



PROSARO® 421 SC FUNGICIDE

Version 3 / USA
102000014618

1/12
Revision Date: 01/27/2014
Print Date: 03/13/2015

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

Product identifier

| | |
|----------------------|---------------------------|
| Trade name | PROSARO® 421 SC FUNGICIDE |
| Product code (UVP) | 06011496 |
| SDS Number | 102000014618 |
| 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 manufacturer

Bayer CropScience
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
United States

Emergency telephone no.

All Emergencies, 24hr/ 7 days 1-800-334-7577

| | |
|--|--------------------------------|
| Product Information Telephone No. | 1-866-99BAYER (1-866-992-2937) |
|--|--------------------------------|

SDS Information or Request SDSINFO.BCS-NA@bayer.com

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



Signal word: Warning

Hazard statements

Suspected of damaging fertility or the unborn child.
Causes eye irritation.
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.
Wash thoroughly after handling.



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Avoid breathing mist or vapours.
Use only outdoors or in a well-ventilated area.
IF exposed or concerned: Get medical advice/attention.
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.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER or doctor/ physician if you feel unwell.
Store locked up.
Dispose of contents/container in accordance with local regulation.

Other hazards

No other hazards known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Hazardous Component Name | CAS-No. | Average % by Weight |
|--------------------------------------|-------------|---------------------|
| Prothioconazole | 178928-70-6 | 19.00 |
| Tebuconazole | 107534-96-3 | 19.00 |
| Polyethylene-polypropylene copolymer | 9003-11-6 | 5.00 |
| Glycerine | 56-81-5 | 3.00 |

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. |
| Ingestion | Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended. |

Most important symptoms and effects, both acute and delayed

| | |
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| Symptoms | To date no symptoms are known. |
|-----------------|--------------------------------|



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Additional advice Use personal protective equipment. Do not allow to enter soil, waterways or waste water canal. Do not allow product to contact non-target plants.

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. Maintain exposure levels below the exposure limit through the use of general and local 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.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

| Components | CAS-No. | Control parameters | Update | Basis |
|-----------------|-------------|----------------------------------|---------|----------|
| Prothioconazole | 178928-70-6 | 1.4 mg/m ³ (TWA) | | OES BCS* |
| Prothioconazole | 178928-70-6 | 50 ug/m ³ (ST ESL) | 07 2011 | TX ESL |
| Prothioconazole | 178928-70-6 | 5 ug/m ³ (AN ESL) | 07 2011 | TX ESL |
| Tebuconazole | 107534-96-3 | 0.2 mg/m ³ (TWA) | | OES BCS* |
| Tebuconazole | 107534-96-3 | 5 ug/m ³ (AN ESL) | 07 2011 | TX ESL |
| Tebuconazole | 107534-96-3 | 50 ug/m ³ (ST ESL) | 07 2011 | TX ESL |



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| | | | | |
|---|-----------|---------------------|---------|----------|
| Polyethylene-polypropylene copolymer (Vapor.) | 9003-11-6 | 100 ug/m3 (AN ESL) | 02 2013 | TX ESL |
| Polyethylene-polypropylene copolymer (Vapor.) | 9003-11-6 | 1000 ug/m3 (ST ESL) | 02 2013 | TX ESL |
| Glycerine (Total dust.) | 56-81-5 | 15 mg/m3 (PEL) | 02 2006 | OSHA Z1 |
| Glycerine (Respirable fraction.) | 56-81-5 | 5 mg/m3 (PEL) | 02 2006 | OSHA Z1 |
| Glycerine (Respirable fraction.) | 56-81-5 | 5 mg/m3 (TWA) | 1989 | OSHA Z1A |
| Glycerine (Total dust.) | 56-81-5 | 10 mg/m3 (TWA) | 1989 | OSHA Z1A |
| Glycerine (Total dust and mist.) | 56-81-5 | 10 mg/m3 (TWA) | 06 2008 | TN OEL |
| Glycerine (Respirable fraction and dust or fume.) | 56-81-5 | 5 mg/m3 (TWA) | 06 2008 | TN OEL |
| Glycerine (Particulate.) | 56-81-5 | 50 ug/m3 (ST ESL) | 02 2013 | TX ESL |
| Glycerine (Particulate.) | 56-81-5 | 5 ug/m3 (AN ESL) | 02 2013 | TX ESL |
| Glycerine (Vapor.) | 56-81-5 | 100 ug/m3 (AN ESL) | 02 2013 | TX ESL |
| Glycerine (Vapor.) | 56-81-5 | 1000 ug/m3 (ST ESL) | 02 2013 | TX ESL |

*OES BCS: Internal Bayer CropScience "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 nitrile rubber gloves

Eye protection

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.



