

**TIDE INTERNATIONAL USA, INC.****-A DIVISION OF TIDE GROUP**

REVISION DATE: 09/05/2017 VERSION 2.0

[1. Identification]

Product name: Tide Propiconazole 41.8%EC Fungicide
Chemical name: 1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl] methyl]-1,2,4-triazole
Chemical family: Triazole
EPA Reg. No.: 84229-11
Recommended Use: Fungicide
Supplier: Tide International USA, Inc.
21 Hubble, Irvine, CA 92618
(949) 679-3535

For medical or chemical*
emergencies:

Call CHEMTREC®: 1-800-424-9300 (24 hours/day)

*Spill, leak, fire, exposure or accident Call the NATIONAL PESTICIDE INFORMATION CENTER 1-800-858-7378 (Monday - Friday, 8-12 PM Pacific time)
For non-emergency product information:

[2. Hazard(s) Identification]

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR §1910.1200 (2012)

Classification of the substance or mixture:

Flammable liquids (Category 3)
Acute oral (Category 4)
Eye irritation (Category 2B)
Skin sensitization (Category 1B)
Acute aquatic hazard (Category 3)

GHS label elements:**GHS pictograms****Signal Word: Warning****GHS Hazard statements**

H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H320 Causes eye irritation.
H317 May cause an allergic skin reaction.
H402 Harmful to aquatic life.

Precautionary statements:

Prevention:

- P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection
P273 Avoid release to the environment.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P233 Keep Container tightly closed
P240 Ground and bond container and receiving equipment
P241 Use explosion-proof equipment
P242 Use only non-sparking tools.

Response:

- P301 + P312 If swallowed: Call a poison center/doctor if you feel unwell.
P330 Rinse mouth.
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 + P313 Get medical advice/attention.
P303 + P361 + P353 If on skin (or hair): Wash with plenty of soap and water
P333 + P338 If skin irritation or rash occurs: Get medical advice/attention.
P321 Specific treatment (see ... on this label)
P361 + P353 Take off immediately all contaminated clothing and wash it before reuse.
P370 + P378 In case of fire: Use foam or dry chemical to extinguish.

Storage:

- P403 + P235 Store in a well-ventilated place. Keep cool.

Disposal:

- P501 Dispose of contents/container to hazardous or special waste collection point.

Routes of exposure: Eyes, skin, ingestion & inhalation.

Carcinogenicity: ACGIH, NTP, IARC, or OSHA does not list this product as a carcinogen.

Other health concerns

NFPA Ratings: Health-2 Flammability-2 Reactivity-0

[3. Composition / Information on Ingredients]

According to Hazard Communication Standard (HCS) or 29 CFR §1910.1200 (2012).

Active ingredient	CAS No.	EINECS #	Content (w/w,%)
Propiconazole	60207-90-1	262-104-4	41.8
N-butyl alcohol	71-36-3	225-201-2	24
Propylene Glycol	57-55-6	200-338-0	12
Proprietary	Prop.	Prop.	2.2
Silicone polyether copolymer	Prop.	Prop.	2.0
Water	7732-18-5	231-791-2	Balance

[4. First aid measures]

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact CHEMTREC at 1-800-424-9300 for emergency medical treatment information.

If inhaled: Move to fresh air free from risk of further exposure. If the exposed person is not breathing call 9-1-1, then apply rescue breathing. Seek medical attention as soon as possible.

If on skin: Rinse area with clean water for 15-20 minutes. Call poison control center or doctor for treatment advice. Take off contaminated clothing and wash before reuse.

If in eyes: Flush with clean, lukewarm water raising upper and lower eyelids at low pressure for 15-minutes. Remove contact lenses, if present, after the first five minutes and continue to rinse the eyes. Seek medical attention if no relief.

If swallowed: Call a poison control center or doctor immediately for treatment advice. DO NOT INDUCE VOMITING. Lower the head when person is vomiting to minimize entry into throat and lungs.

Most important symptoms/effects, acute and delayed: No information available.

Note to physician: There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. Poisoning is accompanied by hyperactivity followed by sedation.

[5. Fire-Fighting measures]

Suitable extinguishing media: Use dry chemicals, carbon dioxide, or foam.

Unsuitable extinguishing media: No data available.

Special hazards arising from the chemical (hazardous combustion products): Can release vapors that form explosive mixtures at temperatures T at or above the flash point. Heavy vapors can flow along surfaces to distant ignition sources and flash back. During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Special protective equipment and precautions for fire-fighters: No data available.

