

Miramar Fungicide Safety Data Sheet



Section 1 Identification			
Product identifier		Miramar Fungicide	
Other means of identification		Crop protection agents, fungicide, Suspension concentrate(SC)	
Recommended Use of the chemical and restrictions on use		Fungicide for agricultural use	
Distributor	Name	Sipcam Agro USA, Inc.	
	Address	2525 Meridian Parkway, Ste. 350, Durham, NC 27713	
	TEL. No.	919-226-1195	Fax No. 919-226-1196
Emergency	TEL. No	+1-703-527-3887 (CHEMTREC)	Fax No.

Section 2 Hazard(s) Identification	
Classification	Acute Toxicity-Oral: Hazard category 4 Acute Toxicity-Inhalation: Hazard category 4 Germ Cell Mutagenicity: Hazard category 2 Hazardous to the Aquatic Environment-Long-Term Hazard: Hazard category 1
Signal word	Warning
Hazard statement	H302 Harmful if swallowed H332 Harmful if inhaled H341 Suspected of causing genetic defects. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.
Symbol	

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Precautionary statement	<p>Prevention</p> <p>P201 Obtain special instructions before use.</p> <p>P202 Do not handle until all safety precautions have been read and understood.</p> <p>P261 Avoid breathing mist/vapours/spray.</p> <p>P264 Wash hands thoroughly after handling.</p> <p>P270 Do not eat, drink or smoke when using this product.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P273. Avoid release to the environment.</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection.</p>
	<p>Response</p> <p>P301+P330+P312 IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.</p> <p>P304+P340+P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell</p> <p>P308+P313 IF exposed or concerned: Get medical advice/attention.</p> <p>P391 Collect spillage.</p> <p>Storage</p> <p>P405 Store locked up.</p> <p>Disposal</p> <p>P501 Dispose of contents/container in accordance with local/national/international regulation.</p>
Description of any hazards not otherwise classified	None

Section 3 Composition/Information on Ingredients		
Chemical name Common name and synonyms	CAS No.	Concentration
<p><u>Active Ingredient</u></p> <p>Dimethyl 4,4'-(o-phenylene)bis(3-thioallophanate) ; {1,2-di-(3-methoxycarbonyl-2-thioureido)benzene } ; {Dimethyl [1,2-phenylenebis(iminocarbonothioyl)bis- [carbamate] } ; Thiophanate-methyl (ISO name)</p>	23564-05-8	42.6 w/w% (41.3 w/w% a.i.) (500 g/L)

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Inactive Ingredient Sodium alkyl naphthalenesulfonate, formaldehyde condensate	68425-94-5	1.7 w/w% (20 g/L)
Additives (surfactants and others)	—	12.1 w/w%
Water		Balance

Section 4 First-Aid Measures

Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin contact	Remove contaminated clothing and shoes. Wash with soap and plenty of water. If skin irritation occurs: Get medical advice/attention.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Ingestion	Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell.
Most important symptoms/effects, acute and delayed	Not available
Indication of immediate medical attention and special treatment needed, if necessary	No specific antidote. Supportive care. Treatment based on judgment of physician in response to symptoms of patient.

Section 5 Fire-Fighting Measures

Suitable (and unsuitable) extinguishing media	This product is non-combustible. Suitable extinguishing media: Dry chemicals, carbon dioxide, alcohol foam or water spray. Unsuitable extinguishing media: Not known
Specific hazards arising from the chemical	Thermal decomposition or combustion may produce carbon oxides, nitrogen oxides and sulphur dioxide.
Special protective equipment and precautions for fire-fighters	Protective equipment Wear self-contained breathing apparatus and complete personal protective equipment. Precautions for fire-fighters Move containers away from fire areas if it can be done without risk. If impossible to remove containers from fire zone, cool them with water spray. Collect separately contaminated extinguishing water, do not allow to reach sewage or effluent system. Dispose of fire debris and contaminated extinguishing water in according with official regulations.

