

SAFETY DATA SHEET

PROTOCOL



Section 1. Identification

GHS product identifier : PROTOCOL
Chemical names : Thiophanate-methyl; Propiconazole
Product code : Not available
Other means of identification : Not available
EPA Registration Number : 93051-16
EPA Signal Word : CAUTION
Product type : Liquid.

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

Identified uses : Broad-spectrum fungicide
Supplier's details : RightLine LLC
950 Falcon Drive
Malden, MO 63863, USA
Tel: 770-335-3015
Emergency telephone number (with hours of operation) : Call (800) 222-1222 (Poison Control Center) or (800) 424-9300 CHEMTREC

Section 2. Hazards Identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture :

REPRODUCTIVE TOXICITY – Category 1
EYE IRRITATION - Category 2B
ACUTE TOXICITY, ORAL– Category 5
AQUATIC HAZARD (ACUTE) – Category 1
AQUATIC HAZARD (CHRONIC) – Category 1

GHS label elements



Hazard pictograms :

Signal word :

Hazard statements :
H360 - May damage fertility or the unborn child
H320 - Causes eye irritation
H303 – May be harmful if swallowed
H400 – Very toxic to aquatic life
H410 – Very toxic to aquatic life with long lasting effects

Precautionary statements

- Prevention** : P203 – Obtain, read and follow all safety instructions before use.
P264+P265 – Wash hands and exposed skin thoroughly after handling. Do not touch eyes.
P280 – Wear eye protection/face protection.
P273 – Avoid release to the environment not in accordance with the product label.
- Response** : P318 – IF exposed or concerned, get medical advice.
P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P317 – If eye irritation persists: Get medical help.
P301+P317 – IF SWALLOWED: Get medical help.
P391 – Collect spillage.
- Storage** : P405 –Store locked up.
- Disposal** : P501 – Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified** : None known.

Section 3. Composition/Information on Ingredients

- Substance/mixture** : Mixture
- Chemical name(s)** : Carbamic acid, [1,2-phenylenebis(iminocarbonothioyl)]bis-, dimethyl ester
1H-1,2,4-Triazole, 1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl]methyl]-

Ingredient name	%	CAS number
Thiophanate-methyl	23.7	23564-05-8
Propiconazole	7.1	60207-90-1

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First Aid Measures

- Ingestion** : Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.
- Eye contact** : Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.
- Inhalation** : Move person to fresh air. If person is not breathing, call a poison control, then give artificial respiration, preferably by mouth to mouth. Call a poison control center or doctor for further treatment advice.
- Skin contact** : Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Most important symptoms/effects, acute and delayed Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Indication of immediate medical attention and special treatment needed, if necessary

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting Measures

Extinguishing media

Suitable extinguishing media : Use extinguishing agent suitable for type of surrounding fire, Use CO₂, dry chemical, or foam.

Unsuitable extinguishing Media : None known.

Specific hazards arising from the chemical : In the event of fire and/or explosion do not breathe fumes. May cause sensitization in susceptible persons. Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Hazardous thermal decomposition products : None known.

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Self-contained breathing apparatus and full protective gear should be worn in fighting large fires involving chemicals. Use water spray to keep fire exposed containers cool. Keep people away. Isolate fire and deny unnecessary entry.

NFPA Ratings : Health – 2 / Flammability – 1 / Reactivity - 0

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

For non-emergency Personnel : Use appropriate personal protection equipment (PPE).

For emergency responders : Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to Section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Keep upwind of spill. Ventilate area of leak or spill.

Environmental precautions : Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

Methods and materials for containment and cleaning up

Spill : Dike spill using suitable absorbent or impervious materials such as sand or clay. Collect and contain contaminated absorbent and place in an appropriate container for disposal. Pump any free liquid into an appropriate closed container and decontaminate tools and equipment following cleanup. Collect washings for disposal.

