

**Section 1 Chemical Product and Company Identification**

Product Name	Thiophanate-methyl 70WP		
Chemical Name	Wettable powder containing thiophanate-methyl as active ingredient		
Primary Use	Fungicide for agricultural use		
Distributor	Name		
	Address		
	TEL. No.		Fax No.
Manufacturer	Name	Nippon Soda Co., Ltd.	
	Address	2-1, Ohtemachi 2-Chome, Chiyoda-ku, Tokyo 100-8165, Japan	
	TEL. No.	+81-3-3245-6041	Fax No. +81-3-3245-6287
Emergency	TEL. No.	+1-800-424-9300(CHEMTREC)	Fax No.
Date Prepared	Jun. 18, 2008		Date Revised Aug. 26, 2009 (Ver.2)

Section 2 Hazardous Identification

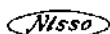
Route of Entry	Skin : no	Inhalation : yes	Ingestion : no
Emergency Overview	Pale brown powder with a faint odor as sulfur-containing compounds. Stable in normal condition. Harmful if inhaled. Suspected of causing genetic defects. May cause damage to chest and respiratory system through prolonged or repeated exposure. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.		

Section 3 Composition/Information on Ingredient

Component	%(wt.)	Exposure Limits		
		OSHA PEL (mg/m ³)	ACGIH TLV (mg/m ³)	NIOSH REL (mg/m ³)
Active Ingredient dimethyl 4,4'-(o-phenylene)bis(3-thioallophanate) ; {1,2-di-(3-methoxycarbonyl-2-thioureido)benzene} ; {Dimethyl [1,2-phenylenebis(iminocarbonothioyl)bis-carbamate] } ; (CASNo.23564-05-8) Thiophanate-methyl (ISO name)	70.0	Not listed.	Not listed.	Not listed.
Inactive Ingredient Amorphous-Diatomaceous earth, <1% crystalline SiO ₂ (CASNo.61790-53-2)	22.0	80	10	6
Amorphous-gel & precipitated silica (CASNo.112926-00-8)	4.1	80	10	6
Surfactants	3.9	Not listed.	Not listed.	Not listed.

Section 4 First Aid Measures

Eye	Immediately flush eyes with plenty of water for at least 15min. Get medical advice if irritation persists.
Skin	Wash skin with soap and water while removing contaminated clothing and shoes.
Inhalation	Remove to fresh air and call a physician.
Ingestion	Induce vomiting immediately, as directed by a physician. Wash out mouth with water. Never give anything by mouth to an unconscious person. Call a physician.



Note to Physicians	Not known.
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Section 5 Fire Fighting Measures

Flammable Properties	Not flammable.
Unusual Fire & Explosion Hazards	Thermal decomposition or combustion may produce carbon dioxide, carbon monoxide, sulfur oxide and nitrogen oxides.
Extinguishing Media	Water spray, foam, dry chemicals, carbon dioxide.
Fire Fighting Instructions	Protective equipment Wear self-contained breathing apparatus and complete personal protective equipment. Fire-Fighting procedure Move containers away from fire area if it can be done. If impossible to remove containers from fire zone, cool them with water spray.

Section 6 Accidental Release Measures

Protective equipment	Wear personal protective equipment. Refer to Section 8 for personal protective equipment.
Personal precaution	Avoid raising dust.
Environment precaution	Prevent from releasing it to the environment as this product is toxic to aquatic organisms.
Cleaning procedure	Obey all Federal, State or local regulations for health & safety and environmental protection when the accidental release is treated. Sweep up, place in a bag and hold for waste disposal. Wash spill site with soap and plenty of water after material pick-up is complete. Do not discharge to river, sea, lake, waterway or sewer systems directly.

Section 7 Handling and Storage

Handling	Wear personal protective equipment. Refer to Section 8 for personal protective equipment. Handle as an organic dust. Avoid release to environment. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Use only in a well ventilated areas, or chemical fume hood. Wash thoroughly after handling. Keep out of the reach of children.
Storage	Keep in container tightly closed. Store at a room temperature. Protect from direct contact with water or excessive moisture, acids or bases.

Section 8 Exposure Control/Personal protection

Specific Engineering Controls	Use general and/or local exhaust ventilation to control dusts.		
Personal Protection Equipment			
Respiratory	Appropriate respirator for dust.	Gloves	Outside: Polyvinyl chloride, Polyethylene or Rubber Inside: Cotton , Rayon
Eye/Face	Use safety glasses. If there is a potential to exposure for dust, wear safety goggles.	Footwear	Working shoes with socks.
Clothing	Working cloths with long sleeves and long	Others	None



	pants.		
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Section 9 Physical and Chemical Properties

Appearance	Off-white fine powder.	Odor	Faint sulfur odor.
Density	Not applicable.	Bulk Density	Ca 0.2 g/cm ³
Melting Point	Not applicable.	Boiling Point	Not available.
Vapor Density (air=1)	Not applicable.	Vapor Pressure	Not available.
Evaporation Rate (Ethyl acetate=1)	Not applicable.	pH	4.0 – 7.0 (CIPAC method)
Solubility in water	Negligible but dispersible.	Solubility in solvent	Not available.
Log Po/w	1.44 (active ingredient)		
Flash Point	Not applicable.	Autoignition Temp.	Not applicable.
Dust Explosion Limit	225 g/m ³		

Section 10 Stability and Reactivity

Chemical Stability	Stable	x	<u>If unstable, condition to avoid unstable reaction.</u> Stable in normal condution.
	Unstable		
Hazardous Polymerization	May occur	x	<u>If polymerization may occur, condition to avoid it.</u>
	Will not occur		
Reactivity	May react with strong oxidizing agents.		
Incompatible materials	Oxidizing agents, strong acids or bases.		
Hazardous Decomposition Product	CO, CO ₂ , SO _x , NO _x .		
Others	Avoid high temperature.		

