Material Safety Data Sheet

PROSTAR® 70 WDG FUNGICIDE

MSDS Number: 102000019487
MSDS Version 1.1
Revision Date: 05/20/2010

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name	PROSTAR® 70 WDG FUNGICIDE
MSDS Number	102000019487
EPA Registration No.	432-1477

Bayer Environmental Science
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
USA

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)
For Product Information call: 1-800-331-2867

SECTION 2. HAZARDS IDENTIFICATION

NOTE: Please refer to Section 11 for detailed toxicological information.

Emergency Overview	Caution! Moderate eye irritation Harmful if absorbed through skin. Avoid contact with skin, eyes and clothing.
Physical State	granular
Appearance	tan
Exposure routes	Eye contact, Skin Absorption, Inhalation
Immediate Effects	
Eye	Moderate eye irritation Avoid contact with eyes.
Skin	May be harmful if absorbed through skin. Avoid contact with skin and clothing.
Inhalation	May be harmful if inhaled. Avoid breathing dust.
Chronic or Delayed Long-Term	This product is not listed as a carcinogen by ACGIH, NTP, IARC or OSHA. However, it may contain crystalline silica (quartz), a substance which has been listed as a carcinogen by ACGIH, NTP and IARC. Crystalline silica is a naturally-occurring mineral component of many sands and clays. Although the carcinogenic potential of crystalline silica in humans is controversial, it must be considered if it is inhaled under excessive exposure conditions. The respirable portion of the silica that may be contained in this product, however, is small, such that inhalation exposure during anticipated conditions of use is minimal. This product or its components may have target organ effects.

Medical Conditions Aggravated by Exposure	No specific medical conditions are known which may be aggravated by exposure to this product. As with all materials which can cause upper respiratory tract irritation, persons with a history of asthma, emphysema, or hyperreactive airways disease may be more susceptible to overexposure. Pulmonary and respiratory diseases may be aggravated by exposure to respirable crystalline silica.
Potential Environmental Effect	Toxic to aquatic invertebrates.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Average % by Weight
Flutolanil	66332-96-5	70.00
Sodium dodecylbenzenesulfonate	25155-30-0	1.00
Synthetic amorphous silica	112926-00-8	1.00
Titanium dioxide	13463-67-7	0.43
Quartz (Silica, Crystalline)	14808-60-7	0.17
Crystalline quartz (respirable)		

SECTION 4. FIRST AID MEASURES

General	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
Eye	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.
Skin	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.
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.
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.
Notes to physician	
Treatment	Treat symptomatically. There is no specific antidote.

SECTION 5. FIRE FIGHTING MEASURES

Fire and Explosion Hazards	Accumulation of fine dust may entail the risk of a dust explosion in the presence of air. Dangerous gases are evolved in the event of a fire.
Suitable extinguishing media	Water, Foam, Carbon dioxide (CO2), Dry powder
Fire Fighting Instructions	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. Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.
Methods for cleaning up	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.
Additional advice	Use personal protective equipment. Do not allow to enter soil, waterways or waste water canal.

SECTION 7. HANDLING AND STORAGE

Handling procedures	Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation. Handle and open container in a manner as to prevent spillage. Dust may form explosive mixture in air.
Storing Procedures	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.
Work/Hygienic Procedures	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.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General Protection

Follow all label instructions. Train employees in safe use of the product.

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.

Eye/Face Protection

Tightly fitting safety goggles

Hand protection

Chemical resistant gloves made of waterproof material such as polyethylene or polyvinyl chloride

Body Protection

Wear long-sleeved shirt and long pants and shoes plus socks.

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.

Exposure Limits

Kaolin	1332-58-7	ACGIH	TWA	2 mg/m3
		NIOSH	REL	5 mg/m3
		NIOSH	REL	10 mg/m3
		US CA OEL	TWA PEL	2 mg/m3
		TX ESL	ST ESL	20 ug/m3
		TX ESL	AN ESL	2 ug/m3
		TX ESL	ST ESL	20 ug/m3
		TX ESL	AN ESL	2 ug/m3
			TWA	10 mg/m3
			TWA	5 mg/m3
Synthetic amorphous silica	112926-00-8	OSHA Z1A	TWA	6 mg/m3
		TX ESL	ST ESL	40 ug/m3
		TX ESL	AN ESL	4 ug/m3
			TWA	6 mg/m3
Titanium dioxide	13463-67-7	ACGIH	TWA	10 mg/m3
		OSHA Z1	PEL	15 mg/m3
		OSHA Z1A	TWA	10 mg/m3
		TX ESL	ST ESL	50 ug/m3
		TX ESL	AN ESL	5 ug/m3
			TWA	10 mg/m3
Quartz (Silica, Crystalline)	14808-60-7	ACGIH	TWA	0.025 mg/m3
		NIOSH	REL	0.05 mg/m3