Section 7. Handling and Storage

Precautions for safe handling

- Protective measures** : Keep out of reach of children. Avoid breathing vapor or spray mist. Remove and wash contaminated clothing before reuse. See Section 8.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking, chewing gum, using tobacco, or using the toilet. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in original container in secured dry storage area. Prevent cross-contamination with other pesticides and fertilizers. For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup and disposal of wastes.

Section 8. Exposure Controls/Personal Protection

Control parameters Occupational exposure limits

Chemical Name	OSHA PEL	ACGIH TLV	Other	Source
Not applicable	Not Established	Not Established	Not Established	Not Established

- Appropriate engineering Controls** : Facilities storing or utilizing this material should be equipped with an eyewash station and a safety shower.
- Environmental exposure Controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.
- Individual protection measures**
- Hygiene measures** : After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash contaminated clothing and safety equipment.
- Eye/face protection** : Chemical goggles or safety glasses.
- Skin protection**
- Hand and Body protection** : Wear chemically resistant protective gloves.
- Other skin protection** : Applicators and other handlers must wear long-sleeved shirt and long pants, shoes plus socks, chemical-resistant gloves (including nitrile or butyl rubber ≥ 14 mils), protective eyewear, and chemical-resistant apron.
- Respiratory protection** : If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.

Section 9. Physical and Chemical Properties

Appearance

- Physical state** : Viscous Liquid
- Color** : Off-white
- Odor** : Faint
- Odor threshold** : Not available
- pH** : 6.20 (neat)
- Melting point** : Not available
- Boiling point** : Not available
- Flash point** : $>212^{\circ}\text{F}$ ($>100^{\circ}\text{C}$)
- Evaporation rate** : Not available
- Flammability** : Not available

Vapor Pressure : Not available
Density : 9.50 lbs/gal
Solubility : Not available
Partition Coefficient : Not available
Viscosity (Kinematic) : 1505.758 cSt (20°C)
 933.860 cSt (40°C)

Lower and upper explosive (flammable) limits : Not available

Section 10. Stability and Reactivity

Reactivity : Hazardous reactions will not occur under normal conditions.
Chemical stability : Stable under recommended storage conditions.
Possibility of hazardous reactions : None under normal processing.
Conditions to avoid : Extremes of temperature and direct sunlight.
Incompatible materials : None known.
Hazardous decomposition Products : None known.

Section 11. Toxicological Information

Symptoms of exposure: Eye irritation and Skin irritation

Delayed, immediate and chronic effects of exposure: Eye irritation and Skin irritation

Information on toxicological effects Acute toxicity

Product	Result	Species	Dose	Exposure
Protocol	LD50 Oral LD50 Dermal LC50 Inhalation	Rat Rat Rat	3,129 mg/kg (estimated) >5,000 mg/kg >2.08 mg/l	- - 4 hours

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Protocol	Skin – Slightly irritating. Eye – Minimally irritating	Rabbits Rabbits	- -	- -	- -

Sensitization

Not a contact skin sensitizer (Guinea Pig)

Mutagenicity

There is no data available.

Carcinogenicity

Group C: Possible human carcinogen (propiconazole)

Reproductive toxicity

Thiophanate-methyl is a known reproductive toxicant.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

No data available.

Specific target organ toxicity (repeated exposure)

No data available.

Aspiration hazard

There is no data available.

Information on the likely

routes of exposure : Dermal contact. Eye contact. Ingestion.

Potential acute health effects

Eye contact	: No known significant effects or critical hazards.
Inhalation	: No known significant effects or critical hazards.
Skin contact	: No known significant effects or critical hazards.
Ingestion	: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: No known significant effects or critical hazards.
Inhalation	: No known significant effects or critical hazards.
Skin contact	: No known significant effects or critical hazards.
Ingestion	: No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects	: No known significant effects or critical hazards.
Potential delayed effects	: No known significant effects or critical hazards.

Long term exposure

Potential immediate effects	: No known significant effects or critical hazards.
Potential delayed effects	: No known significant effects or critical hazards.

Potential chronic health effects

General	: No known significant effects or critical hazards.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.

