

# SAFETY DATA SHEET



## PROTHIOCONAZOLE TECHNICAL FUNGICIDE

Version 5.0 / USA  
102000014040

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Revision Date: 09/19/2023  
Print Date: 09/20/2023

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### Product identifier

Trade name	PROTHIOCONAZOLE TECHNICAL FUNGICIDE
Product code (UVP)	05958058
SDS Number	102000014040
EPA Registration No.	264-824

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

Use	Fungicide
Restrictions on use	See product label for restrictions.
Information on supplier	
Supplier	Bayer CropScience LP 800 North Lindbergh Blvd. St. Louis, MO 63167 USA
Responsible Department	Email: SDSINFO.BCS-NA@bayer.com

#### Emergency telephone no.

Emergency Telephone Number (24hr/ 7 days)	1-800-334-7577
Product Information Telephone Number	1-866-99BAYER (1-866-992-2937)

### SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200  
Combustible dust

Labelling in accordance with regulation HCS 29CFR §1910.1200  
Signal word: Warning

#### Hazard statements

May form combustible dust concentrations in air.  
Conduct Dust Hazard Assessment (DHA).

#### Precautionary statements

Protect from sunlight.

Hazards Not Otherwise Classified (HNOC)

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No health hazards not otherwise classified.  
No physical hazards not otherwise classified.

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Prothioconazole	178928-70-6	97.2

### SECTION 4: FIRST AID MEASURES

#### Description of first aid measures

<b>General advice</b>	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
<b>Inhalation</b>	Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.
<b>Skin contact</b>	Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.
<b>Eye contact</b>	Hold eye 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 eye. Call a physician or poison control center immediately.
<b>Ingestion</b>	Call a physician or poison control center immediately. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Rinse out mouth and give water in small sips to drink. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

#### Most important symptoms and effects, both acute and delayed

**Symptoms** To date no symptoms are known.

#### Indication of any immediate medical attention and special treatment needed

**Treatment** Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

### SECTION 5: FIREFIGHTING MEASURES

#### Extinguishing media

<b>Suitable</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
<b>Unsuitable</b>	High volume water jet

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<b>Special hazards arising from the substance or mixture</b>	In the event of fire the following may be released: Hydrogen chloride (HCl), Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Nitrogen oxides (NO <sub>x</sub> ), Sulphur oxides
<b>Advice for firefighters</b>	
<b>Special protective equipment for firefighters</b>	In the event of fire and/or explosion do not breathe fumes. Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.
<b>Further information</b>	Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

### Specific hazards from the substance or mixture which can increase the fire

<b>Flash point</b>	Not applicable
<b>Auto-ignition temperature</b>	No data available
<b>Lower explosion limit</b>	No data available
<b>Upper explosion limit</b>	No data available
<b>Explosivity</b>	Not explosive 92/69/EEC, A.14 / OECD 113
<b>Dust explosion class</b>	capable of causing a dust explosion (modified Hartmann tube)

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

<b>Precautions</b>	Keep unauthorized people away. Remove all sources of ignition. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.
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### Methods and materials for containment and cleaning up

<b>Methods for cleaning up</b>	Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.
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<b>Additional advice</b>	Use personal protective equipment. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal.
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<b>Reference to other sections</b>	Information regarding safe handling, see section 7. Information regarding personal protective equipment, see section 8. Information regarding waste disposal, see section 13.
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## SECTION 7: HANDLING AND STORAGE

### Precautions for safe handling

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<b>Advice on safe handling</b>	Avoid dust formation. Use only in area provided with appropriate exhaust ventilation. Handle and open container in a manner as to prevent spillage.
<b>Advice on protection against fire and explosion</b>	Keep away from heat and sources of ignition. Dust may form explosive mixture in air.
<b>Hygiene measures</b>	Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.
<b>Conditions for safe storage, including any incompatibilities</b>	
<b>Requirements for storage areas and containers</b>	Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area. Keep away from direct sunlight.
<b>Advice on common storage</b>	Keep away from food, drink and animal feedingstuffs.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Prothioconazole	178928-70-6	1.4 mg/m <sup>3</sup> (SK-ABS)		OES BCS*

\*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

### Exposure controls

<b>Respiratory protection</b>	When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.
<b>Hand protection</b>	Chemical-resistant gloves (barrier laminate, butyl rubber, nitrile rubber or Viton)
<b>Eye protection</b>	Tightly fitting safety goggles
<b>Skin and body protection</b>	Wear long-sleeved shirt and long pants and shoes plus socks.
<b>General protective measures</b>	Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

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### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Information on basic physical and chemical properties

