

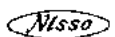


Section 1 Chemical Product and Company Identification				
Product Name	Thiophanate-methyl 70WP			
Chemical Name	Wettable powder containing thiophanate-methyl as active ingredient			
Primary Use	Fungicide for agricultural use			
Distributor	Name			
	Address			
	TEL. No.		Fax No.	
Manufacturer	Name	Nippon 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	<p>Pale brown powder with a faint odor as sulfur-containing compounds.</p> <p>Stable in normal condition.</p> <p>Harmful if inhaled.</p> <p>Suspected of causing genetic defects.</p> <p>May cause damage to chest and respiratory system through prolonged or repeated exposure.</p> <p>Toxic to aquatic life.</p> <p>Toxic to aquatic life with long lasting effects.</p>		

Section 3 Composition/Information on Ingredient				
Component	%(wt.)	Exposure Limits		
		OSHA PEL(mg/m3)	ACGIH TLV (mg/m3)	NIOSH REL (mg/m3)
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)	LD ₅₀ >5000 mg/kg(male), 4350 mg/kg(female)
Dermal(rat)	LD ₅₀ >5000 mg/kg(male, female)
Inhalation(rat)	LC ₅₀ (4hr) >1.8 mg/L(male, female)
(The following data is for Thiophanate- Methyl)	
Inhalation(rat)	LC ₅₀ (4hr) 1.7mg/L(male), 1.9mg/L(female)
Sensitization(skin):	
Negative	



Irritation:			
Eyes(rabbit):		Mild	
Dermal(rabbit):		Negative	
Mutagenicity (Active ingredient)	Ames test :	Chromosomal aberration test:	
	Negative	Negative	
	UDS test :	Micronucleus test :	
	Negative	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.

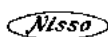
Ecological Toxicity

Acute Toxicity to aquatic organisms

Acute Toxicity to Fish :	LC ₅₀ (Carp)	>100 mg/L (96hrs) (RD 8923)
	LC ₅₀ (Trout)	2.2 mg/L (96hrs) (RD 8329)
Acute Toxicity to Daphnia:	EC ₅₀ (Daphnia Magna)	15.6 mg/L (48hrs) (RD8303)
Acute Toxicity to Algae:	EbC ₅₀ (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

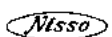
Section 16 Other Information

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)



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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