

1. SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade Name: ARMETIL M

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Fungicide

Uses advised against: You must not use for other purposes other than those described in the product.

1.3. Details of the supplier of the safety data sheet

Supplier: INDUSTRIAS QUIMICAS DEL VALLÉS, S.A.

Address: Av. Rafael Casanova, 81
08100 – Mollet del Vallés (Barcelona) - Spain

Telephone number: (34) 935.796.677

Fax: (34) 935.791.722

E-mail address for a competent person responsible for the safety data sheet: fsegur@iqvagro.com

1.4. Emergency telephone number

(00 34) 935.796.677

Availability: (8:00 AM - 17:00 PM EST)

Other comments: No information available.

2. SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

CLP Classification table

Classification according to Regulation (EC) 1272/2008

Hazard Classes/ categories	Hazard statement(s)	M-Factors
Aquatic Chronic 1	H317;H361;H410	No information available.
Aquatic Acute 1		
Repr. 2		
Skin Sens. 1		

DSD/DPD Classification table

Classification according to directives 67/548/EEC and 1999/45/EC

Categories of danger : Risk Phrases

N,Xn: R43-50/53-63

R43:May cause sensitisation by skin contact. R50/53:Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R63:Possible risk of harm to the unborn child.

Most important adverse physicochemical, human health and environmental effects :

The full text of the R-phrases, indications of danger (H) and additional indications of danger (EUH) can be found in section 16,

Most important adverse physicochemical, human health and environmental effects

Adverse physicochemical effects :

No information available.

Adverse human health effects :

May cause sensitisation by skin contact. Possible risk of harm to the unborn child.

Adverse environmental effects :

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2. Label elements

Labelling according to directives 67/548/EEC and 1999/45/EC

Symbol(s) of danger - Indication(s) of danger

N: Dangerous for the environment

Xn: Harmful



Risk Phrases

R43: May cause sensitisation by skin contact.

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R63: Possible risk of harm to the unborn child.

Safety Phrases

S 2: Keep out of the reach of children.

S 8: Keep container dry.



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- S13: Keep away from food, drink and animal feedingstuffs.
S23: Do not breathe gas/fumes/vapour/spray
S36: Wear suitable protective clothing.
S37: Wear suitable gloves.
S45: In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).

Authorisation REACH number(s) : Not applicable

2.3. Other hazards

Compliance with PBT/vPvB criteria : There are no risks in accordance with Regulation 1999/45 of the EC or not classified as PBT or vPvB

Other hazards which do not result in classification : The substance/mixture is not classified as SVHC.

2.4. Phrases for special risks. : No information available.

3. SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical identity	Concentration (%)	CE Number	CAS Number	Regulation (EC) 1272/2008	Hazard Class and Category Code(s)*	Directive 67/548/EEC
MANCOZEB TECHNICAL	64	-	8018-01-7	Aquatic Acute 1; Repr. 2; Skin Sens. 1	H317; H361; H400	N, Rept. Cat 3, Xn: R43-50-63
METALAXYL TECHNICAL	8	260-979-7	57837-19-1	Aquatic Chronic 3; Acute Tox. 4; Skin Sens. 1	H302; H317; H412	Xn: R22-43-52

Composition (%) : Mancozeb (64% exp. as Mancozeb pure w/w)
Metalaxyl (8% exp. as Metalaxyl w/w)

4. SECTION 4: First aid measures

4.1. Description of first aid measures

General notes: If symptoms persist, call a physician.
In case of inhalation: If symptoms are experienced remove source of contamination or move victim to fresh air. Obtain medical advice.

In case of contact with skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops.

In case of contact with eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Do not forget to take off contact lenses. Get medical attention if irritation occurs.

In case of ingestion: Check breathing; If necessary artificial respiration. Keep the patient at rest. Maintain body temperature. Do not administer milk, fats or alcohol. If swallowed, do not induce vomiting. Request attention medical and show this tab or label. If the person is unconscious lay her on her side with the head lower than the rest of the body and semiflexed knees.

Recommendations for first aid responders: Use suitable protective clothing

4.2. Most important symptoms and effects, both acute and delayed

Most important symptoms and effects, both acute and delayed: Not determined

4.3. Indication of any immediate medical attention and special treatment needed

Indication of any immediate medical attention and special treatment needed: Not determined



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5. SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Use dry chemical, CO₂, water spray (fog) or foam.

Collect contaminated fire-fighting water separately. It must not enter the sewage system.

Unsuitable extinguishing media:

Water jet from high flow (due to risk of contamination).

