

# SAFETY DATA SHEET



## PROVOST® OPTI

Version 2.0 / USA  
102000030294

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Revision Date: 09/05/2019  
Print Date: 09/09/2019

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

#### Product identifier

**Trade name** PROVOST® OPTI

**Product code (UVP)** 84905259

**SDS Number** 102000030294

#### 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  
2 T.W. Alexander Drive  
Research Triangle PK, NC 27709  
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

Reproductive toxicity: Category 2

Eye irritation: Category 2B

Acute toxicity(Inhalation): Category 4

#### Labelling in accordance with regulation HCS 29CFR §1910.1200



**Signal word:** Warning

#### Hazard statements

Suspected of damaging fertility or the unborn child.

Harmful if inhaled.

Causes eye irritation.

#### Precautionary statements

Obtain special instructions before use.

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Do not handle until all safety precautions have been read and understood.  
Wear protective gloves/ protective clothing/ eye protection/ face protection.  
Avoid breathing mist/ spray.  
Use only outdoors or in a well-ventilated area.  
Wash hands thoroughly after handling.  
IF exposed or concerned: Get medical advice/ attention.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
Call a POISON CENTER/doctor/physician if you feel unwell.  
IF IN EYES: 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.  
Store locked up.  
Protect from sunlight.  
Dispose of contents/container in accordance with local regulation.

### Hazards Not Otherwise Classified (HNOC)

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

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Prothioconazole	178928-70-6	12.9
Tebuconazole	107534-96-3	25.8
Docusate sodium	577-11-7	1.4

## 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.

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### 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. There is no specific antidote.

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## SECTION 5: FIREFIGHTING MEASURES

### Extinguishing media

**|| Suitable** Water, Foam, Carbon dioxide (CO<sub>2</sub>), Dry chemical

**|| Unsuitable** High volume water jet

**Special hazards arising from the substance or mixture** Dangerous gases are evolved in the event of a fire.

### Advice for firefighters

**Special protective equipment for firefighters** Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

**Further information** 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.

**Flash point** No data available

**Auto-ignition temperature** No data available

**Lower explosion limit** No data available

**Upper explosion limit** No data available

**Explosivity** Not applicable

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Precautions** Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

### Methods and materials for containment and cleaning up

**Methods for cleaning up** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. 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. Do not allow product to contact non-target plants.
<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.

## SECTION 7: HANDLING AND STORAGE

### Precautions for safe handling

**Advice on safe handling** Handle and open container in a manner as to prevent spillage. Use only in area provided with appropriate exhaust ventilation.

**Hygiene measures** 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.

### Conditions for safe storage, including any incompatibilities

**Requirements for storage areas and containers** 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.

## 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*
Tebuconazole	107534-96-3	0.2 mg/m <sup>3</sup> (SK-ABS)		OES BCS*

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

### Exposure controls

#### Personal protective equipment

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

#### Respiratory protection

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.

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<b>Hand protection</b>	Chemical resistant nitrile rubber gloves
<b>Eye protection</b>	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

<b>Appearance</b>	white to beige
<b>Physical State</b>	Liquid
<b>Odor</b>	characteristic
<b>Odour Threshold</b>	No data available
<b>pH</b>	5.5 - 7.0 (100 %) (23 °C)
<b>Vapor Pressure</b>	No data available
<b>Vapor Density (Air = 1)</b>	No data available
<b>Density</b>	1.14 g/cm <sup>3</sup> (20 °C)
<b>Evaporation rate</b>	No data available
<b>Boiling Point</b>	No data available
<b>Melting / Freezing Point</b>	No data available
<b>Water solubility</b>	dispersible
<b>Minimum Ignition Energy</b>	Not applicable
<b>Decomposition temperature</b>	Not applicable
<b>Partition coefficient: n-octanol/water</b>	Not applicable
<b>Viscosity</b>	250 - 550 mPa.s (20 °C) Velocity gradient 20 /s
<b>Flash point</b>	No data available
<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 applicable
<b>Other information</b>	Further safety related physical-chemical data are not known.

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### SECTION 10: STABILITY AND REACTIVITY

#### Reactivity

<b>Thermal decomposition</b>	Not applicable
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Extremes of temperature and direct sunlight.
<b>Incompatible materials</b>	No data available
<b>Hazardous decomposition products</b>	No decomposition products expected under normal conditions of use.

### SECTION 11: TOXICOLOGICAL INFORMATION

<b>Exposure routes</b>	Ingestion, Inhalation, Eye contact, Skin Absorption
<b>Immediate Effects</b>	
<b>Eye</b>	Moderate eye irritation.
<b>Skin</b>	May cause slight irritation. Harmful if absorbed through skin.
<b>Ingestion</b>	Harmful if swallowed.
<b>Inhalation</b>	Harmful if inhaled.
<b>Information on toxicological effects</b>	
<b>Acute oral toxicity</b>	LD50 (female Rat) > 2,000 mg/kg
<b>Acute inhalation toxicity</b>	LC50 (Rat) > 2.0 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. highest concentration tested
<b>Acute dermal toxicity</b>	LD50 (Rat) > 2,000 mg/kg
<b>Skin corrosion/irritation</b>	slight irritation (Rabbit)
<b>Serious eye damage/eye irritation</b>	Minimally irritating. (Rabbit)
<b>Respiratory or skin sensitisation</b>	Skin: Non-sensitizing. (Guinea pig)

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

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

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in vitro and in vivo tests.

Tebuconazole was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

### Assessment carcinogenicity

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

Tebuconazole caused at high dose levels an increased incidence of tumours in mice in the following organ(s): Liver. The mechanism of tumour formation is not considered to be relevant to man.