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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| Appearance | white to light beige |
| Physical State | liquid suspension |
| Odor | characteristic |
| Odour Threshold | no data available |
| pH | 7.5 - 7.9 (10 %) at 23 °C aqueous suspension |
| Vapor Pressure | no data available |
| Vapor Density (Air = 1) | no data available |
| Density | 1.11 g/cm ³ at 20 °C |
| Evaporation rate | no data available |
| Boiling Point | no data available |
| Melting / Freezing Point | no data available |
| Water solubility | soluble |
| Minimum Ignition Energy | not applicable |
| Decomposition temperature | not applicable |
| Partition coefficient: n-octanol/water | no data available |
| Viscosity | 500 - 1,500 mPa.s at 20 °C |
| Flash point | > 100 °C Not relevant; aqueous solution |
| Autoignition temperature | no data available |
| Lower explosion limit | no data available |
| Upper explosion limit | no data available |
| Explosivity | not applicable |



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SECTION 10: STABILITY AND REACTIVITY

Reactivity

| | |
|---|--|
| Thermal decomposition | not applicable |
| Chemical stability | Stable under normal conditions. |
| Possibility of hazardous reactions | No hazardous reactions when stored and handled according to prescribed instructions. |
| Conditions to avoid | Heat, flames and sparks. |
| Incompatible materials | no data available |
| Hazardous decomposition products | No decomposition products expected under normal conditions of use. |

SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| Exposure routes | Ingestion, Inhalation, Eye contact, Skin Absorption |
| Immediate Effects | |
| Eye | Moderate eye irritation. |
| Skin | May cause slight irritation. Harmful if absorbed through skin. |
| Ingestion | Harmful if swallowed. |
| Inhalation | Harmful if inhaled. |
| Information on toxicological effects | |
| Acute oral toxicity | LD50 (female rat) > 2,000 mg/kg |
| Acute inhalation toxicity | LC50 (rat) > 2.0 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. highest concentration tested No deaths LC50 (rat) > 8.0 mg/l Exposure time: 1 h Determined in the form of liquid aerosol. Extrapolated from the 4 hr LC50. |



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| Acute dermal toxicity | LD50 (rat) > 2,000 mg/kg |
| Skin irritation | Slight irritation (rabbit) |
| Eye irritation | Minimally irritating. (rabbit) |
| Sensitisation | Non-sensitizing. (guinea pig) |

Assessment repeated dose toxicity

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.

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



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Acute toxicity studies have been bridged from a similar formulation(s).
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 (Water flea (Daphnia magna)) 1.3 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient prothioconazole.

LC50 (Water flea (Daphnia magna)) 4.2 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient tebuconazole.

Toxicity to aquatic plants

EC50 (Selenastrum capricornutum) 2.18 mg/l
Exposure time: 72 h
The value mentioned relates to the active ingredient prothioconazole.

EC50 (Pseudokirchneriella subcapitata) 3.8 mg/l
Exposure time: 72 h
The value mentioned relates to the active ingredient tebuconazole.

Biodegradability

Prothioconazole: not rapidly biodegradable

Tebuconazole: not rapidly biodegradable

Koc

Prothioconazole: Koc:1765 log Koc: < 3

Tebuconazole: Koc:769

Bioaccumulation

Prothioconazole: Bioconcentration factor (BCF) 19
Does not bioaccumulate.

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



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| Mobility in soil | Prothioconazole: Slightly mobile in soils Tebuconazole: Slightly mobile in soils |
| 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

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.

Contaminated packaging Triple rinse 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.

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 |



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Glycerine

56-81-5

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

NFPA 704 (National Fire Protection Association):

Health - 2 Flammability - 1 Instability - 0 Others - none

HMIS (Hazardous Materials Identification System, based on the Third 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

Reason for Revision: Revised according to the current OSHA Hazard Communication Standard (29CFR1910.1200)

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