Section 11. Toxicological Information

Effect of Acute Exposure

Acute Toxicity

Oral (rat) LD₅₀ >5000 mg/kg(male), 4350 mg/kg(female)Dermal(rat) LD₅₀ >5000 mg/kg(male, female)Inhalation(rat) LC₅₀(4hr) >1.8 mg/L(male, female)

(The following data is for Thiophanate- Methyl)

Inhalation(rat) LC₅₀(4hr) 1.7mg/L(male), 1.9mg/L(female)

Sensitization(skin):

Negative

**Irritation:**

Eyes(rabbit): Mild
Dermal(rabbit): Negative

**Mutagenicity
(Active
ingredient)**

Ames test :
Negative
UDS test :
Negative

Chromosomal aberration test:
Negative
Micronucleus test :
Positive

Carcinogenicity

NTP : no

IARC : no

ACGIH Regulated: no

Subacute Toxicity (Active ingredient)

90-days repeated dose test

NOEL(rat) : 13.9mg/kg/day: 90days

Chronic Toxicity and Carcinogenicity (Active ingredient)

Chronic toxicity/Carcinogenicity test(2years)

NOEL(mouse) : 16mg/kg/day(male), 64mg/kg/day(female)

NOEL(rat) : 8.8mg/kg/day(male), 10.2 mg/kg/day(female)

Teratogenicity (Active ingredient)

Teratogenicity(rat) : Negative

Teratogenicity (rabbit): : Negative

Reproductive Toxicity (Active ingredient)

3 generations reproductive test(rat) :

Reproductive Toxicity : Negative

Section12 Ecological Information**Environmental Fate**

Bio-Degradability :

No information.

Bio-Accumulative Potential :

No information.

Ecological Toxicity

Acute Toxicity to aquatic organisms

Acute Toxicity to Fish :

LC₅₀(Carp) >100 mg/L (96hrs) (RD 8923)LC₅₀(Trout) 2.2 mg/L (96hrs) (RD 8329)

Acute Toxicity to Daphnia:

EC₅₀(Daphnia Magna) 15.6 mg/L (48hrs) (RD8303)

Acute Toxicity to Algae:

EbC₅₀(Green Algae) 4.7 mg/L (72hrs) (RD 8305)**Section 13 Disposal Considerations**

- 1) Mix the material with sawdust or combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
- 2) Do not discharge into waterway or sewer systems unless permission has been obtained by the local authority and suitable dilution has been established.
- 3) Contaminated empty containers must be disposed of as chemical waste.
- 4) Obey all Federal, State and local regulations concerning health & safety and environmental protection.

**Section 14 Transport Information**

International marine transportation(IMDG)

Classified as dangerous goods in IMDG Code.

UN No. 3077

Class 9

Proper shipping name Environmentally hazardous substance, solid, N.O.S.(Thiophanate-methyl mixture)

Packing group III

Marine pollutant : applicable

IATA Dangerous Goods Regulations

Classified as dangerous goods in IATA-DGR.

UN No. 3077

Class 9

Proper shipping name Environmentally hazardous substance, solid, n.o.s.(Thiophanate-methyl mixture)

Packing group III

Marine pollutant : applicable

DOT Regulations

Proper shipping name Environmentally hazardous substance, solid, n.o.s.(Thiophanate-methyl mixture), RQ

Hazard Class : 9

Identification No. : UN 3077

Packing Group : III

Emergency Response Guide No. 171

Section 15 Regulatory Information

TSCA	Not listed(CAS No. : 23564-05-8)
OSHA	Not listed(CAS No. : 23564-05-8)
SARA	Listed(CAS No. : 23564-05-8)
CERCLA	Listed(CAS No. : 23564-05-8)
Others	None

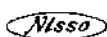
Section 16 Other Information

Label Information

NFPA Rating : Health ; 1 Flammability; 1 Instability; 0

Revised Information

ENCS(JAPAN)	Not listed(CAS No. : 23564-05-8)
EINECS(EU)	Listed(CAS No. : 23564-05-8)
DSL(Canada)	Listed(CAS No. : 23564-05-8)
IECSC(China)	Listed(CAS No. : 23564-05-8)



NIPPON SODA CO., LTD.

Material Safety Data Sheet(US Version)

MSDS No. TOPSIN-M WP

Revised Information

This MSDS was prepared according to ANSI Z400.1-2003

This information is taken from sources or based upon data believed to be reliable.
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sufficiency of any of the foregoing or that additional or other measures may not be required
under particular conditions.