Advice for firefighters: Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Dike area to prevent runoff and contamination of water sources. Equipment or materials involved in pesticide fires may become contaminated..

[6. Accidental release measures]

Personal precautions, protective equipment and emergency procedures:

Precautions: Wear PPE; see section 8. Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Environmental precautions: Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the Environment.

Methods and materials for containment and cleaning up:

Avoid breathing the mist. Absorb the spilled material with inert absorbent such as "kitty litter". Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations.

[7. Handling and Storage]

Precautions for safe handling:

Avoid contact with skin and eyes; wear PPE in section 8. Avoid breathing the mist. Use normal safety procedures and good personal hygiene. Wash thoroughly after use and before eating, drinking, chewing gum or using tobacco.

Conditions for safe storage:

Keep in original containers. Keep away from all ignition sources. Avoid high temperatures above 43°C (110°F.) Keep containers tightly closed and in a cool dry area. Provide a cool well-ventilated area. Do not store near food or feedstuff. Avoid release to the environment. Avoid static charges.

[8. Exposure controls / Personal protection]

Control parameters:

Components.	CAS-No	Control parameters	Basis
Propiconazole	60207-90-1	8.0 mg/m ³	TWA OSHA
N-butyl alcohol	71-36-3	300 mg/m ³	OSHA TWA PEL
Propylene glycol	57-55-6	10 mg/m ³	OSHA TWA PEL

Appropriate engineering controls: Provide adequate ventilation when product is used. Eyewash and shower should be provided in mixing and loading areas.

Personal protective equipment:

Always follow the label instructions when handling this product. In all other cases the following recommendations would apply. Long sleeve shirt and long pants. Chemical-resistant gloves such as barrier laminate or Viton®. Shoes plus socks.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately

Respiratory protection: A combination particulate/ organic vapor respirator may be necessary until effective engineering controls are installed to comply with occupational exposure limits. Use a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with an HE prefilter.

Eye protection Use safety glasses or goggles, there is potential for vapor or mist exposure to cause injury to the eyes. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Skin and body protection: Skin and Body Protection: To avoid contact with skin, wear coveralls over with long- or short-sleeved shirt and long or short pants, chemical-resistant footwear plus socks and chemical resistant gloves. Wear chemical-resistant apron when cleaning equipment, mixing or loading. For overhead exposure, wear chemical-resistant headgear. An emergency eyewash or water supply should be readily accessible to the work area.

[9. Physical and chemical properties]

Appearance: Yellow Liquid.

Odor: A pungent odor.

Odor threshold: No data available.

pH: 4.73 (1% dispersion)

Melting point/freezing point: No data available

Initial boiling point and boiling range: No data available

Flash point: 43°C (110°F).

Evaporation rate: No data available

Flammability: Flammable liquids

Upper/lower flammability or explosive limits: No data available.

Vapor pressure: 4.2×10^{-57} TORR @25°C (77°F)

Vapor density: No data available.

Specific gravity (water=1): 1.069 @ 20°C (68°F).

Solubility: 0.1g/L in water (not very soluble).

Partition coefficient: n-octanol/water: No data available.

Auto-ignition temperature: No data available.

Decomposition temperature: No data available.

Viscosity: No data available.

Note These physical data are typical values based on material test but may vary from sample to sample. Typical values should not construed as a guaranteed analysis and any specific lot or as a specification.

[10. Stability and reactivity]

Reactivity: Product will not undergo polymerization.

Chemical Stability: This product is stable material under normal conditions of storage and handling. Avoid contact with ignition sources.

Possibility of hazardous reactions: Will not occur hazardous polymerization.

Conditions to avoid: High temperatures and excess moisture. Do not store for prolonged periods in direct sunlight.

Incompatible Materials: Avoid strong oxidizing acids and bases.

Hazardous decomposition products: Product can decompose at high temperatures forming toxic gases.

[11. Toxicological information]

Exposure routes: Eyes, skin, ingestion & inhalation.

Toxicity:

Acute toxicity:

Acute Oral (female rat): LD₅₀ = 1080 mg/kg b.w.

Acute Oral (male rat): LD₅₀ = 2330 mg/kg b.w.

Acute dermal (rabbits): LD₅₀ >2000 mg/kg b.w.

Acute inhalation (Rats): LC₅₀: >5.0 mg/L.

