: +420 224 919 293 | +48 22 619 08 97 |
| +420 224 915 402 | Portugal: 808 250 143 (in Portugal only) |
| Denmark: +45 82 12 12 12 | +351 21 330 3284 |
| England and Wales: 111 | Romania: +40 21318 3606 |
| Estonia: +372 7943500 | Scotland: +8454 24 24 24 |
| France: +33 (0) 1 45 42 59 59 | Slovakia: +421 2 54 77 4 166 |
| Finland: +358 9 471 977 | Slovenia: +386 41 650 500 |
| Greece: 30 210 77 93 777 | South Africa: +27 83 123 3911 (Bateleur Emergency Response Co.) |
| Hungary: +36 80 20 11 99 | Spain: +34 91 562 04 20 |
| Ireland (Republic): +353 1 837 9964 | Sweden: +46 08-331231 |
| Italy: +39 02 6610 1029 | 112 |

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Latvia: +371 670 42 473
 112
 Lithuania: +370 523 62052
 +370 687 53378

Switzerland: 145
 Turkey: 114
 U.S.A. & Canada: +1 800 / 331 3148 (ProPharma)
 All other countries: +1 651 / 632 6793 (ProPharma - Collect)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Acute oral toxicity: Category 4 (H302)
 Sensitisation – skin: Category 1B (H317)
 Hazards to the aquatic environment, acute: Category 1 (H400)
 chronic: Category 1 (H410)

WHO classification Class III, slightly hazardous

Health hazards The product is not expected to be hazardous to health. **Malathion (Fyfanon®)** is a cholinesterase inhibitor of low toxicity to mammals. However, prolonged storage or storage at too high temperatures may induce formation of the much more toxic and synergistic contaminant isomalathion (LD₅₀, oral, rat, 89 mg/kg). Both malathion and isomalathion rapidly enter the body on contact with all skin surfaces and eyes.

Repeated exposures to cholinesterase inhibitors such as malathion or isomalathion may, without warning, cause increased susceptibility to doses of any cholinesterase inhibitor.

Environmental hazards The product is very toxic to aquatic organisms.

2.2. Label elements

According to EU Reg. 1272/2008 as amended

Product identifier Malathion
 CAS no. 121-75-5

Hazard pictograms (GHS07, GHS09)



Signal word Warning

Hazard statements

H302 Harmful if swallowed.
 H317 May cause an allergic skin reaction.
 H410 Very toxic to aquatic life with long lasting effects.

Supplementary hazard statement

EUH401 To avoid risks to human health and the environment, comply with the instructions of use.

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Precautionary statements

P261	Avoid breathing vapours.
P280	Wear protective gloves.
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P501	Dispose of contents/container as hazardous waste.

2.3. **Other hazards** The product does not meet the criteria for being PBT or vPvB.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. **Substances**

CAS name	Butanedioic acid, [(dimethoxyphosphinothioyl)thio]-, diethyl ester
CAS no.	121-75-5
IUPAC name(s)	Diethyl (dimethoxythiophosphorylthio)succinate
	S-[1,2-bis(Ethoxycarbonyl)ethyl] O,O-dimethyl phosphorodithioate
ISO name/EU name	Malathion
EC no. (EINECS no.)	204-497-7
EU index no.	015-041-00-X
Structural formula	$ \begin{array}{c} \text{H}_3\text{C}-\text{O} \quad \text{S} \\ \quad \quad \quad \parallel \\ \text{H}_3\text{C}-\text{O} \quad \text{P} - \text{S} - \text{C} - \text{COOC}_2\text{H}_5 \\ \quad \quad \quad \quad \quad \\ \quad \quad \quad \quad \quad \text{H}_2\text{C} - \text{COOC}_2\text{H}_5 \end{array} $

3.2. **Mixtures** The product is a substance, not a mixture.

SECTION 4: FIRST AID MEASURES

4.1. **Description of first aid measures**

Inhalation	If experiencing any discomfort, immediately remove from exposure. Light cases: Keep person under surveillance. Get medical attention immediately if symptoms develop. Serious cases: Get medical attention immediately or call for an ambulance.
Skin contact	Immediately remove contaminated clothing and footwear. Flush skin with much water. Wash with water and soap. See physician if any symptom develops.
Eye contact	Immediately rinse eyes with much water or eyewash solution, occasionally opening eyelids, until no evidence of chemical remains. Remove contact lenses after a few minutes and rinse again. See physician if irritation persists.
Ingestion	Inducing vomiting is not recommended. Rinse mouth and drink a few glasses of water or milk. If vomiting does occur, rinse mouth and drink fluids again. Call a doctor or get medical attention immediately.