### ACGIH

None.

### NTP

None.

### IARC

None.

### OSHA

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.

Tebuconazole 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 Tebuconazole 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.

Tebuconazole caused developmental toxicity only at dose levels toxic to the dams. Tebuconazole caused an increased incidence of post implantation losses, an increased incidence of non-specific malformations.

### Further information

Acute toxicity studies have been bridged from a similar formulation(s).

The non-acute information pertains to the active ingredient(s).

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## SECTION 12: ECOLOGICAL INFORMATION

### Toxicity to fish

LC50 (Oncorhynchus mykiss (rainbow trout)) 1.83 mg/l

Exposure time: 96 h

The value mentioned relates to the active ingredient prothioconazole.

LC50 (Oncorhynchus mykiss (rainbow trout)) 4.4 mg/l

Exposure time: 96 h

The value mentioned relates to the active ingredient tebuconazole.

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### Toxicity to aquatic invertebrates

EC50 (*Daphnia magna* (Water flea)) 1.3 mg/l  
Exposure time: 48 h  
The value mentioned relates to the active ingredient prothioconazole.

EC50 (*Daphnia magna* (Water flea)) 2.79 mg/l  
Exposure time: 48 h  
The value mentioned relates to the active ingredient tebuconazole.

### Chronic toxicity to aquatic invertebrates

NOEC (*Daphnia* (water flea)): 0.01 mg/l  
Exposure time: 21 d  
The value mentioned relates to the active ingredient tebuconazole.

### Toxicity to aquatic plants

EC50 (*Raphidocelis subcapitata* (freshwater green alga)) 3.8 mg/l  
Growth rate; Exposure time: 72 h  
The value mentioned relates to the active ingredient tebuconazole.

(*Lemna gibba* (gibbous duckweed)) 0.237 mg/l  
Growth rate; Exposure time: 7 d  
The value mentioned relates to the active ingredient tebuconazole.

IC50 (*Raphidocelis subcapitata* (freshwater green alga)) 2.18 mg/l  
Growth rate; Exposure time: 72 h  
The value mentioned relates to the active ingredient prothioconazole.

ErC50 (*Skeletonema costatum*) 0.03278 mg/l  
Exposure time: 72 h  
The value mentioned relates to the active ingredient prothioconazole.

EC10 (*Skeletonema costatum*) 0.01427 mg/l  
Growth rate; Exposure time: 72 h  
The value mentioned relates to the active ingredient prothioconazole.

### Biodegradability

Prothioconazole:  
Not rapidly biodegradable  
Tebuconazole:  
Not rapidly biodegradable

### Koc

Prothioconazole: Koc: 1765  
Tebuconazole: Koc: 769

### Bioaccumulation

Prothioconazole: Bioconcentration factor (BCF) 19  
Does not bioaccumulate.  
Tebuconazole: Bioconcentration factor (BCF) 35 - 59  
Does not bioaccumulate.

### Mobility in soil

Prothioconazole: Slightly mobile in soils  
Tebuconazole: Slightly mobile in soils

### Additional ecological information

No other effects to be mentioned.

### Environmental precautions

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark.  
Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.  
Drift and runoff from treated areas may be hazardous to aquatic

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organisms in adjacent sites.  
Apply this product as specified on the label.

### SECTION 13: DISPOSAL CONSIDERATIONS

#### Waste treatment methods

<b>Product</b>	Pesticide, spray mixture or rinse water that cannot be used according to label instructions may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food, or feed by disposal.
<b>Contaminated packaging</b>	Do not re-use empty containers. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning. If burned, stay out of smoke. 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

**49CFR** Not dangerous goods / not hazardous material

#### IMDG

UN number	<b>3082</b>
Class	9
Packaging group	III
Marine pollutant	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TEBUCONAZOLE, PROTHIOCONAZOLE SOLUTION)

#### IATA

UN number	<b>3082</b>
Class	9
Packaging group	III
Environm. Hazardous Mark	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TEBUCONAZOLE, PROTHIOCONAZOLE SOLUTION )

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.

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### SECTION 15: REGULATORY INFORMATION

#### US Federal Regulations

##### TSCA list

Water	7732-18-5
Glycerine	56-81-5
Docusate sodium	577-11-7
Polyethylene-polypropylene copolymer	9003-11-6

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

Not applicable.

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

None.

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

Magnesium nitrate	10377-60-3	10000lbs
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##### 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

Glycerine	56-81-5	MN, RI
1,2-Propanediol	57-55-6	MN, RI
Glycerine	56-81-5	MN, RI
Magnesium nitrate	10377-60-3	CT, NJ, RI
Sodium hydroxide	1310-73-2	CA, CT, IL, MN, NJ, RI
Glutaral	111-30-8	CA, MN, RI

##### EPA/FIFRA Information:

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 required on the pesticide label:

**Signal word:** Caution!

**Hazard statements:** Harmful if swallowed, inhaled or absorbed through the skin.  
Moderate eye irritation.  
Avoid contact with skin, eyes and clothing.  
Avoid inhalation of vapour or mist.  
Wash thoroughly with soap and water after handling.

### SECTION 16: OTHER INFORMATION

#### Abbreviations and acronyms

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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 - 2      Flammability - 0      Instability - 0      Others - none

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

Health - 2      Flammability - 0      Physical Hazard - 0      PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

**Reason for Revision:** The following sections have been revised: Section 2: Hazards Identification. Section 7: Handling and Storage. Section 10. Stability and reactivity. Reviewed and updated for general editorial purposes.

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