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Section 6 Accidental Release Measures	
Personal precautions, protective equipment, and emergency procedures	<p>Refer to Section 8 for personal protective equipment.</p> <p>Avoid contact with skin, eyes and clothing.</p> <p>Avoid breathing the mist or vapor.</p>
Methods and materials for containment and cleaning up	<p>Prevent from entering into drains, ditches or rivers because this product is harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</p> <p>Sweep up, place in a closed container and hold for waste disposal.</p> <p>Ventricle area, and wash spill site with soap and plenty of water after material pick-up is complete. Obey Federal, State or local regulations for health and environment protection to discharge treated water to sea, river or lakes etc.</p>

Section 7 Handling and Storage	
Precautions for safe handling	<p>Refer to Section 8 for personal protective equipment.</p> <p>Keep out of the reach of children.</p> <p>Avoid contact with skin, eyes and clothing.</p> <p>Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.</p> <p>Avoid breathing mist/vapours/spray.</p> <p>Wash thoroughly after handling.</p> <p>Do not eat, drink or smoke when using this product.</p> <p>Use only in a well ventilated areas, or chemical fume hood.</p> <p>Keep away from food, drink and animal feeding stuffs.</p> <p>Avoid release to the environment.</p> <p>IF exposed or concerned: Get medical advice/attention.</p>
Conditions for safe storage	<p>Keep container tightly closed. Store in a cool, dry, well-ventilated place.</p> <p>Keep away from foods, drink and animal feedingstuffs.</p> <p>Keep away from direct sunlight, oxidizing agents.</p> <p>Store locked up.</p>

Section 8 Exposure Controls/Personal protection	
Control parameters	Not applicable.
Appropriate engineering controls	<p>Use general and/or local exhaust ventilation to control vapor/mist.</p> <p>Provide safety showers and eyewashes.</p>
Individual protection measures, such as personal protective equipment	

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Respiratory	Suitable respirator for organic vapor	Gloves	Gloves such as rubber or polyvinyl chloride.
Eye/Face	Safety goggles.	Footwear	Boots
Clothing	Working wear with long sleeves.	Others	None

Section 9 Physical and Chemical Properties

Appearance	Light beige-tan liquid		Odor	Faint specific odor
Relative density	1.17-1.23 g/cm ³ (20°C)		pH	5-7 (1% in water)
Melting Point	Not applicable.		Boiling Point	Not available.
Vapor Density (air=1)	Not applicable.		Vapor Pressure	<1.3x 10 ⁻⁵ Pa at 25°C (as active ingredient)
Evaporation Rate (Ethyl acetate=1)	Not applicable.		Surface Tension	41.1 mN/m (20°C, 25%)
Solubility in water	Dispersible		Solubility in solvent	Not available.
Log Po/w	1.44 (as active ingredient)		Viscosity	500-900 mPa · s (20°C, No.2 rotor, 30rpm)
Flash Point	No flash point up to 100°C		Autoignition Temp.	Not combustible
Explosion limit	Lower limit	Not applicable.	Upper limit	Not applicable.

Section 10 Stability and Reactivity

Reactivity	This product is stable in normal handling and storing condition.		
Chemical Stability	Unstable	x	<u>If unstable, condition to avoid unstable reaction.</u> Oxidizing agents, strong acids or bases.
	Stable		
Possibility of hazardous reactions	Hazardous polymerization does not occur..		
Conditions to avoid	High temperature.		
Incompatible Materials	No substance known that should be avoided.		

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Hazardous decomposition Products	No hazardous reaction and product known.
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Section 11. Toxicological Information

Acute Toxicity

Oral (rat) : LD₅₀ 1000 mg/kg(female)
 Dermal (rat): LD₅₀ > 2000 mg/kg (male, female)
 Inhalation (rat) : LC₅₀ 2.25 mg/L(4hr) (male, female)

Skin corrosion/irritation

Dermal (rabbit): Not irritant

Serious eye damage/irritation

Eyes (rabbit): Not irritant

Respiratory or skin sensitization

Dermal (guinea pig): Negative
 Respiratory: Not available

Germ cell mutagenicity (as active ingredient)

Ames test: Negative
 Chromosomal aberration test : Negative
 Rec-Assay: Negative
 UDS test: Negative
 Micronucleou test : Positive

This product was classified as hazard category 2 because the content of thiophanate-methyl for hazard category 2 is $\geq 1.0\%$.