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- 4.2. **Most important symptoms and effects, both acute and delayed** On exposure to larger quantities of aged product, symptoms of poisoning (cholinesterase inhibition) may occur. See section 11.
- 4.3. **Indication of any immediate medical attention and special treatment needed** Immediate medical attention is required in case of ingestion.
 It may be helpful to show this safety data sheet to physician.
- Notes to physician **Malathion** is a cholinesterase inhibitor affecting the central and peripheral nervous systems producing respiratory depression.
- Cholinesterase inhibition – treatment Decontamination procedures such as whole body washing, gastric lavage and administration of activated charcoal are often required.
- Antidote:** If symptoms of cholinesterase inhibition (see section 11) 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 all organophosphate is metabolised.
- 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.
- 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.
- Much information on (acetyl)cholinesterase inhibition and its treatment can be found on the internet.

♣ SECTION 5: FIRE-FIGHTING MEASURES
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- 5.1. **Extinguishing media** Dry chemical or carbon dioxide for small fires, water spray or foam for large fires. Avoid heavy hose streams.
- 5.2. **Special hazards arising from the substance or mixture** The essential breakdown products are volatile, toxic, malodorous, irritant and inflammable compounds such as hydrogen sulphide, dimethyl sulphide, methyl mercaptan, sulphur dioxide, carbon monoxide, carbon dioxide and phosphorus pentoxide.
- 5.3. **Advice for firefighters** Use water spray to keep fire-exposed containers cool. Approach fire from upwind to avoid hazardous vapours and toxic decomposition products. Fight fire from protected location or maximum possible distance. Dike area to prevent water runoff. Firemen should wear self-

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contained breathing apparatus and protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

It is recommended to have a predetermined plan for the handling of spills. Empty, closable vessels for the collection of spills should be available.

In case of large spill (involving 10 tonnes of the product or more):

1. use personal protection equipment; see section 8
2. call emergency telephone no.; see section 1
3. alert authorities.

Observe all safety precautions when cleaning up spills. Use personal protection equipment. Depending on the magnitude of the spill this may mean wearing respirator, face mask or eye protection, chemical resistant clothing, gloves and rubber boots.

Stop the source of the spill immediately if safe to do so.

6.2. Environmental precautions

Contain the spill to prevent any further contamination of surface, soil or water. Wash waters must be prevented from entering surface water drains. Uncontrolled discharge into water courses must be alerted to the appropriate regulatory body.

6.3. Methods and materials for containment and cleaning up

It is recommended to consider possibilities to prevent damaging effects of spills, such as bunding or capping. See GHS (Annex 4, Section 6).

Surface water drains should be covered if appropriate. Minor spills on the floor or other impervious surface should be absorbed onto an absorptive material such as universal binder, hydrated lime, Fuller's earth or other absorbent clays. Collect the contaminated absorbent in suitable containers. Clean area with soda lye and much water. Absorb wash liquid with absorbent and transfer to suitable containers. The used containers should be properly closed and labelled.

Large spills which soak into the ground should be dug up and transferred to suitable containers.

Spills in water should be contained as much as possible by isolation of the contaminated water. The contaminated water must be collected and removed for treatment or disposal.

6.4. Reference to other sections

See subsection 8.2. for personal protection.
See section 13 for disposal.

♣ SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

In an industrial environment it is recommended to avoid all personal

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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.

For its use as a pesticide, first look for precautions and personal protection measures on the officially approved label on the packaging or for other official guidance or policy in force. If these are lacking, see section 8.

Remove contaminated clothing immediately. Wash thoroughly after handling. Before removing gloves, wash them with water and soap. After work, take off all work clothes and shoes. Take a shower, using water and soap. Wear only clean clothes when leaving job. Wash protective clothing and protective equipment with water and soap after use.

Do not discharge to the environment. Do not contaminate water when disposing of equipment wash waters. Collect all waste material and remains from cleaning equipment, etc., and dispose of as hazardous waste. See section 13 for disposal.

7.2. Conditions for safe storage, including any incompatibilities

The product is stable when stored at temperatures not exceeding 20 - 25°C.

The product should never be heated above 55°C. Local heating above this temperature should be avoided as well. Protect against strong heat from sunshine or other source, e.g. fire.

Keep in closed, labelled containers. The storage room should be constructed of incombustible material, closed, dry, ventilated and with impermeable floor, without access of unauthorised persons or children. A warning sign reading "POISON" is recommended. The room should only be used for storage of chemicals. Food, drink, feed and seed should not be present. A hand wash station should be available.