Skin irritation (rabbits): Not irritating to the rabbit.

Eye irritation (rabbits): Irritating to eyes.

Sensitization (mice): Skin sensitization to guinea pig.

Chronic Toxicity: No data available

Carcinogenicity: No data available

Reproductive and Developmental Toxicity: No data available

Developmental target/critical effect: No data available

Lowest relevant developmental NOAEL: No data available

Neurotoxicity: No data available

Germ cell mutagenicity: No data available

[12. Ecological information]

Ecotoxicity: (Propiconazole technical)

Fish - Acute 96 hour LC₅₀ (mg/l): 12.15 mg/l for rainbow trout

Toxicity to daphnia and other aquatic invertebrates EC₅₀: 42.85 mg/l for daphnia magna (48 hr).

Eco-chronic toxicity: N/A.

Avian toxicity: (Propiconazole technical)

Practically non-toxic.

Acute oral LD₅₀: 2223 mg/kg (Japanese quail) Oral LD₅₀: (Mallard duck): > 2510 mg/kg

Oral LD₅₀: (Bobwhite quail): 2825 mg/kg Oral LD₅₀: (Pekin duck): >6000 mg/kg

Other non-target organism toxicity: (Propiconazole technical)

Bees: LC₅₀/EC₅₀>100 ug/bee

Invertebrates (Water Flea) LC₅₀/EC₅₀ 3.2-10.2 ppm

Worms: Low toxicity to Eisenia foetida. LC₅₀ (7 days): 640 mg/kg. LC₅₀ (14 days): 608 mg/kg.

Persistence and degradability: Not persistent in soil.

Bioaccumulative potential: Low bioaccumulation potential.

Mobility in soil: It has a low potential for leaching into groundwater or moving to deeper soil layers.

Other adverse effects:

Stable in water. Sinks in water (after 24 hr)

Environmental Precautions: Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the Environment.

[13. Disposal considerations]

Dispose of product containers, water containers, and residues according to local regulations.

Pesticide disposal:

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Pesticide spray mixture or rinsate that cannot be used should be disposed of in a landfill approved for pesticides. Improper disposal of excess pesticide spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal:

Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

[14. Transport information]**US DOT (ground) PROPER SHIPPING DESCRIPTION:**

UN1993, Flammable liquid, N.O.S., (N-butyl alcohol), 3, III

IATA (air) PROPER SHIPPING Description (CARGO AIRCRAFT ONLY):

UN1993, Flammable liquid, N.O.S., (N-butyl alcohol), 3, III

Use packing instruction 310. The maximum net quantity per package is 58 gallons (220 L)

IMO (water) PROPER SHIPPING DESCRIPTION:

UN1993, Flammable liquid, N.O.S., (N-butyl alcohol), 3, III

Use packing instructions P001 and LP01.

[15. Regulatory information]**FIFRA**

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. The following is the hazard information as required on the pesticide label:

EPA Reg. No.: 84229-11

EPA Signal word: Warning

PRECAUTIONARY STATEMENTS**HAZARDS TO HUMANS AND DOMESTIC ANIMALS****WARNING**

Causes substantial but temporary eye injury. Do not get in eyes, on skin, or on clothing. Harmful if swallowed, inhaled, or absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid breathing spray mist.

ENVIRONMENTAL HAZARDS

This product is toxic to fish and shrimp. Do not apply directly to water, or to areas where surface water is present, or to inter-tidal areas, below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwater or rinsate.

US Federal Regulations

RCRA STATUS: Not regulated under RCRA

CERCLA; calcium dodecylbenzene sulfonate 1000 lbs (454 kgs) Tert-butyl alcohol 5000 lbs (2270 kg).

SARA 311/312 HAZARD NOTIFICATION/REPORTING

IMMEDIATE Y FIRE Y SUDDEN RELEASE OF PRESSURE N
DELAYED Y REACTIVE N

SARA TITLE III: None.

SECTION 302 EXTREMELY HAZARDOUS: None.

SECTION 311/312 HAZARD CATEGORIES: None.

SECTION 313 TOXIC CHEMICALS: Propiconazole, N-butyl alcohol.

RIGHT TO KNOW: Propylene glycol and calcium dodecylbenzene sulfonate are listed in CA, I, MA, MN, NJ, PA and RI.

[16. Other information]

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. Tide International USA, Inc. assumes no responsibility for results obtained or for incidental or consequential damages arising from the use of these data.