

SAFETY DATA SHEET



PROSARO® 421 SC FUNGICIDE

Version 3.0 / USA
102000033570

1/12
Revision Date: 10/06/2023
Print Date: 10/12/2023

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

Product identifier

Trade name PROSARO® 421 SC FUNGICIDE
Product code (UVP) 85400797
SDS Number 102000033570
EPA Registration No. 264-862

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

Reproductive toxicity: Category 2
Acute toxicity(Inhalation): Category 4

Labelling in accordance with regulation HCS 29CFR §1910.1200



Signal word: Warning

Hazard statements

SAFETY DATA SHEET



PROSARO® 421 SC FUNGICIDE

Version 3.0 / USA
102000033570

2/12
Revision Date: 10/06/2023
Print Date: 10/12/2023

Suspected of damaging fertility or the unborn child.
Harmful if inhaled.

Precautionary statements

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Avoid breathing mist/ vapours.
Use only outdoors or in a well-ventilated area.
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.
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	19.0
Tebuconazole	107534-96-3	19.0
Docusate sodium	577-11-7	1.75

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
Inhalation	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.
Skin contact	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.
Eye contact	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.

SAFETY DATA SHEET



PROSARO® 421 SC FUNGICIDE

Version 3.0 / USA
102000033570

3/12
Revision Date: 10/06/2023
Print Date: 10/12/2023

Ingestion 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

Suitable Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable High volume water jet

Special hazards arising from the substance or mixture In the event of fire the following may be released: Hydrogen chloride (HCl), Hydrogen cyanide (hydrocyanic acid), Sulphur oxides, Carbon monoxide (CO), Carbon dioxide (CO₂), Nitrogen oxides (NO_x)

Advice for firefighters

Special protective equipment for firefighters 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.

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.

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

Flash point > 100 °C / > 212 °F
Not relevant; aqueous solution

Auto-ignition temperature No data available

Lower explosion limit No data available

Upper explosion limit No data available

Explosivity Not applicable

SAFETY DATA SHEET



PROSARO® 421 SC FUNGICIDE

Version 3.0 / USA
102000033570

4/12
Revision Date: 10/06/2023
Print Date: 10/12/2023

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.

Additional advice Use personal protective equipment. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal.

Reference to other sections 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. Protect from freezing. Keep away from direct sunlight.

Advice on common storage 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 ³		OES BCS*

SAFETY DATA SHEET



PROSARO® 421 SC FUNGICIDE

Version 3.0 / USA
102000033570

5/12
Revision Date: 10/06/2023
Print Date: 10/12/2023

		(SK-ABS)		
Tebuconazole	107534-96-3	0.2 mg/m ³ (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.
Hand protection	Chemical-resistant gloves (barrier laminate, butyl rubber, nitrile rubber or Viton)
Eye protection	Tightly fitting safety goggles
Skin and body protection	Wear long-sleeved shirt and long pants and shoes plus socks.
General protective measures	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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Form	Liquid
Colour	white to beige
Odour	characteristic
Odour Threshold	No data available
pH	5.5 - 7.0 (100 %) (23 °C)
Melting point/range	No data available
Boiling Point	No data available
Flash point	> 100 °C / > 212 °F Not relevant; aqueous solution
Flammability	No data available
Auto-ignition temperature	No data available
Thermal decomposition	Not applicable
Minimum ignition energy	Not applicable

SAFETY DATA SHEET



PROSARO® 421 SC FUNGICIDE

Version 3.0 / USA
102000033570

6/12
Revision Date: 10/06/2023
Print Date: 10/12/2023

Self-accelarating decomposition temperature (SADT)	No data available
Upper explosion limit	No data available
Lower explosion limit	No data available
Vapour pressure	No data available
Evaporation rate	No data available
Relative vapour density	No data available
Relative density	No data available
Density	ca. 1.14 g/cm ³ (20 °C)
Water solubility	soluble
Partition coefficient: n-octanol/water	Prothioconazole: log Pow: 3.82 (20 °C) (pH 7) Tebuconazole: log Pow: 3.7
Viscosity, dynamic	250 - 550 mPa.s (20 °C) Velocity gradient 20 /s
Viscosity, kinematic	No data available
Oxidizing properties	No data available
Explosivity	Not applicable
Other information	Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No hazardous reactions when stored and handled according to prescribed instructions.
Conditions to avoid	Extremes of temperature and direct sunlight. freezing
Incompatible materials	No incompatible materials known.
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SAFETY DATA SHEET



PROSARO® 421 SC FUNGICIDE

Version 3.0 / USA
102000033570

7/12
Revision Date: 10/06/2023
Print Date: 10/12/2023

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes Ingestion, Inhalation, Eye contact, Skin contact

Immediate Effects

Eye May cause temporary eye irritation.