<b>Form</b>	powder
<b>Colour</b>	white to beige
<b>Odour</b>	weak, characteristic
<b>Odour Threshold</b>	No data available
<b>pH</b>	No data available
<b>Melting point/range</b>	139.1 - 144.5 °C / 282.38 - 292.1 °F
<b>Boiling Point</b>	Not applicable
<b>Flash point</b>	Not applicable
<b>Flammability</b>	The product is not highly flammable.
<b>Auto-ignition temperature</b>	No data available
<b>Thermal decomposition</b>	from 207 °C Heating rate:3 K/minDetermined in glass.Exothermic decomposition. from 205 °C Heating rate:3 K/min Decomposition energy:1,100 kJ/kg,Exothermic decomposition. from 155 °C Heating rate:0.05 K/minExothermic decomposition. from 153 °C Heating rate:0.05 K/minExothermic decomposition.
<b>Ignition temperature</b>	The product is not self-ignitable.
<b>Minimum ignition energy</b>	> 11 - 23 mJ
<b>Self-accelarating decomposition temperature (SADT)</b>	No data available
<b>Upper explosion limit</b>	No data available
<b>Lower explosion limit</b>	No data available
<b>Dust explosion Kst number</b>	220 m.bar/s
<b>Dust explosion class</b>	capable of causing a dust explosion (modified Hartmann tube)
<b>Vapour pressure</b>	Not applicable
<b>Evaporation rate</b>	Not applicable
<b>Relative vapour density</b>	Not applicable
<b>Relative density</b>	No data available
<b>Density</b>	No data available
<b>Bulk density</b>	1.36 g/cm <sup>3</sup>
<b>Solubility in other solvents</b>	<0.1 g/l

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	medium : n-heptane
	87 g/l medium : isopropanol
	8 g/l medium : Xylene
	>250 g/l medium : Acetone
<b>Water solubility</b>	0.005 g/l (20 °C) measured at pH 4 0.3 g/l (20 °C) measured at pH 8 2 g/l (20 °C) measured at pH 9
<b>Partition coefficient: n-octanol/water</b>	log Pow: 4.16 (20 °C) (pH 5.4) log Pow: 2 (20 °C) (pH 9)
<b>Partition coefficient: n-octanol/water</b>	Prothioconazole: log Pow: 3.82 (20 °C) (pH 7)
<b>Viscosity, dynamic</b>	No data available
<b>Viscosity, kinematic</b>	No data available
<b>Surface tension</b>	67 mN/m (20 °C) saturated aqueous solution
<b>Impact sensitivity</b>	Not impact sensitive.
<b>Burning number</b>	CN1 Does not catch fire. (20 °C)
<b>Oxidizing properties</b>	No oxidizing properties
<b>Explosivity</b>	Not explosive 92/69/EEC, A.14 / OECD 113
<b>Other information</b>	Further safety related physical-chemical data are not known.

## SECTION 10: STABILITY AND REACTIVITY

<b>Reactivity</b>	Stable under normal conditions.
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Possibility of hazardous reactions</b>	No hazardous reactions known. Incapable of deflagration

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<b>Conditions to avoid</b>	Heat, flames and sparks. Extremes of temperature and direct sunlight.
<b>Incompatible materials</b>	No incompatible materials known.
<b>Hazardous decomposition products</b>	No decomposition products expected under normal conditions of use.

### SECTION 11: TOXICOLOGICAL INFORMATION

<b>Exposure routes</b>	Eye contact, Inhalation, Skin contact, Ingestion
<b>Immediate Effects</b>	
<b>Eye</b>	May cause temporary eye irritation.
<b>Skin</b>	May be harmful in contact with skin.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Inhalation</b>	Harmful if inhaled.
<b>Information on toxicological effects</b>	
<b>Acute oral toxicity</b>	LD50 (Rat) > 6,200 mg/kg
<b>Acute inhalation toxicity</b>	LC50 (Rat) > 4.990 mg/l Exposure time: 4 h Determined in the form of a respirable fine dust. Highest attainable concentration.
<b>Acute dermal toxicity</b>	LD50 (Rat) > 2,000 mg/kg No deaths
<b>Skin corrosion/irritation</b>	No skin irritation (Rabbit)
<b>Serious eye damage/eye irritation</b>	No eye irritation (Rabbit)
<b>Respiratory or skin sensitisation</b>	Skin: Non-sensitizing. (Guinea pig) OECD Test Guideline 406, Magnusson & Kligman test Skin: Non-sensitizing. (Mouse) OECD Test Guideline 429, local lymph node assay (LLNA)

#### Assessment STOT Specific target organ toxicity – single exposure

Prothioconazole: Based on available data, the classification criteria are not met.

#### Assessment STOT Specific target organ toxicity – repeated exposure

Prothioconazole did not cause specific target organ toxicity in experimental animal studies.