Section 12. Ecological Information

Toxicity

Product/ingredient name	Result	Species	Exposure
Thiophanate-methyl	Acute LC50 11.0 mg/L	Rainbow Trout – Oncorhynchus mykiss	96 hours
	Acute LC50 41.0 mg/L	Bluegill Sunfish	96 hours
	Acute EC50 5.4 mg/L (estimated)	Daphnia Magna	48 hours
	Acute LC50 1.1 mg/L (estimated)	Mysid	96 hours
	Acute EC50 0.93 mg/L	Algae	96 hours
	NOAEC 0.43 mg/L		-
	Acute LD50 4,640 mg/kg	Mallard duck	-
	Acute diet LC50 >10, 000 mg/kg-diet	Bobwhite Quail	-
	Acute LD50 >100µg/bee	Honey Bee	48 hours
Propiconazole	Acute LC50 0.85 mg/L	Rainbow Trout – Oncorhynchus mykiss	96 hours
	NOAEC 0.095 mg/L	Fathead Minnow	-
	Acute 1.3 mg/L	Daphnia Magna	48 hours
	NOAEC 0.180 mg/L		-
	Acute EC50 0.021 mg/L	Algae	96 hours
	Acute LD50 2, 825 mg/kg	Bobwhite Quail	-
	Acute LD50 >2,510 mg/kg	Mallard duck	-

Persistence and degradability

Not established.

Bioaccumulative potential

Not established.

Mobility in soil

Not established.

Section 13. Disposal Considerations

Disposal methods : Nonrefillable and refillable containers. Refer to the product label for specific container disposal instructions.

United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Not listed	-	-	-

Section 14. Transport Information

	DOT Classification	IMDG	IATA
UN number	UN3082	UN3082	UN3082
UN proper shipping name	Environmentally hazardous substance, liquid, N.O.S. (thiophanate-methyl)	Environmentally hazardous substance, liquid, N.O.S. (thiophanate-methyl)	Environmentally hazardous substance, liquid, N.O.S. (thiophanate-methyl)
Transport hazard class(es)	Environmentally hazardous substance	Environmentally hazardous substance	Environmentally hazardous substance
Packing group	III	III	III
Environmental hazards	Marine Pollutant	Marine Pollutant	Marine Pollutant

DOT-RQ Details : 10 lbs. (4.44 gal. of product) **AERG** : Not available

Additional information

NAFTA : Containers ≤ 4.4 gal. (3.785 L):: Not regulated
Containers > 4.4 gal. (3.785 L):
Proper Shipping Name: UN3082, Environmentally hazardous substance, liquid, N.O.S. (thiophanate-methyl), 9, PG III
Identification Number: UN3082
Packing Group: PG III

IMDG : This product is not regulated as a dangerous good.

IATA : This product is not regulated as a dangerous good.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory Information

U.S. Federal regulations : **United States inventory (TSCA 8b):** Not determined.
Clean Water Act (CWA) 311: Not determined

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals
(Precursor Chemicals) : Not listed

DEA List II Chemicals
(Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

Name	EHS	SARA 302 TPQ		SARA 304 RQ	
		(lbs)	(gallons)	(lbs)	(gallons)
Not available	-	-	-	-	-

SARA 304 RQ : Not listed.

SARA 311/312

Classification : Immediate (acute), Delayed (Chronic)

Composition/information on ingredients

Name	Classification
Not listed	-

SARA 313

	Active Ingredient(s)	CAS number
Form R - Reporting requirements	Thiophanate-methyl – CERLA RQ 10 lbs. (4.4 gallons of this product) Propiconazole	23564-05-8 60207-90-1
Supplier notification	None	N/A

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

California Prop. 65

⚠ WARNING: This product can expose you to thiophanate-methyl, which is known to the State of California to cause reproductive harm. For more information go to www.P65Warnings.ca.gov.

Section 16. Other Information

History

Date of issue mm/dd/yyyy : 08/19/2026

Date of previous issue : N/A

Version : 1.0

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.