Skin May be harmful in contact with skin.

Ingestion May be harmful if swallowed.

Inhalation Harmful if inhaled.

Information on toxicological effects

Acute oral toxicity LD50 (Rat) > 2,000 mg/kg

Acute inhalation toxicity LC50 (Rat) > 2.18 mg/l
Exposure time: 4 h
Determined in the form of liquid aerosol.
highest concentration tested
No deaths

Acute dermal toxicity LD50 (Rat) > 5,050 mg/kg

Skin corrosion/irritation No skin irritation (Rabbit)

Serious eye damage/eye irritation Minimally irritating. (Rabbit)

Respiratory or skin sensitisation Skin: Non-sensitizing. (Guinea pig)

Assessment STOT Specific target organ toxicity – single exposure

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

Tebuconazole: 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.

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 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.

SAFETY DATA SHEET



PROSARO® 421 SC FUNGICIDE

Version 3.0 / USA
102000033570

8/12
Revision Date: 10/06/2023
Print Date: 10/12/2023

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.

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.

Aspiration hazard

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

Further information

Only acute toxicity studies have been performed on the formulated product.
The non-acute information pertains to the active ingredient(s).

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.

LC50 (Lepomis macrochirus (Bluegill sunfish)) 5.7 mg/l

Exposure time: 96 h

The value mentioned relates to the active ingredient tebuconazole.

Toxicity to aquatic invertebrates

LC50 (Daphnia magna (Water flea)) 1.3 mg/l

Exposure time: 48 h

The value mentioned relates to the active ingredient prothioconazole.

LC50 (Daphnia magna (Water flea)) 4.2 mg/l

Exposure time: 48 h

The value mentioned relates to the active ingredient tebuconazole.

SAFETY DATA SHEET



PROSARO® 421 SC FUNGICIDE

Version 3.0 / USA
102000033570

9/12
Revision Date: 10/06/2023
Print Date: 10/12/2023

Toxicity to aquatic plants	EC50 (Raphidocelis subcapitata (freshwater green alga)) 3.8 mg/l Exposure time: 72 h The value mentioned relates to the active ingredient tebuconazole. 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
Results of PBT and vPvB assessment	
PBT and vPvB assessment	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). Tebuconazole: 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).
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 organisms in adjacent sites. Apply this product as specified on the label.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

SAFETY DATA SHEET



PROSARO® 421 SC FUNGICIDE

Version 3.0 / USA
102000033570

10/12
Revision Date: 10/06/2023
Print Date: 10/12/2023

Product	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. Dispose in accordance with all local, state/provincial and federal regulations.
Contaminated packaging	Consult state and local regulations regarding the proper disposal of container. Follow advice on product label and/or leaflet.
RCRA Information	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	3082
Class	9
Packaging group	III
Marine pollutant	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TEBUCONAZOLE, PROTHIOCONAZOLE SOLUTION)

IATA

UN number	3082
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.

Freight Classification:	INSECTICIDES OR FUNGICIDES O/T POISON INSECTICIDES OR FUNGICIDES, N.O.I., OTHER THAN POISON
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SECTION 15: REGULATORY INFORMATION

EPA Registration No. 264-862

SAFETY DATA SHEET



PROSARO® 421 SC FUNGICIDE

Version 3.0 / USA
102000033570

11/12
Revision Date: 10/06/2023
Print Date: 10/12/2023

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)

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

Glycerine	56-81-5	MN, RI
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Environmental

CERCLA

None.

Clean Water Section 307(a)(1)

None.

Safe Drinking Water Act Maximum Contaminant Levels

Yes

Tebuconazole	107534-96-3
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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 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
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SAFETY DATA SHEET



PROSARO® 421 SC FUNGICIDE

Version 3.0 / USA
102000033570

12/12
Revision Date: 10/06/2023
Print Date: 10/12/2023

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 - 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: 10/06/2023

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

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