7.3. Specific end use(s)

The product is a registered pesticide which may only be used for the applications it is registered for in accordance with a label approved by the regulatory authorities.

♣ SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Personal exposure limits

		Year	
Malathion	ACGIH (USA) TLV	2015	TWA 1 mg/m ³ ; measured as inhalable fraction and vapor Skin notation; BEI
	OSHA (USA) PEL	2015	TWA 15 mg/m ³ total dust; skin notation

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EU, 2000/39/EC as amended	2017	Not established
Germany, MAK	2014	TWA 15 mg/m ³ measured as inhalable fraction of the aerosol Peak level 60 mg/m ³ BAT
HSE (UK) WEL	2011	8-hr TWA 10 mg/m ³ ; skin notation

However, other personal exposure limits defined by local regulations may exist and must be observed.

Monitoring methods Persons working with this product for a longer period should have frequent blood tests of their cholinesterase levels. If the cholinesterase level falls below a critical point, no further exposure should be allowed until it has been determined by means of blood tests that the cholinesterase level has returned to normal.

Malathion

DNEL	Not established
PNEC, aquatic	EFSA has established an AOEL of 0.03 mg/kg bw/day 1.2 ng/l

8.2. **Exposure controls** When used in a closed system, personal protection equipment will not be required. The following is meant for other situations, when the use of a closed system is not possible, or when it is necessary to open the system. Consider the need to render equipment or piping systems non-hazardous before opening



Respiratory protection The product does not automatically present an airborne exposure concern during normal handling, but in the event of an accidental discharge of the material which produces a heavy vapour or mist, workers must put on officially approved respiratory protection equipment with a universal filter type including particle filter.



Protective gloves Wear chemical resistant gloves, such as barrier laminate, butyl rubber, nitrile rubber or viton. The breakthrough times of these materials for the product are unknown, but it is expected that they will give adequate protection.



Eye protection Wear safety glasses. It is recommended to have an eye wash fountain immediately available in the workplace when there is a potential for eye contact.



Other skin protection 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.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on physical and chemical properties

Appearance	Colourless to orange/pink liquid
Odour	Slight aromatic odour
Odour threshold	Not determined
pH	When equal amounts of malathion and distilled water are dispersed at 20°C, the pH measured in the water phase is 3.7 - 3.8.
Melting point	Below -20°C
Initial boiling point and boiling range	Decomposes
Flash point	163°C (Pensky-Martens closed tester; see, however, subsection 10.2.)
Evaporation rate	Not determined
Flammability (solid/gas)	Not applicable (liquid)
Upper /lower flammability or explosive limits	Not determined
Vapour pressure	4.5 x 10 ⁻⁴ Pa at 25°C 1.9 x 10 ⁻² Pa at 45°C
Vapour density	Not determined
Relative density	1.23 at 20°C
Solubility(ies)	Solubility of malathion at 20°C in: ethyl acetate > 250 g/l heptane 57 - 67 g/l water 148.2 mg/l at 25°C
Partition coefficient n-octanol/water	Log K _{ow} = 2.75
Autoignition temperature	278°C
Decomposition temperature	Decomposition starts at 174°C
Viscosity	30.0 mN/m at 25°C 16.4 mN/m at 40°C
Explosive properties	Not explosive
Oxidising properties	Not oxidising

9.2. **Other information** No more relevant information is available.

♣ SECTION 10: STABILITY AND REACTIVITY

- 10.1. **Reactivity** To our knowledge, the product has no special reactivities.
- 10.2. **Chemical stability**
- Malathion will decompose rapidly when heated to temperatures above 175°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.

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- 10.3. **Possibility of hazardous reactions** None known.
- 10.4. **Conditions to avoid** Storage at too high temperatures (> 25°C) may induce formation of the more toxic and synergistic contaminant isomalathion.
 Heating of the product will produce harmful and irritant vapours.
- 10.5. **Incompatible materials** Strong alkalis, amines and strong oxidising compounds. The product can corrode metals (but does not meet the criteria for classification).
- 10.6. **Hazardous decomposition products** See subsection 5.2.

♣ SECTION 11: TOXICOLOGICAL INFORMATION
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- 11.1. **Information on toxicological effects** * = Based on available data, the classification criteria are not met.

Malathion

Toxicokinetics, metabolism and distribution

Malathion is rapidly absorbed and excreted following oral administration. There is no evidence for accumulation. It is extensively metabolised. It was essentially found in the urine only.

