

## Material Safety Data Sheet



Dow AgroSciences

Eagle™ WSP Turf and Ornamental

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**In case of emergency Call CANUTEC at 613 996 6666**


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**1. Product Identification:****Product name:** Eagle WSP Turf and Ornamental Fungicide**Product use:** A protectant and curative fungicide recommended for the control of certain diseases in turf and ornamental shrubs.**Product code number:** 52339**GMID numbers:** 173210**Effective date:** March 20, 2009**Supplier:**

Dow AgroSciences Canada Inc  
Suite 2100, 450 - 1st Street SW,  
Calgary, Alberta.  
Canada, T2P 5H1  
[www.dowagro.ca](http://www.dowagro.ca)

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**This product is regulated under authority of the Pest Control Products Act**


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**2. Composition:**

Component	CAS Number	% (w/w)
Myclobutanil	88671-89-0	40.0
Kaolin	1332-58-7	>= 1.5 - <= 39.8
Calcium polysilicate	1344-95-2	4.0
Titanium dioxide	13463-67-7	1.1
Silica, crystalline (quartz)	14808-60-7	0.4
Balance		>= 14.7 - <= 53.0

Note: The above ingredients are those contained in the formulation and do not reflect the components of the water-soluble packaging, which are considered to be non-hazardous, according to OSHA definition.

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**3. Hazard Identification:****Emergency Overview:**

A tan powder with a mild odor. May cause eye irritation with corneal injury. May cause skin irritation.

**Potential Health Effects:**

**Eyes:** May cause moderate eye irritation. May cause moderate corneal injury.

**Skin contact:** Brief contact may cause slight skin irritation with local redness.

**Skin absorption:** Prolonged skin contact is unlikely to result in absorption of harmful amounts.

**Ingestion:** Low toxicity if swallowed. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

**Inhalation:** Dust may cause irritation of the upper respiratory tract (nose and throat) and lungs.

poison control center or doctor for treatment advice.

**Skin:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

**Ingestion:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.

**Inhalation:** Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc.) Call a poison control center or doctor for treatment advice.

**Note to physician:**

May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. Maintain adequate ventilation and oxygenation of the patient. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if

**4. First Aid Measures:**

**Eyes:** Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first five minutes, and then continue rinsing eyes. Call a

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available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

**Medical conditions aggravated by exposure:**

Repeated excessive exposure may aggravate preexisting lung disease.

**Emergency personnel protection:** First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**5. Fire-fighting Measures:**

**Flash point:** Not applicable

**Flammable limits:** Not applicable

**Auto-ignition temperature:** Not applicable

**Extinguishing media:** Water fog or fine spray, Use CO<sub>2</sub>, dry chemical or foam.

Do not use direct water stream. May spread fire. General purpose synthetic foams (including AFFF type) or protein foams are preferred if available. Alcohol resistant foams (ATC type) may function. **Fire fighting procedures:** Keep people away. Isolate fire and deny unnecessary entry. Soak thoroughly with water to cool and prevent re-ignition. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Do not use direct water stream. May spread fire. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires. Dust explosion hazard may result from forceful application of fire extinguishing agents. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

**Special protective equipment for firefighters:**

Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained

breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

**Unusual fire and explosion hazards:** Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Do not permit dust to accumulate. When suspended in air dust can pose an explosion hazard. Minimize ignition sources. If dust layers are exposed to elevated temperatures, spontaneous combustion may occur.

**Hazardous combustion products:** During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: nitrogen oxides, hydrogen cyanide, hydrogen chloride, carbon monoxide and carbon dioxide.

**6. Accidental Release Measures:**

**Steps to be Taken If Material is Released or Spilled:** Contain spilled material if possible.

Small spills: Sweep up. Collect in suitable and properly labeled containers. Large spills: contact CANUTEC at 613 996 6666 and local authorities.

**Personal Precautions:** Use appropriate safety equipment. For additional information, refer to section 8, Exposure Controls and Personal Protection.

**Environmental Precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

**7. Handling and Storage:****Handling**

**General Handling:** Good housekeeping and controlling of dusts are necessary for safe handling of this product. Keep out of reach of children. Do not swallow. Avoid breathing dust or mist. Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Wash thoroughly after handling.

**Storage**

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Store in a dry place. Store in original container.  
Do not store near food, foodstuffs, drugs or  
potable water supplies.

