



# MATERIAL SAFETY DATA SHEET

## **KODIAK® HB**

**Version:** 1.2  
**Date of Issue:** 07/12/2007  
**Date printed:** 07/13/2007

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### 1. PRODUCT AND COMPANY IDENTIFICATION

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**Product name :** KODIAK® HB

**Chemical name:** Bacteria: Bacillus subtilis GB03 (Active)

**Use of substance/preparation:** Biological Fungicide

**Supplier:** Chemtura Corporation  
199 Benson Road  
Middlebury, CT 06749 USA

**Emergency telephone number:** CHEMTREC (24 hours) 800-424-9300, 703-527-3887  
Chemtura Corporation Emergency Response (24 hours) 800-292-5898

**Environmental, Health and Safety Department:** 866-430-2775

**Prepared by** Product Safety Department      Date of Issue: 07/12/2007  
(US) +1 866-430-2775  
(EU) +44 (0) 1753.603.000  
Email: MSDSRequest@chemtura.com

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### 2. HAZARDS IDENTIFICATION

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#### EMERGENCY OVERVIEW

#### CAUTION!

HARMFUL IF INHALED.

MAY BE IRRITATING TO RESPIRATORY SYSTEM, SKIN AND EYES.

AVOID DISPERSION OF DUST IN AIR.

THIS PRODUCT MAY CONTAIN LOW LEVELS OF RESPIRABLE QUARTZ (RESPIRABLE CRYSTALLINE SILICA). PROLONGED AND/OR MASSIVE INHALATION OF AIRBORNE RESPIRABLE CRYSTALLINE SILICA DUST MAY CAUSE LUNG DISEASE (SILICOSIS).

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### 3. COMPOSITION / INFORMATION ON INGREDIENTS

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INGREDIENT	% BY WEIGHT
Bacillus subtilis GB03 CAS# -	0.3
Filler CAS# -	40 - 50
Talc CAS# 14807-96-6	40 - 50



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Graphite 10 - 20  
 CAS# 7782-42-5

Crystalline Silica < 2  
 CAS# 14808-60-7

Small amounts of quartz are a naturally-occurring component of the carrier substrate. Contains naturally-occurring, non-pathogenic Bacillus subtilis GB03 bacteria. See product label for specific crop information, application rates and methods. Not for food, feed or drug use.

### 4. FIRST AID MEASURES

#### Swallowing

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. Do not give anything by mouth to an unconscious person.

#### Inhalation

Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

#### Skin contact

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.

#### Eye contact

Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lens, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.

### 5. FIRE-FIGHTING MEASURES

Flammable limits

**Lower limit:** Not available  
**Upper limit:** Not available

**Autoignition temperature:** Not available

#### NFPA CLASSIFICATION

<b>Health: 1</b>	<b>Flammability: 0</b>	<b>Reactivity: 0</b>	<b>Special provisions:</b>
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#### Hazardous combustion products

None.  
 Burning can produce the following combustion products:  
 Oxides of carbon.  
 Soot

#### Special fire fighting procedures

Avoid dusting when handling and avoid all possible sources of ignition (spark or flame).

#### Special protective equipment for firefighters

Wear self-contained breathing apparatus.

#### Extinguishing media

**Suitable:** Use appropriate extinguishing media for surrounding volatile material.

#### Unusual fire and explosion hazards

In case of a fire aside from the major combustion products carbon dioxide and carbon monoxide other harmful gases and vapors may be formed.

### 6. ACCIDENTAL RELEASE MEASURES



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### Personal precautions

Avoid contact with skin and eyes., Provide sufficient ventilation.

### Environmental precautions

Prevent from entering sewer system, surface water or soil., Disposal: see section 13

### Methods for cleaning up

Sweep up and collect in a suitable container for disposal.  
Avoid dispersion of dust.

## 7. HANDLING AND STORAGE

### HANDLING

#### Handling precautions

Use only in well ventilated areas., Prevent accumulation of dust particles., Keep container tightly closed., Do not weld or flame-cut an empty drum., Avoid dust formation.

#### Other precautions

NOTE TO END-USERS: The employee protection recommendations on this MSDS may differ from those on the product label. For normal use of this product, always refer to the personal protective equipment requirements on the product label.

### STORAGE

#### Storage requirements

Keep drums tightly closed to prevent contamination., Normal precautions common to safe manufacturing practice should be followed in handling and storage.

#### Further information on storage

Avoid repeated freeze/thaw cycles.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE LIMIT VALUES

<u>Component</u>	<u>Country</u>	<u>Type</u>	<u>Value</u>	<u>Remark</u>
Talc	USA	TWA, ACGIH	2 mg/m3	Respirable fraction Non-asbestos form; otherwise, use asbestos
Graphite	USA	TLV-TWA, ACGIH	2 mg/m3	respirable fraction, all forms except graphite fibers
Crystalline Silica	USA	TWA, OSHA	0.05 mg/m3	Respirable dust
Crystalline Silica	USA	TWA, ACGIH	0.05 mg/m3	Respirable dust

### PERSONAL PROTECTION

#### Respiratory protection

Use NIOSH/MSMA certified dust mask and/or respirator where appropriate.