Acute toxicity

The product is not considered as harmful, neither by inhalation, in contact with skin nor if swallowed. * However, when stored for two years at periodically high temperatures the content of isomalathion may reach a level of 0.4%, rendering the product harmful by ingestion.

The following was measured on a freshly prepared production batch:

Route(s) of entry	- ingestion	LD ₅₀ , oral, rat: approx. 5500 mg/kg (method FIFRA 81.01)
	- skin	LD ₅₀ , dermal, rabbit: > 2000 mg/kg (method FIFRA 81.02)
	- inhalation	LC ₅₀ , inhalation, rat: > 5.02 mg/l/4 h (method FIFRA 81.03)

Skin corrosion/irritation Slightly irritating to skin (method FIFRA 81.05). *

Serious eye damage/irritation Slightly irritating to eyes (method FIFRA 81.04). *

Respiratory or skin sensitisation ... Buehler test: negative (method FIFRA 81.06)
 Local Lymph Node Assay: negative (method OECD 429)
 To our knowledge, no cases of allergic reactions in humans have been reported.

The following was measured on a sample of malathion spiked with 0.4% isomalathion:

Route(s) of entry	- ingestion	LD ₅₀ , oral, rat: 1857 mg/kg (method OECD 401)
	- skin	LD ₅₀ , dermal, rat: > 2000 mg/kg (method OECD 402) *
	- inhalation	LC ₅₀ , inhalation, rat: > 5.20 mg/l/4 h (method OECD 403) *

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Skin corrosion/irritation	Not irritating to skin (method OECD 404). *
Serious eye damage/irritation	Slightly irritating to eyes (method OECD 405). *
Respiratory or skin sensitisation ...	Results from animal tests were mixed. Magnusson-Kligman maximisation test: positive (method OECD 406) Local Lymph Node Assay: negative (method OECD 429)
Germ cell mutagenicity	Malathion is not mutagenic (6 studies). *
Carcinogenicity	In studies on rats (method OECD 453) and mice (method OECD 451), occurrence of tumours has been observed at excessive exposure levels. This can be considered as not relevant for possible carcinogenicity to humans during normal use. Other indications of possible carcinogenic effects have not been observed in direct measurements on the substance. *
Reproductive toxicity	No effects on fertility are found for malathion in rats and rabbits at maternal non-toxic doses (method OECD 416). No indications of teratogenic (birth defect causing) effects of malathion are found (4 studies). *
STOT – single exposure	To our knowledge, no specific effects have been observed after single exposure. *
STOT – repeated exposure	Target organ: nervous system LOAEL: 500 ppm (34.4 mg/kg bw/day) in a 90-day rat study. At this exposure level minor cholinesterase inhibition was found which generally does not result in observable effects or discomfort. *
Aspiration hazard	The substance is not of a type known to present an aspiration pneumonia hazard. *
Symptoms and effects, acute and delayed	On exposure to larger quantities of aged product symptoms of poisoning (cholinesterase inhibition) may occur. The symptoms of cholinesterase inhibition are: headache, nausea, 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.

SECTION 12: ECOLOGICAL INFORMATION

12.1. **Toxicity** Malathion is very toxic to fish, aquatic invertebrates, aquatic life stages of amphibians and insects. It is less toxic to aquatic plants, birds and soil macro- and microorganisms.

The measured ecotoxicity of malathion is:

- Fish	Rainbow trout (<i>Oncorhynchus mykiss</i>)	96 h-LC ₅₀ : 0.18 mg/l 37-day NOEC: 21 µg/l
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- Invertebrates	Daphnids (<i>Daphnia magna</i>)	48 h-EC ₅₀ : 0.72 µg/l 21-day NOEC: 0.06 µg/l
- Algae	Green algae (<i>Selenastrum capricornutum</i>)	72-h IC ₅₀ : 4.06 mg/l
- Birds	Bobwhite quail (<i>Colinus virginianus</i>)	LD ₅₀ : 359 mg/kg 5-day dietary LC ₅₀ : 3497 mg/kg
	Mallard duck (<i>Anas platyrhynchos</i>)	LD ₅₀ : > 2250 mg/kg
- Earthworms	<i>Eisenia foetida foetida</i>	14-day LC ₅₀ : 613 mg/kg soil
- Bees	Honey bees (<i>Apis mellifera</i>)	LD ₅₀ , acute oral: 0.38 µg/bee LD ₅₀ , topical: 0.27 µg/bee

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

Primary degradation half-lives vary with circumstances, but are usually one to a few days in aerobic soil and water.