<b>Kaolin</b>	OEL (QUE	TWA	10 mg/m3
	CAD AB OEL	Total dust. TWA	2 mg/m3
	CAD BC OEL	Respirable particles. TWA	2 mg/m3
	CAD ON OEL	Respirable. TWA	2 mg/m3
	ACGIH	Respirable. TWA	2 mg/m3'
		Respirable fraction.	The value is for particulate matter containing no asbestos and <1% crystalline silica. 1 mg/m3
<b>Titanium Dioxide</b>	CAD MB OEL	TWA Respirable fraction.	5 mg/m3
	OEL (QUE)	TWA Respirable dust.	10 mg/m3
	OEL (QUE)	TWA	10 mg/m3
	CAD ON OEL	Total dust.	10 mg/m3
	ACGIH	TWA	10 mg/m3
	CAD AB OEL	TWA	10 mg/m3
	CAD BC OEL	TWA	3 mg/m3
	CAD BC OEL	Respirable fraction. TWA	10 mg/m3
	OEL (QUE)	Total dust. TWA	10 mg/m3
		Total dust.	

### 8. Exposure Controls, Personal Protection and Exposure Limits:

#### Exposure limits

Component	List	Type	Value
<b>Myclobutanil</b>	Dow IHG	TWA	0.5 mg/m3
	CAD AB OEL	TWA	0.1 mg/m3
		Respirable particles.	
	CAD ON OEL	TWA	0.10 mg/m3
		Respirable fraction.	
	ACGIH	TWA	0.025 mg/m3
<b>Silica, crystalline (quartz)</b>	OEL (QUE)	Respirable fraction. TWA	0.1 mg/m3
		Exposure must be minimized.	
	CAD BC OEL	TWA	0.025 mg/m3
		Respirable fraction.	
	OEL (QUE)	TWA	10 mg/m3
		Total dust.	
	CAD AB OEL	TWA	10 mg/m3
		Total dust.	
	CAD ON OEL	TWA	10 mg/m3
		Total dust.	
	ACGIH	TWA	10 mg/m3
		The value is for particulate matter containing no asbestos and <1% crystalline silica.	
<b>Calcium polysilicate</b>	CAD BC OEL	TWA Respirable fraction.	3 mg/m3
	CAD BC OEL	TWA	10 mg/m3
	OEL (QUE)	Total dust. TWA	10 mg/m3
		Total dust.	

**Engineering controls:** Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. In dusty or misty atmospheres, use an approved particulate respirator. The following should be effective types of air-purifying respirators: organic vapor cartridge with a particulate pre-filter.

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**Skin protection:** Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

**Hand protection:** Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: neoprene, nitrile, and polyvinyl chloride (PVC or vinyl). **NOTICE:** The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: other chemical which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reaction to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Eyes:** Use chemical goggles.

#### **9. Physical and Chemical Properties:**

**Boiling point:** Not applicable

**Vapor pressure:** Not applicable

**Volatility:** 0%

**pH:** 7.5 to 8.5 (as an aqueous suspension)

**Appearance:** Tan powdered solid

**Odor:** Mild

**Coefficient of water/oil distribution:** not available

**Bulk density:** 300 to 350 kg/m<sup>3</sup>

**Evaporation rate:** Not applicable

**Solubility in water:** Dispersible

**Viscosity:** Not applicable

**Odor threshold:** Not available

**Melting point:** Not available

#### **10. Stability and Reactivity:**

**Stability:** Stable under recommended storage conditions. See Storage, Section 7.

**Conditions to avoid:** Active ingredient decomposes at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems. Avoid moisture. Avoid direct sunlight.

**Incompatibility:** Avoid contact with: strong oxidizers.

#### **Hazardous decomposition products:**

Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can

include and are not limited to: carbon monoxide, carbon dioxide, hydrogen chloride, hydrogen cyanide, and nitrogen oxides.

**Hazardous polymerization:** Will not occur

#### **11. Toxicological Information:**

**Skin absorption:** The dermal LD50 has not been determined. For the active ingredient, LD50 (rabbit) is >5,000 mg/kg.

**Ingestion:** Single dose oral LD50 has not been determined. For the active ingredient, LD50 (female rat) is 3,129 mg/kg.

**Inhalation:** The LC50 has not been determined. For the active ingredient, LC50, 4 h, aerosol (rat) is >5.88 mg/l. No deaths occurred at this concentration.

**Sensitization:** For the active ingredient, did not cause allergic skin reactions when tested in guinea pigs.

**Repeated Dose Toxicity:** For the active ingredient, in animals, effects have been reported on the following organs: liver, testes, adrenal gland, kidney and thyroid. Repeated excessive exposure to crystalline silica may cause silicosis, a progressive and disabling disease of the lungs.