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products:

Not known.

Other specific hazards:

Not known.

5.3. Advice for firefighters

Advice for firefighters: 2R4 | REDD: 7PTZ

Wear suitable protective clothing and dust mask with filter for chemicals.

6. SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:

Do not breathe the powder

Avoid contact with mouth, eyes and skin

Keep unauthorised people, children and animals away from the spillage area

Wear suitable protective clothing and gloves to prevent contamination

For emergency responders:

Not available

6.2. Environmental precautions

Environmental precautions:

Keep out of waterways.

6.3. Methods and material for containment and cleaning up

Containment:

Construction of barriers of protection, drains and coating methods.

Cleaning:

Cover the product with sawdust, sand or dry land, sweep it, insert it into a dry container, cover it, identify it and dispose in an authorized place.

Do not clean the area contaminated with water.

Other information:

Do not use brushes or compressed air to clean surfaces or clothing

6.4. Reference to other sections

Reference to other sections:

No information available.

7. SECTION 7: Handling and storage

7.1. Precautions for safe handling

Containment and measures to prevent fire:

The job and the methodology should be organized in such a way that direct contact with the product is minimized or prevented. Handle with care. Workspaces Use with adequate ventilation and safety showers presence next.

Measures to prevent aerosol and dust generation:

Avoid spills and leaks

Measures to reduce the release of the substance or mixture to the environment:

No information available.

Advice on general occupational hygiene:

No information available.

7.2. Conditions for safe storage, including possible incompatibilities

Technical measures and storage conditions:

Store the product in its original container, closed and tagged, in cool, dry, ventilated and away from food, beverages and feed. Keep out of reach of children, animals and unauthorized personnel

Packaging materials:

-

Requirements for storage rooms and vessels:

Storage Keep container closed after use. Avoid high temperatures and frost.

Further information on storage conditions:

No data available

7.3. Specific end use(s)

Recommendations:

The product is for plant protection use.

Industrial sector specific solutions:

-

8. SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No DNEL data.

Information on monitoring procedures: Not available

Currently recommended monitoring methods: Not available

Specific monitoring standards: No information available.

There are not data of PNEC

Control banding approach ("control banding"): Good industrial hygiene practices

8.2. Exposure controls

Appropriate engineering controls:

-

Appropriate exposure control measures related to the identified use(s) of the substance or mixture:

Structural measures to prevent exposure: No information available.

Organisational measures to prevent exposure: No information available.

Technical measures to prevent exposure: No information available.

8.2.2. Individual protection measures, such as personal protective equipment

Eye/Face protection: Avoid contact.
safety glasses with side-shields

Hand Protection: Wear gloves. (Dexter CE 95 0072 4121 according to EEC/89/686). After use, wash with soap and water.

Others: Mittens, boots or mono depending on the hazards associated with the substance or mixture and the possibilities of contact.

Respiratory Protection: In case of insufficient ventilation use respiratory equipment while preparing the mixture. (Affinity FR FFP1 D - CE 0121 according to EN 149:2001)
Do not breathe dust.
full-face mask

Thermal hazards: Not available

Skin Protection: Wear suitable clothing to avoid repeated or delayed contact with skin. Thoroughly wash working clothes daily. After use, wash with soap and water.

8.2.3. Environmental exposure controls

Appropriate exposure control measures related to the identified use(s) of the substance or mixture: No information available.

Structural measures to prevent exposure: No information available.

Organisational measures to prevent exposure: No information available.

exposure:

Technical measures to prevent exposure: No information available.

9. SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance: Powder Yellow

Odour: odourless

Odour threshold: No data available

pH-value at 1%: 6 - 8 (20 °C)

Melting point/freezing point: No data available

Initial boiling point and boiling range: No data available

Flash point: >61 °C

Evaporation Rate: No data available

Flammability (solid, gas): Non-flammable

Upper/lower flammability or explosive limits: No data available

Vapour pressure: No data available

Vapour density: No data available

Relative density: 0.45 - 0.55 g/ml (20 °C)

Solubility (is): Water solubility: Mancozeb: 6.2 ppm (pH 7.5; 25°C)
Metalaxyl: 8.4 g/l (22°C).

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Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	No data available
Explosive properties:	Non-explosive
Oxidising properties:	No data available
9.2. Other information	
Other information:	No data available

Mancozeb: Insoluble in common solvents.
 Metalaxyl: Etanol: 400 g/l. (25°C).
 Acetone : 450 g/l (25°C).
 Toluene: 340 g/l (25°C).
 N-octanol: 68 g/l (25°C).
 N-hexane: 11 g/l (25°C).

10. SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity: No data available

10.2. Chemical stability

Chemical stability: Stable under normal conditions of storage for a period of 2 years, as minimum.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions: No data available

10.4. Conditions to Avoid

Conditions to Avoid: Moisture and temperatures above 40 ° C

10.5. Incompatible materials

Incompatible materials: Do not mix with products of acid markedly or oxidizing agents

10.6. Hazardous decomposition products

Hazardous decomposition products: Carbon disulfide and hydrogen sulfide
 It does not decompose if stored and applied as directed.

11. SECTION 11: Toxicological information

11.1. Information on toxicological effects

11.1.2. Mixtures		Results
		MANCOZEB TECHNICAL
Acute toxicity	Ingestion: LD50	Rat > 2000 mg/kg
	Inhalation: LC50	Rat > 2.752 mg/l (4h)
	Skin: LD50	Rat > 2000 mg/kg
Irritation:		Skin: Non irritant. Eyes: Irritant.
Corrosivity:		No information available.
Sensitisation:		May cause sensitization by skin contact
Repeated dose toxicity:		No information available.
Carcinogenicity:		No information available.
Mutagenicity:		No information available.
Toxicity for reproduction:		No information available.

11.1.2. Mixtures		Results
		METALAXYL
Acute toxicity	Ingestion: LD50	Rat > 633 mg/kg
	Inhalation: LC50	Rat, 4h > 3.6 mg/l air
	Skin: LD50	Rat > 3100 mg/kg
Irritation:		Skin: Contact with the skin (and oral mucosa) may cause irritation. Eyes: Contact with eyes may cause irritation.
Corrosivity:		No information available.
Sensitisation:		May cause sensitization by skin contact
Repeated dose toxicity:		No information available.
Carcinogenicity:		Not carcinogenic.
Mutagenicity:		Not mutagenic.
Toxicity for reproduction:		Not teratogenic.

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Information on likely routes of exposure:

Main effects:

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

Interactive effects:

There is no evidence of symptoms associated with this substance/mixture

No data available

No information available.

No information available.

12. SECTION 12: Ecological information

12.1. Toxicity

12.1.1. Acute toxicity (short-term)

Fishes:

Mancozeb: CL50 / *Cyprinus carpio* / 96h = 7,24 mg/L

Metalaxil: CL50 / *Lepomis macrochirus* / 96 h > 100 mg/l

Crustaceans:

No information available.

Algae:

No information available.

Other aquatic plants:

No information available.

Micro-organisms:

No information available.

Invertebrados acuáticos:

Mancozeb: CE50 / *Daphnia Magna* / 24 h = 0.014 mg/l

12.1.1.3. Environmental toxicity

Birds:

No information available.

Bees:

No information available.

Plants:

No information available.

12.1.2. Chronic (long-term) toxicity

Fish:

No information available.

Crustaceans:

No information available.

Algae:

No information available.

Other aquatic plants:

No information available.

Microorganisms:

No information available.

Macroorganisms:

No information available.

12.1.2.3. Environmental toxicity

Birds:

No information available.

Bees:

No information available.

Plants:

No information available.

12.2. Degradability

Abiotic Degradation:

No information available.

Physical- and photo-chemical elimination:

No information available.

Biodegradation:

No information available.

Other processes:

- Mancozeb Technical: Mancozeb is rapidly hydrolyzed. Undergoes hydrolytic degradation, oxidative, photolytic and microbial. DT50: 6-15 days.

- Metalaxyl: photolytically stable.

12.3. Bioaccumulative potential

Partition coefficient n-octanol /water (Kow):

No information available.

Bioconcentration factor (BCF):

- Mancozeb Technical: not bioaccumulate.

- Metalaxyl: not bioaccumulate in mammals.

12.4. Mobility in soil

Known or predicted distribution to environmental compartments:

- Mancozeb: not volatile. It is very mobile in soils.

- Metalaxyl: It has a mobility in soil medium to high. The main metabolite, metalaxyl acid, is more mobile in the soil than the active substance.

Surface tension:

No information available.

Adsorption/Desorption:

No information available.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment:

No information available.

12.6. Other adverse effects

Other adverse effects:

No information available.

Environmental fate:

No information available.

Photochemical ozone creation potential:

No information available.

Ozone depletion potential:

No information available.

Endocrine disrupting potential:

No information available.

Global warming potential:

No information available.

12.7. Other information



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Other information:

No information available.