Carcinogenicity

Rat: Negative
 Mouse: Negative

	NTP	IARC Monograph	OSHA
Thiophanate-methyl	Not listed.	Not listed.	Not listed.

Reproductive toxicity

Thiophanate-methyl 3generations reproductive test(rat): Negative

STOT-single exposure: Not available.
 STOT-repeated exposure: Not available.
 Aspiration hazard: Not available.

Others

Tetratogenicity (as active ingredient)

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	Negative (rat)
	Negative (rabbit)
Chronic Toxicity	
NOAEL(rat) :	8.8mg/kg/day(male), 10.2 mg/kg/day(female) (2 years)
NOAEL(mouse) :	98.6 mg/kg/day(male), 28.7 mg/kg/day(female) (1.5 years)

Section 12 Ecological Information

Ecotoxicity

Acute Toxicity to Fish :	LC ₅₀ (oncorhynchus mykiss) : > 100 mg/L(96hr)
Acute Toxicity for Daphnia:	EC ₅₀ (Daphnia magna) : 11 mg/L(48hr)
Chronic Toxicity to Danhnia:	NOEC 0.078 mg/L (21 days, as Thiopante-methyl WDG)
Acute Toxicity for Alga:	ErC ₅₀ : 88.3 mg/L(72hr)
	NOEC : 10 mg/L

Persistence and degradability

Bio-degradability : Not good degradability (Thiophanate-Methyl).

Bioaccumulative potential

Since the value of logPo/w is low, it is estimated that bio-accumulative potential is low (Thiophanate-Methyl).

Mobility in soil

Not available.

Other adverse effects

Not available.

Section 13 Disposal Considerations

Dispose of contents/container in accordance with local/national/international regulation.

Section 14 Transport Information

International marine transportation(IMDG)

UN No.	3082
Class	9
Proper shipping name	Environmentally Hazardous Substance, liquid, n. o. s. (Thiophanate-methyl mixture)
Packing Group	III
Marin pollutant	Applicable

DOT Regulations

Proper Shipping Name	Environmentally Hazardous Substance, liquid, n. o. s. (Thiophanate-methyl mixture)
Hazard Class	9
Identification No.	UN 3082

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Packing Group : III Emergency Response Guide No. 171
ICAO/IATA Dangerous Goods Regulations UN No. 3082 Class 9 Proper shipping name Environmentally Hazardous Substance, liquid, n. o. s. (Thiophanate-methyl mixture) Packing Group III Environmentally hazardous Applicable
Special precautions for use Not applicable.

Section 15 Regulatory Information	
Substance	Thiophanate-methyl (CAS No. 23564-05-8)
TSCA	Not listed((Not applicable(pesticide))
OSHA (highly hazardous chemicals)	Not listed
SARA (extremely hazardous substance)	Listed
CERCLA (Hazardous Substance)	Listed
Others	None

Section 16 Other Information													
Label Information NFPA Rating : Health ; 1 Flammability; 0 Instability; 0													
Regulatory Information in other area <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; padding: 5px;">Substance</td> <td style="padding: 5px;">Thiophanate-methyl (CAS No. 23564-05-8)</td> </tr> <tr> <td style="padding: 5px;">ENCS(JAPAN)</td> <td style="padding: 5px;">Not listed (Not applicable (pesticide))</td> </tr> <tr> <td style="padding: 5px;">EINECS(EU)</td> <td style="padding: 5px;">Listed (245-740-7)</td> </tr> <tr> <td style="padding: 5px;">DSL(Canada)</td> <td style="padding: 5px;">Listed</td> </tr> <tr> <td style="padding: 5px;">IECSC(China)</td> <td style="padding: 5px;">Listed</td> </tr> <tr> <td style="padding: 5px;">South Korea (ECL)</td> <td style="padding: 5px;">Listed</td> </tr> </table>		Substance	Thiophanate-methyl (CAS No. 23564-05-8)	ENCS(JAPAN)	Not listed (Not applicable (pesticide))	EINECS(EU)	Listed (245-740-7)	DSL(Canada)	Listed	IECSC(China)	Listed	South Korea (ECL)	Listed
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Revised Information This SDS was prepared according to ANSI Z400.1/Z129.1-2010.													
Date Prepared	September 6, 2013	Date Revised	October 23, 2018										

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