**Chronic Toxicity and Carcinogenicity:** The active ingredient did not cause cancer in laboratory animals. Crystalline silica has been shown to cause cancer in laboratory animals and humans. Lung fibrosis and tumors have been observed in rats exposed to titanium dioxide in two lifetime inhalation studies. Effects are believed to be due to overloading of the normal respiratory clearance mechanisms caused by the extreme study conditions. Workers exposed to titanium dioxide in the workplace have not shown an unusual incidence of chronic respiratory disease or lung cancer.

Titanium dioxide was not carcinogenic in laboratory animals in lifetime feeding studies.

**Developmental Toxicity:** The active ingredient did not cause birth defects in laboratory animals. Has been toxic to the fetus in laboratory animals at doses nontoxic to the mother.

**Reproductive Toxicity:** For the active ingredient, in laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

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**Genetic Toxicology:** For the active ingredient, in-vitro and animal genetic toxicity studies were negative. For the minor component(s), in-vitro genetic toxicity studies were negative in some cases and positive in other cases.

**12. Ecological Information:**  
**ENVIRONMENTAL FATE**

**MOVEMENT & PARTITIONING**

For the active ingredient, potential for mobility in soil is low (Koc between 500 and 2000). Bioconcentration potential is low (BCF <100 or Log Pow <3).

**ECOTOXICITY**

For the active ingredient, material is highly toxic to aquatic organisms on an acute basis (LC50 or EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

Material is practically non-toxic to birds on a dietary basis (LC50 >5000 ppm).

Material is highly toxic to birds on an acute basis (LD50 between 501 and 2000 mg/kg).

**Fish Acute & Prolonged Toxicity**

For the active ingredient

LC50, rainbow trout (*Oncorhynchus mykiss*), static, 96 h: 2.3 – 4.2 mg/l

**Aquatic Invertebrate Acute Toxicity**

As active ingredient

EC50, eastern oyster (*Crassostrea virginica*), flow-through, 96 h, shell growth inhibition: 0.72 mg/l

EC50, water flea *Daphnia magna*, static 48 h, immobilization: 17 mg/l

**Aquatic Plant Toxicity**

As active ingredient

EC50, green alga *Pseudokirchneriella subcapitata* (formerly known as *Selenastrum capricornutum*), biomass growth inhibition, 96 h: 1.0 mg/l

**Toxicity to Non-mammalian Terrestrial Species**

For the active ingredient

dietary LC50, bobwhite (*Colinus virginianus*): >5000 ppm

dietary LC50, mallard (*Anas platyrhynchos*): >5000 mg/kg diet

oral LD50, bobwhite (*Colinus virginianus*): 510 mg/kg bodyweight

contact LD50, Honey bee (*Apis mellifera*): >100 micrograms/bee

**13. Disposal Considerations:**

**Unused unwanted product:** Contact Dow AgroSciences or your provincial regulatory agency for disposal information.

**Container disposal:** Refer to the product label for instructions regarding cleaning and disposal of empty pesticide containers. If these instructions are missing or not understood, contact Dow AgroSciences at 800 667 3852 or your provincial regulatory agency for direction.

**14. Transport Information:**

**TDG Small container**  
 NOT REGULATED

**TDG Large container**  
 NOT REGULATED

**IMDG**

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Technical Name: MYCLOBUTANIL

Hazard Class: 9 ID Number: UN3077

Packing Group: PG III

Marine Pollutant: Yes

**ICAO/IATA**

NOT REGULATED

**15. Regulatory Information:**

**Pest Control Products Act registration number:** 26585

**For information phone:** 800 667 3852

**Master reference:** 007705

**MSDS status:** Revised sections: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 & 14

**Date of last revision:** July 6, 2006

**16. Other Information:**

**National Fire Code classification:** Not applicable

**NFPA ratings:** Health: 2; Flammability: 1; Reactivity: 0.

**Notice:** The information contained in this Material Safety Data Sheet ("MSDS") is current as of the effective date shown in Section 1 of this MSDS and may be subject to amendment by Dow AgroSciences Canada Inc. ("DASCI") at any time. DASCI accepts no liability whatsoever which results in any way from the use of MSDS that are not published by DASCI, or have been amended without DASCI express written

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authorization. Users of this MSDS must satisfy themselves that they have the most recent and authorized version of this MSDS and shall bear all responsibility and liability with respect thereto.

Any conflict or inconsistencies as to the contents of this MSDS shall be resolved in favor of DASCI by the most recent version of the MSDS published by DASCI.

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