OSHA Z1A	TWA	0.1 mg/m3
Z3	TWA	2.4 millions of particles per cubic foot of air
Z3	TWA	0.1 mg/m3
Z3	TWA	0.3 mg/m3
US CA OEL	TWA PEL	0.1 mg/m3
US CA OEL	TWA PEL	0.3 mg/m3
TX ESL	ST ESL	1 ug/m3
TX ESL	ST ESL	1 ug/m3
TX ESL	AN ESL	0.1 ug/m3
TX ESL	AN ESL	0.1 ug/m3
TX ESL	ST ESL	10 ug/m3
TX ESL	AN ESL	1 ug/m3
	TWA	0.1 mg/m3

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance tan

Physical State granular

Bulk density 41 lb/ft³

SECTION 10. STABILITY AND REACTIVITY

Hazardous Decomposition Products Thermal decomposition can lead to release of:
Carbon oxides
nitrogen oxides (NOx)

Chemical Stability Stable under normal conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Only acute toxicity studies have been performed on the formulated product. The non-acute information pertains to the technical-grade active ingredient, flutolanil.

Acute oral toxicity rat: LD50: > 5,000 mg/kg

Acute dermal toxicity rat: LD50: > 5,000 mg/kg

Acute inhalation toxicity

rat: LC50: > 7.4 mg/l
Exposure time: 4 h
Determined in the form of dust.

rat: LC50: > 20 mg/l
Exposure time: 1 h
Determined in the form of dust.
Extrapolated from the 4 hr LC50.

Skin irritation

rabbit: No skin irritation

Eye irritation

rabbit: slight irritation

Sensitisation

guinea pig: Non-sensitizing.

Chronic toxicity

Flutolanil caused clinical signs of toxicity and/or liver effects in chronic studies in rats and dog.

Assessment Carcinogenicity

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

ACGIH		
Titanium dioxide	13463-67-7	Group A4
Quartz (Silica, Crystalline)	14808-60-7	Group A2
NTP		
Crystalline quartz (respirable)		
IARC		
Titanium dioxide	13463-67-7	Overall evaluation: 2B
Quartz (Silica, Crystalline)	14808-60-7	Overall evaluation: 1
OSHA		
None.		

Reproductive toxicity

REPRODUCTION: Flutolanil was not a reproductive toxicant in a two-generation study in rats.

DEVELOPMENTAL TOXICITY: Flutolanil was not a developmental toxicant in developmental toxicity studies in rats and rabbits.

Neurotoxicity

Flutolanil did not demonstrate the potential to cause neurotoxicity in standard toxicity studies using laboratory animals.

Mutagenicity

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

SECTION 12. ECOLOGICAL INFORMATION

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. Apply this product as specified on the label.

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance	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.
Container Disposal	Do not re-use empty containers. Triple rinse containers. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or incineration, or if allowed by State and Local authorities, by burning. If burned, stay out of smoke.
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

According to national and international transport regulations this material is not classified as dangerous goods / hazardous material.

Freight Classification: INSECTICIDES OR FUNGICIDES, N.O.I., OTHER THAN POISON

SECTION 15. REGULATORY INFORMATION

EPA Registration No. 432-1477

US Federal Regulations

TSCA list

Sodium dodecylbenzenesulfonate	25155-30-0
Titanium dioxide	13463-67-7
Quartz (Silica, Crystalline)	14808-60-7

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

None.

SARA Title III - Section 302 - Notification and Information

None.

SARA Title III - Section 313 - Toxic Chemical Release Reporting

None.

US States Regulatory Reporting

CA Prop65

This product contains a chemical known to the State of California to cause cancer.

Crystalline quartz (respirable)

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

US State Right-To-Know Ingredients

Sodium dodecylbenzenesulfonate	25155-30-0	CA, CT, IL, PA
Titanium dioxide	13463-67-7	IL, MN, RI
Quartz (Silica, Crystalline)	14808-60-7	IL, MA

Canadian Regulations

Canadian Domestic Substance List

Sodium dodecylbenzenesulfonate	25155-30-0
Synthetic amorphous silica	112926-00-8
Titanium dioxide	13463-67-7
Quartz (Silica, Crystalline)	14808-60-7

Environmental

CERCLA

Sodium dodecylbenzenesulfonate	25155-30-0	1,000 lbs

Clean Water Section 307 Priority Pollutants

None.

Safe Drinking Water Act Maximum Contaminant Levels

None.

International Regulations

European Inventory of Existing Commercial Substances (EINECS)

Titanium dioxide	13463-67-7
Quartz (Silica, Crystalline)	14808-60-7

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

Health - 1 Flammability - 1 Reactivity - 0 Others - none

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

Reason to Revise: The following sections have been revised: Section 3: Composition / Information on Ingredients. Updated for general editorial purposes.

Revision Date: 05/20/2010

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