#### Assessment mutagenicity

Prothioconazole was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

#### Assessment carcinogenicity

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Prothioconazole was not carcinogenic in lifetime feeding studies in rats and mice.

### ACGIH

None.

### NTP

None.

### IARC

None.

### Assessment toxicity to reproduction

Prothioconazole caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Prothioconazole is related to parental toxicity.

### Assessment developmental toxicity

Prothioconazole caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Prothioconazole are related to maternal toxicity.

### Aspiration hazard

Based on available data, the classification criteria are not met.

### Further information

No further toxicological information is available.

## SECTION 12: ECOLOGICAL INFORMATION

<b>Toxicity to fish</b>	LC50 (Oncorhynchus mykiss (rainbow trout)) 1.83 mg/l Exposure time: 96 h
<b>Toxicity to aquatic invertebrates</b>	EC50 (Daphnia magna (Water flea)) 1.3 mg/l Exposure time: 48 h
<b>Toxicity to aquatic plants</b>	ErC50 (Raphidocelis subcapitata (freshwater green alga)) 2.18 mg/l Growth rate; Exposure time: 72 h ErC50 (Skeletonema costatum) 0.03278 mg/l Growth rate; Exposure time: 72 h EC10 (Skeletonema costatum) 0.01427 mg/l Growth rate; Exposure time: 72 h
<b>Toxicity to bacteria</b>	No data available
<b>Biodegradability</b>	Prothioconazole: Not rapidly biodegradable
<b>Koc</b>	Prothioconazole: Koc: 1765
<b>Bioaccumulation</b>	Prothioconazole: Bioconcentration factor (BCF) 19



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	Does not bioaccumulate.
<b>Mobility in soil</b>	Prothioconazole: Slightly mobile in soils
<b>Results of PBT and vPvB assessment</b>	
<b>PBT and vPvB assessment</b>	Prothioconazole: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).
<b>Additional ecological information</b>	No other effects to be mentioned.
<b>Environmental precautions</b>	Do not allow to get into surface water, drains and ground water. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product as specified on the label.

## SECTION 13: DISPOSAL CONSIDERATIONS

### Waste treatment methods

<b>Product</b>	Dispose in accordance with all local, state/provincial and federal regulations. Follow container label instructions for disposal of wastes generated during use in compliance with the product label.
<b>Contaminated packaging</b>	Do not re-use empty packagings. Consult state and local regulations regarding the proper disposal of container. Follow advice on product label and/or leaflet.
<b>RCRA Information</b>	Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

## SECTION 14: TRANSPORT INFORMATION

<b>49CFR</b>	Not dangerous goods / not hazardous material
<b>IMDG</b>	
UN number	<b>3077</b>
Class	9
Packaging group	III
Marine pollutant	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (PROTHIOCONAZOLE)
<b>IATA</b>	
UN number	<b>3077</b>

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Class	9
Packaging group	III
Environm. Hazardous Mark	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (PROTHIOCONAZOLE )

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

### SECTION 15: REGULATORY INFORMATION

**EPA Registration No.** 264-824

**US Federal Regulations**

**TSCA list**

Not applicable.

**US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)**

No export notification needs to be made.

**SARA Title III - Section 302 - Notification and Information**

Not applicable.

**SARA Title III - Section 313 - Toxic Chemical Release Reporting**

None.

**US States Regulatory Reporting**

**CA Prop65**

This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

**US State Right-To-Know Ingredients**

None.

**Environmental**

**CERCLA**

None.

**Clean Water Section 307(a)(1)**

None.

**Safe Drinking Water Act Maximum Contaminant Levels**

None.

#### **EPA/FIFRA Information:**

This chemical is a pesticide product regulated by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification

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criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

**Signal word:** Caution!

**Hazard statements:** Harmful if swallowed, inhaled or absorbed through the skin.  
Causes moderate eye irritation.

### SECTION 16: OTHER INFORMATION

#### Abbreviations and acronyms

49CFR	Code of Federal Regulations, Title 49
ACGIH	US. ACGIH Threshold Limit Values
ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
N.O.S.	Not otherwise specified
NTP	US. National Toxicology Program (NTP) Report on Carcinogens
OECD	Organization for Economic Co-operation and Development
TDG	Transportation of Dangerous Goods
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

#### NFPA 704 (National Fire Protection Association):

Health - 1      Flammability - 1      Instability - 0      Others - none

#### HMIS (Hazardous Materials Identification System, based on the Fourth Edition Ratings Guide)

Health - 1      Flammability - 1      Physical Hazard - 0      PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard,  
\* = chronic health hazard

**Reason for Revision:** The following sections have been revised: Section 11: Toxicological Information. Section 15: Regulatory information. Section 16: Other Information. Reviewed and updated for general editorial purposes.

**Revision Date:** 09/19/2023

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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