12.3. Bioaccumulative potential See section 9 for n-octanol/water partition coefficient.

Malathion is not expected to bioaccumulate. It is rapidly metabolised and excreted (with half-life of approx. 3 days). The measured bioconcentration factor (BCF) of malathion is 95 (average for several fish species).

12.4. Mobility in soil Under normal conditions malathion is of medium mobility in soil but is degraded rapidly.

12.5. Results of PBT and vPvB assessment The substance does not meet the criteria for being PBT or vPvB.

12.6. Other adverse effects Other relevant hazardous effects in the environment are not known.

♣ SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods Remaining quantities of the material and empty but unclean packaging should be regarded as hazardous waste.

Disposal of waste and packagings must always be in accordance with all applicable local regulations.

Disposal of product

According to the Waste Framework Directive (2008/98/EC), possibilities for reuse or reprocessing should first be considered. If this is not feasible, the material can be disposed of by removal to a

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licensed chemical destruction plant or by controlled incineration with flue gas scrubbing.

Disposal of packaging

Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

It is recommended to consider possible ways of disposal in the following order:

1. Reuse or recycling should first be considered. Reuse is prohibited except by the authorisation holder. 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

ADR/RID/IMDG/IATA/ICAO classification

- 14.1. **UN number** 3082
- 14.2. **UN proper shipping name** Environmentally hazardous substance, liquid, n.o.s. (malathion)
- 14.3. **Transport hazard class(es)** 9
- 14.4. **Packing group** III
- 14.5. **Environmental hazards** Marine pollutant
- 14.6. **Special precautions for user** Avoid any unnecessary contact with the product. Misuse can result in damage to health. Do not discharge to the environment.
- 14.7. **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code** The product is not transported in bulk by ship.

SECTION 15: REGULATORY INFORMATION

- 15.1. **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- Seveso category (Dir. 2012/18/EU): dangerous for the environment.
- Young people under the age of 18 are not allowed to work with the product.
- The substance is covered by EU chemical legislation.

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15.2. **Chemical safety assessment** A chemical safety assessment is not required to be included for this product.

♣ SECTION 16: OTHER INFORMATION

Relevant changes in the safety data sheet

Minor corrections only.

List of abbreviations

ACGIH American Conference of Governmental Industrial Hygienists
 AOEL Acceptable Operator Exposure Level
 BAT Biologischer Arbeitsstoff-Toleranzwert
 BEI Biological Exposure Index
 CAS Chemical Abstracts Service
 Dir. Directive
 DNEL Derived No Effect Level
 EC European Community
 EC₅₀ 50% Effect Concentration
 EFSA European Food Safety Authority
 EINECS European INventory of Existing Commercial Chemical Substances
 FIFRA Federal Insecticide, Fungicide and Rodenticide Act
 GHS Globally Harmonized classification and labelling System of chemicals, Fifth revised edition 2013
 HSE Health and Safety Executive
 IBC International Bulk Chemical code
 IC₅₀ 50% Inhibition Concentration
 ISO International Organisation for Standardization
 IUPAC International Union of Pure and Applied Chemistry
 LC₅₀ 50% Lethal Concentration
 LD₅₀ 50% Lethal Dose
 LOAEL Lowest Observed Adverse Effect Level
 MAK Maximale Arbeitsplatz-Konzentration
 MARPOL Set of rules from the International Maritime Organisation (IMO) for prevention of sea pollution
 NOEC No Observed Effect Concentration
 n.o.s. Not otherwise specified
 OECD Organisation for Economic Cooperation and Development
 OSHA Occupational Safety and Health Administration
 PBT Persistent, Bioaccumulative, Toxic
 PEL Permissible Exposure Limit
 PNEC Predicted No Effect Concentration
 Reg. Regulation
 STOT Specific Target Organ Toxicity
 TLV Threshold Limit Value
 TWA Time Weighed Average
 vPvB very Persistent, very Bioaccumulative
 WEL Workplace Exposure Limit
 WHO World Health Organisation

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References	Data are available from published literature and can be found several places.
Method for classification	Annex VI to Reg. 1272/2008
Used hazard statements	H302 Harmful if swallowed. H317 May cause an allergic skin reaction. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects. EUH401 To avoid risks to human health and the environment, comply with the instructions of use
Advice on training	This material should only be used by persons who are made aware of its hazardous properties and have been instructed in the required safety precautions.

The information provided in this safety data sheet is believed to be accurate and reliable, but uses of the product vary and situations unforeseen by FMC Corporation may exist. The user has to check the validity of the information under local circumstances.

Prepared by: FMC Corporation / Cheminova A/S / GHB