#### Hand protection / protective gloves

Protective gloves, of PVC or rubber.

#### Eye protection

Safety glasses.

#### Skin protection



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Rubber or plastic apron, Suitable arm protection if body contact is possible.

### **Industrial hygiene measures**

Apply skin protection cream before handling., Immediately remove contaminated clothing.

### **ENGINEERING CONTROLS**

#### **Ventilation**

General (mechanical) room ventilation is expected to be satisfactory for normal handling.

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## **9. PHYSICAL AND CHEMICAL PROPERTIES**

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### **APPEARANCE**

<b>Physical state</b>	Solid
<b>Color</b>	Gray
<b>Odor</b>	None/slight earthy odor Cheese-like

### **OTHER PROPERTIES**

<b>Boiling point</b>	Not available
<b>Melting point</b>	Not available
<b>pH</b>	~ 5.6 1 % suspension in water
<b>Bulk density</b>	320 - 368 kg/m <sup>3</sup> 20 - 23 lb/ft <sup>3</sup>
<b>Vapor pressure</b>	
<b>Solubility in water</b>	Insoluble
<b>Flash point</b>	NONE
<b>Autoignition temperature</b>	Not available
<b>Upper explosion limits</b>	Not available
<b>Lower explosion limits</b>	Not available

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## **10. STABILITY AND REACTIVITY**

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**Stability:** Stable.

### **Incompatible materials:**

Strong acids.  
Oxidizing agents.  
Disinfectants

**Hazardous reactions:** If stored and handled as instructed: none

### **Hazardous combustion products:**

None.  
Burning can produce the following combustion products:  
Oxides of carbon.  
Soot



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Hazardous polymerization: Will not occur.

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**11. TOXICOLOGICAL INFORMATION**

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**GENERAL**

There are no known health effects caused by the Bacillus bacteria contained in this product.

**SWALLOWING**

Test results

Acute toxicity: LD50  
Result: > 5,000 mg/kg

**SKIN ABSORPTION**

Acute effects

May cause slight irritation.

Test results

Acute toxicity: LD50  
Result: > 2,000 mg/kg

**INHALATION**

Acute effects

Dust may irritate the respiratory tract.

Test results

Acute toxicity: LC50  
Result: > 5.7 mg/l  
Exposure time: 4 h

**SKIN CONTACT**

Acute effects

May cause slight irritation.

**EYE CONTACT**

Acute effects

May cause eye irritation due to nuisance dust.

**SENSITIZATION**

Test results: Remark: Biological materials have been known to cause sensitization although sensitization has not been observed during laboratory testing.

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**12. ECOLOGICAL INFORMATION**

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No information available.

This Product contains non-pathogenic bacteria strains that occur naturally in soil and is biodegradable.

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**13. DISPOSAL CONSIDERATIONS**

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**General:** Discard any product, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with national and local regulations., Incineration is the recommended disposal method for all chemical wastes., Landfill where permitted under appropriate national and local regulations.It is our opinion this product is not a RCRA hazardous waste.

**Non-cleaned packages**  
DO NOT REUSE CONTAINER!



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### 14. TRANSPORT INFORMATION

Not classified as a dangerous good.

#### IMDG Classification

Not classified as a dangerous good.

#### ICAO Classification

Not classified as a dangerous good.

### 15. REGULATORY INFORMATION

Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of hazardous substances equal to or greater than the reportable quantities (RQ's) in 40CFR302.4.

Components present in this product at a level which could require reporting under the statute are:

\*\*\*\* NONE \*\*\*\*

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQ's) and release reporting based on Reportable Quantities (RQ's) in 40CFR355 (used for SARA 302 and 304).

Components present in this product at a level which could require reporting under the statute are:

\*\*\*\* NONE \*\*\*\*

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40CFR372 (for SARA 313). This information must be included in MSDS's that are copied and distributed for this material.

Components present in this product at a level which could require reporting under the statute are:

\*\*\*\* NONE \*\*\*\*

EPA Hazard Categories (SARA 311, 312): Immediate Health Hazard

#### California Proposition 65

\*\*\*\* NONE \*\*\*\*

#### CHEMICAL INVENTORY

United States: This product is subject to regulation under the US Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and is therefore exempt from TSCA Inventory listing requirements.

### 16. OTHER INFORMATION

RECOMMENDED USES AND RESTRICTIONS: NOTE TO END-USERS: This MSDS is being provided to all interested persons in accordance with federal and state right-to-know laws. Precautionary Statements, First Aid Statements and Directions for Use of this product by end-users are contained on the product label and must be followed at all times.

#### HMIS RATING

Health: 2	Flammability: 0	Reactivity: 0	PPI: G
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STP	Standard temperature and pressure
W/W	Weight/Weight 0 (HMIS)
1 (HMIS)	Slight hazard
2 (HMIS)	Moderate hazard
3 (HMIS)	Serious hazard
4 (HMIS)	Severe hazard
X (HMIS)	Personal protection rating to be supplied by user depending on use conditions

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is a  
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