

# *Delfin WG*

## MATERIAL SAFETY DATA SHEET

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### 1. PRODUCT AND COMPANY IDENTIFICATION

**Registered and Distributed By:** Madumbi Sustainable Agriculture  
Postnet Suite 20, Private Bag X6011,  
Hilton 3245  
Emergency Telephone no.:27 (0)33 342 3984

**Manufactured By:** Certis USA  
Suite 175, 9145 Guilford Road  
Columbia, Maryland 21046  
USA

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### 2. COMPOSITION/INFORMATION ON INGREDIENTS

**Product description:** *Bacillus thuringiensis* subspecies kurstaki strain SA-11 solids, spores and lepidopteran active toxins.

**Dangerous ingredients:** None

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### 3. HAZARDS IDENTIFICATION

**Important hazards:** None

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### 4. FIRST AID MEASURES

**Symptoms and effects:** Exposure may result in eye, skin and respiratory irritation. Treat symptomatically.

**Inhalation:** Remove to fresh air. Apply artificial respiration if necessary.

**Skin Contact:** Remove contaminated clothing. Wash with soap and water including hair and under fingernails. Do not apply any medicating agent unless recommended by a physician.

**Eye Contact:** Flush with water, hold eyelids apart to rinse surface of the eyes and lids. Do not apply any medicating agent unless recommended by a physician.

**Ingestion:** If person is conscious give large amounts of water to drink and induce vomiting.

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### 5. FIRE FIGHTING MEASURES

**Type of material:** Non-combustible solid

**Extinguishing Media:** Dry chemical, Foam or Carbon dioxide

**Hazardous Decomposition Products:** None known

**Special Fire Fighting Procedures:** Wear full protective clothing and self-breathing apparatus. Evacuate nonessential personnel to prevent exposure to fire, smoke, fumes and products of combustion. Prevent use of contaminated buildings, area, and equipment until decontamination.

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### 6. ACCIDENTAL RELEASE MEASURES

**Environmental precautions:** Avoid infiltration of large volumes into drains, surface water, groundwater and soil.

**Personal precautions:** Protective clothing with head covering, rubber gloves and boots, respiratory protection and safety goggle are recommended.

**Destruction and clean up:** Sweep or vacuum, without creating dust, into approved chemical container. Wash area with water containing a strong detergent, absorb with absorbent material i.e. pet litter, sweep up and place in a chemical container. Seal container and dispose of in accordance with local regulations. Flush area with water to remove residues. Do not allow water to contaminate water supplies.

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## 7. HANDLING AND STORAGE

<b>Handling Precautions:</b>	Ensure adequate ventilation when handling. Respiratory protection is recommended. Wash hands thoroughly after handling.
<b>Storage:</b>	Store under cool, dry conditions out of direct sunlight. Store in a secure area away from children and pets. Do not allow eating drinking or smoking in areas where there is potential exposure to product.

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## 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

<b>Personal protection</b>	
<b>Respiratory Protection:</b>	Respiratory protection is recommended. Wear an approved dust or pesticide respirator with dust pre-filters.
<b>Hand protection:</b>	Wear rubber gloves.
<b>Eye Protection:</b>	Wear safety goggles with side shields or chemical goggles.
<b>Skin and body protection:</b>	Wear rubber boots, long sleeved shirt with head covering and long pants.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b>	Granules
<b>Colour:</b>	Brown
<b>Odour:</b>	Fishmeal Odour
<b>pH</b>	5.5-5.6
<b>Density:</b>	approx. 0,32 g/cc
<b>Solubility:</b>	N/A
<b>Solubility in organic solvents:</b>	N/A
<b>Partition coefficient:</b>	Not applicable
<b>Vapour pressure:</b>	Not applicable
<b>Boiling point:</b>	Not applicable
<b>Melting point:</b>	Not available
<b>Flash point:</b>	Not flammable
<b>Explosive properties:</b>	Not explosive
<b>Auto-ignition temp:</b>	Not available

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## 10. STABILITY AND REACTIVITY

<b>Stability:</b>	Stable
<b>Hazardous decomposition products:</b>	None known
<b>Materials to avoid:</b>	None known
<b>Conditions to avoid:</b>	None known

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## 11. TOXICOLOGICAL INFORMATION

<b>Oral LD<sub>50</sub> (rat):</b>	>5100mg/kg body weight
<b>Dermal LD<sub>50</sub> (rat):</b>	5 000 mg/kg body weight
<b>Inhalation LC<sub>50</sub> (rat):</b>	Not available
<b>Skin contact:</b>	Not available
<b>Skin sensitization:</b>	Not available mutagenic
<b>Eye contact:</b>	Not available
<b>Hazard potential</b>	Not available
<b>Toxicity of other components:</b>	
<b>Surfactant:</b>	Repeated or prolonged inhalation of dust can cause irritation of nose, throat, and lungs. Exposure can result in headache, nausea dizziness and slight irritation to eyes and skin.

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## 12. ECOLOGICAL INFORMATION

<b>Fish and Wildlife:</b>	Low toxicity
<b>Oral LD<sub>50</sub> (bobwhite):</b>	>16 665 mg/kg
<b>Oral LD<sub>50</sub> (mallard):</b>	> 16 665 mg/kg
<b>Invertebrate) (Daphnia magna):</b>	Life cycle NOEL 1.6E08 CFU/L
<b>Environmental fate:</b>	Not available

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## 13. DISPOSAL CONSIDERATIONS

Do not reuse product containers. Dispose of product containers, waste containers and residues according to local regulations.

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## 14. TRANSPORT INFORMATION

There are no transport regulations for this product.

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## 15. REGULATORY INFORMATION

National Legislation: Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act (Act 36 of 1947)

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## 16. OTHER INFORMATION

All information provided in this Material Safety Data Sheet (MSDS) is based on the current state of scientific and technical knowledge and is presented in good faith and believed to be correct. It is the responsibility of persons in receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come into contact with this product.

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