

# Bolldex

## MATERIAL SAFETY DATA SHEET

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### 1. PRODUCT AND COMPANY IDENTIFICATION

**Distributed By:** Madumbi Sustainable Agriculture  
Postnet Suite 148, Private Bag X9118  
Pietermaritzburg 3200  
Emergency Telephone no.:27 (0)33 342 3984

**Manufactured and Registered by:** Andermatt Biocontrol AG  
Stahlermatten 6  
6146 Grossdietwil  
Switzerland

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### 2. COMPOSITION/INFORMATION ON INGREDIENTS

**Product description:** Suspension concentrate of *Helicoverpa armigera* nucleopolyhedrovirus for the control of African Bollworm *Helicoverpa armigera* larvae. No hazardous components

**Dangerous ingredients:** None

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### 3. HAZARDS IDENTIFICATION

**Important hazards:** None

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### 4. FIRST AID MEASURES

**Symptoms and effects:** No typical symptoms and effects known  
**General:** In all cases of doubt, or when symptoms persist, seek medical attention.  
**Inhalation:** This is only possible by exposure to HOT product. Move to fresh air, rest, half upright position, loosen clothing. Oxygen or artificial respiration if there is difficulty in breathing. Seek medical advice after significant exposure. Symptomatic treatment is advised  
**Skin:** Remove contaminated clothing. Seek medical advice if irritation develops. Launder clothes before reuse. After contact with skin, wash immediately with plenty of water  
**Eye:** Rinse thoroughly with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical advice if irritation develops.  
**Ingestion:** No typical symptoms and affects known.  
**Advice to physician:** Symptomatic treatment is advised.

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### 5. FIRE FIGHTING MEASURES

**Extinguishing media:** Water mist, alcohol resistant foam, dry powder, carbon dioxide.  
**Unsuitable media:** Water-jet, foam.  
**Special exposure hazards** Vapours cause coughing.  
**Hazardous decomposition/combustion products:** At elevated temperatures there is a risk of exothermic polymerization ( > 200°C ). At temperatures > 280 °C, Acrolein may be formed.  
**Protective equipment:** No specific recommendations  
**Other information:** Avoid contact with oxidizing agents. Cool closed containers with water.

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### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** The usual precautions for handling chemicals should be observed  
**Environmental precautions:** No specific recommendations  
**Methods for cleaning up:** Collect as much as possible; in a clean container for (preferable) reuse or disposal.

Other information for personal protection see Section 8.

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## 7. HANDLING AND STORAGE

<b>Handling:</b>	The usual precautions for handling-chemicals should be observed.
<b>Fire and explosion:</b>	No specific recommendations. Avoid contact with oxidizing agents.
<b>Storage requirements:</b>	No specific recommendations.
<b>Other information:</b>	To maintain quality: Store below 0°C. Avoid elevated temperatures.

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## 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

<b>Engineering controls:</b>	The usual precautionary measures for handling chemicals should be observed.
<b>Exposure limits:</b>	No exposure limit has been established
<b>Personal protection:</b>	
<b>Respiratory:</b>	No specific recommendations.
<b>Hand:</b>	No specific recommendations.
<b>Eye:</b>	No specific recommendations
<b>Skin and body:</b>	No specific recommendations.
<b>Other information:</b>	The usual precautions for handling chemicals should be observed.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Liquid (20 °C )
<b>Colour:</b>	Grey-brown
<b>Boiling point/range:</b>	103-290 °C
<b>Flash point:</b>	>100 °C
<b>Flammability:</b>	Not determined
<b>Explosive properties:</b>	None known
<b>Explosion limits:</b>	No data available
<b>Oxidizing properties:</b>	None known
<b>Vapour pressure:</b>	< 0.1 Pa (20°C)
<b>Density:</b>	Approx. 1100 kg/m <sup>3</sup> (20°C)
<b>Bulk density:</b>	Not relevant
<b>Solubility in water:</b>	Soluble
<b>Solubility in other solvents:</b>	Not determined
<b>pH value:</b>	6-7
<b>Partition coefficient:</b>	
<b>n-Octanol/water:</b>	Not determined
<b>Relative vapour density (air=1):</b>	Not determined

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## 10. STABILITY AND REACTIVITY

<b>Stability:</b>	No decomposition if stored and handled properly.
<b>Conditions to avoid:</b>	Temperature > 200 °C (polymerization, Decomposes).
<b>Materials to avoid:</b>	Avoid contact with oxidizing agents.
<b>Hazardous decomposition products:</b>	Acrolein (> 280 °C ).

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## 11. TOXICOLOGICAL INFORMATION

<b>Name:</b>	BOLLDEX (European trade name – HELICOVEX)
<b>Acute toxicity:</b>	Oral LD50 >>12'600 mg/kg (rat) (Lit.)
<b>Irritation</b>	
<b>Skin:</b>	Mildly irritating (Lit.)
<b>Eye:</b>	Mildly irritating (Lit.)

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## 12. ECOLOGICAL INFORMATION

<b>Name:</b>	BOLLDEX
<b>Ecotoxicity</b>	
<b>Fish:</b>	96h LC50: >> 5000 mg/l (Lit.)
<b>Algae:</b>	48h EC50: >> 2900 mg/l (Lit.)

<b>Fate</b>	<b>Bacteria:</b>	72h IC50: >> 10'000 mg/l (Lit.)
	<b>Degradation:</b>	Biotic Biodegradable

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### 13. DISPOSAL CONSIDERATIONS

<b>Product:</b>	According to local regulations (most probably controlled incineration).
<b>Contaminated packaging:</b>	According to local regulations

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### 14. TRANSPORT INFORMATION

There are no transport regulations or restrictions for this product.

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### 15. REGULATORY INFORMATION

Labelling according to EC directives

<b>Annex-1 number:</b>	See section 2
<b>Symbols (s):</b>	none
<b>R(isk) phrase(s):</b>	none
<b>S(afety) phrase(s):</b>	none

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### 16. OTHER INFORMATION

This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or in any process. The information is to our best present knowledge correct and complete and is given in good faith but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.

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