12.8. Ecotoxicity

Ecotoxicity:

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

12.9. Toxicological effects

Toxicological effects:

No data available

13. SECTION 13: Disposal considerations

13.1. Waste treatment methods

Appropriate methods of waste treatment of both substance or mixtures:

Waste should not be removed through the sewer. The elimination will be followed according to local, State or national provisions, either by incineration or recycling.

Appropriate methods of waste treatment of contaminated packaging:

The elimination will be followed according to local, State or national provisions. Either by incineration or recycling.

Waste codes / waste designations according to LoW:

No information available.

Appropriate methods of waste treatment of both substance or mixtures:

No information available.

Appropriate methods for the elimination of contaminated packaging:

No information available.

Special precautions:

No information available.

Community/national/regional provisions relating to waste management:

No information available.

Community/national/regional provisions relating to waste:

The elimination will be followed according to local, State or national provisions.

14. SECTION 14: Transport information

ADR/RID

UN Number:

UN3077

Proper Shipping Name:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Class:

9



ADR/RID Classification:

M7

Packing group:

III

Label:

9

Special Provisions:

274,335,601

Limited Quantities:

5 kg

Packing Instructions:

P002, IBC08, LP02, R001

Special Packing Provisions:

VV1

Hazard identification number:

90

Kemler Code:

000

IMDG

Marine Pollutant:

Yes

UN Number:

UN3077

Packing group:

-

Proper Shipping Name:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Class:

-

Label:

-

EmS Guide:

F-A, S-F

IATA

UN Number:

UN3077

Packing group:

-

Proper Shipping Name:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Class:

-

Label:

-

15. SECTION 15: Regulatory information

EU regulations

Phytosanitary Registration Number.: 2078

Use authorizations: No information available.

Use restrictions: The substance has no restriction of use.

Other EU regulations: No information available.

Information on emission of volatile organic compounds (VOC): No information available.

National regulations: No information available.

15.2. Chemical safety assessment

Chemical safety assessment: No information available.

16. SECTION 16: Other information

Labelling according to Regulation (EC) 1272/2008



Signal word

Warning

Hazard statement(s)

H317 May cause an allergic skin reaction.

H361 Suspected of damaging fertility or the unborn child .

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P201 Obtain special instructions before use.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P281 Use personal protective equipment as required.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P405 Store locked up.

EUH 401: To avoid risks to human health and the environment, comply with the instructions for use.

Reason for revision: N/A

Changes to the previous version:

Abbreviations and acronyms:

Format adaptation to the REACH Regulation amendment, the Regulation (EC) 453/2010.

SDS: Safety Data Sheet

OEL: Occupational Exposure Limit

NACE: Nomenclature Générale des Activités Économiques dans les Communautés Européennes (French, EU classification system)

TRGS: Real Time Gross Settlement

OECD: Organisation for Economic Co-operation and Development

PBT: Persistent, Bioaccumulative and Toxic

vPvB: Very Persistent and very Bioaccumulative

DNEL: Derived non-effect level

PNEC: Predicted non-effect concentration

LC50: Lethal concentration 50%

LD50: Lethal dose 50%

NOEL: Non-observed effect level

NOAEL: Non observed adverse effect level

NOAEC: Non observed adverse effect concentration

SVHC: Substances of Very High Concern

Key literature references and sources for data:

REACH Registraton dossier and database of registered substances on the European Chemicals Agency (ECHA).

Indication of which of the methods of

No information available.

evaluating information referred to in Article



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9 of Regulation (EC) No 1272/2008 was used for the purpose of classification:

Relevant R phrases, hazard statements, safety phrases and/or precautionary statements:

Risk Phrases

R43: May cause sensitisation by skin contact.

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R63: Possible risk of harm to the unborn child.

Safety Phrases

S2: Keep out of the reach of children.

S8: Keep container dry.

S13: Keep away from food, drink and animal feedingstuffs.

S23: Do not breathe gas/fumes/vapour/spray

S36: Wear suitable protective clothing.

S37: Wear suitable gloves.

S45: In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).

S61: Avoid release to the environment. Refer to special instructions/safety data sheet.

Advice on any training appropriate for workers:

Other information:

No information available.

This information is based on the knowledge we have so far. This SDS refers exclusively to this product. All chemical substances in this product have been reported or are exempt from notification under notification to the EC laws.

Information in this SDS is based on the available published sources and is believed to be accurate. No warranty, express or implied, is made and our company assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application. The specifications of this safety data sheet describes the safety requirements of our product, this is not a guarantee of characteristics. They are based on current state.