


Safety Data Sheet

NISSO AMERICA INC.

SDS No. Senator 50 SC Fungicide

Section 1 Identification			
Product identifier		Senator 50 SC Fungicide, Registration Number 32096	
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	Belchim Crop Protection Canada, Inc.	
	Address	104 Cooper Drive, Unit 3, Guelph, Ontario, Canada, N1C 0A4	
	TEL. No.	866-613-3336	
Manufacturer	Name	Nisso America Inc.	
	Address	88 Pine Street, 14 th Floor, New York, NY 10005 USA	
	TEL. No.	212-490-0350	Fax No. 212-972-9361
Emergency	TEL. No	1-866-336-2983	Fax No.
Date Prepared	Sept. 6, 2013	Date Revised	June 9, 2020

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-Acute Hazard: Hazard category 3 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. H402 Harmful 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 and face 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/doctor 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/doctor 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 regulations.</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)
<p><u>Inactive Ingredient</u></p> <p>Sodium alkyl naphthalenesulfonate, formaldehyde condensate</p>	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.
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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/doctor if you feel unwell.
Ingestion	Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER/doctor 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 sulfur 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.

Section 6 Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures	Refer to Section 8 for personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing the mist or vapor.
Environmental precautions	Prevent form entering into drains, ditches or rivers because this product is very toxic to aquatic life with long lasting effects.
Methods and materials for containment and cleaning up	Sweep up, place in a closed container and hold for waste disposal. 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.

Section 7 Handling and Storage

Precautions for safe handling	Refer to Section 8 for personal protective equipment. Keep out of the reach of children. Avoid contact with skin, eyes and clothing. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing mist/vapours/spray.
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	<p>Wash hands and face thoroughly after handling.</p> <p>Do not eat, drink or smoke when using this product.</p> <p>Use only in a well-ventilated area, 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	Use general and/or local exhaust ventilation to control vapor/mist. Provide safety showers and eyewashes.		
Individual protection measures, such as personal protective equipment			
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	<1.3 × 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

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Explosion limit	Lower limit	Not applicable.	Upper limit	Not applicable.
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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.			
Hazardous decomposition Products	No hazardous reaction and product known.			

Section 11. Toxicological Information

Acute Toxicity	
Oral (rat) :	LD ₅₀ 1000 mg/kg(female)
Dermal (rat):	LD ₅₀ > 2000 mg/kg (male, female)
Inhalation (rat) :	LC ₅₀ 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 (as active ingredient)	
Rat: Negative	

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Mouse: Negative

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

Reproductive toxicity (as active ingredient)

Reproductive toxicity

3generations reproductive test(rat): Negative

Tetratogenicity

Negative (rat)

Negative (rabbit)

STOT-single exposure: Not available.

STOT-repeated exposure (as active ingredient):

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)

Aspiration hazard: Not available

Others: Not available

Section12 Ecological Information

Ecotoxicity

Acute Toxicity to Fish : $LC_{50}(\textit{oncorhynchus mykiss}) : > 100 \text{ mg/L}(96\text{hr})$

Acute Toxicity for Daphnia: $EC_{50}(\textit{Daphnia magna}) : 11 \text{ mg/L}(48\text{hr})$

Acute Toxicity for Alga: $ErC_{50}(\textit{P.subcapitata}) : 88.3 \text{ mg/L}(72\text{hr})$

$NOEC(\textit{P.subcapitata}) : 10 \text{ mg/L}(72\text{hr})$

Hazardous to the Aquatic Environment-Acute Hazard:

This product was classified as hazard category 3 based on the above data.

Hazardous to the Aquatic Environment-Long term hazard:

This product was classified as hazard category 1 because the content of Thiophanate-methyl for hazard category 1 is $\geq 25\%$.

Persistence and degradability

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

Bioaccumulative potential

Since the value of $\log P_{o/w}$ 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 regulations.

Section 14 Transport Information

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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
Packing Group :	III
Marin pollutant	Applicable
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

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION

Harmful if absorbed through the skin or if swallowed.

Runoff from treated areas may be hazardous to aquatic organisms in neighboring areas.

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Section 16 Other Information

Label Information

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

Regulatory Information in other area

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

Revised Information

This SDS was prepared according to ANSI Z400.1/Z129.1-2010.

Date Prepared	September 6, 2013	Date Revised	June 9, 2020
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