BioBit® DF

Section 1: Identification of the Substance or Mixture and of the Supplier

Product name: BioBit® DF
Other name: Bacillus thuringiensis (BT) Insecticide
Recommended use: An organic insecticide for the control of caterpillars on fruit, vegetable and ornamental crops.
Registered to: Valent BioSciences Corporation
870 Technology Way
Libertyville, Illinois, USA 60048
NZ Agent: Sumitomo Chemical Australia Pty Ltd
A.B.N. 21 081 096 255
242 Beecroft Road, Epping NSW, AUSTRALIA 2121
Distributed by: GroChem (AgriNova New Zealand Limited)
15 Sunlight Grove
Porirua
New Zealand
Telephone: +64 4 237 0905
Email: grochem@grochem.com
Emergency telephone: New Zealand
0800 CHEMCALL – 24 hours
(0800 243 6225)
Australia 1800 127 406
Other locations +64 4 917 9888
or
The National Poisons Centre
0800 POISON (0800 764 766)
Date of preparation: 8 May 2017

Section 2: Hazards Identification

Hazard classification (Transport): Not a Dangerous Good for transport.
Hazardous substances: 6.4A (WARNING: Causes serious eye irritation).

9.1D (Biocidal against Lepidoptera. Do not apply in a way that adversely affects native Lepidoptera found only in region of application. Avoid contamination of water supply with product or container).
Section 3: Composition/Information on Ingredients

Classification & type:

<table>
<thead>
<tr>
<th>Material</th>
<th>CAS No.</th>
<th>Proportion (%w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacillus thuringiensis subsp kurstaki</td>
<td>68038-71-1</td>
<td>54%</td>
</tr>
<tr>
<td>Other ingredients determined not to be hazardous</td>
<td></td>
<td>46%</td>
</tr>
</tbody>
</table>

Section 4: First Aid Measures

Symptoms of exposure:

- No adverse health effects expected if the product is handled in accordance with this SDS and the product label. Symptoms that may arise if the product is mishandled are:
  - **If Swallowed**: Non-toxic.
  - **If in Eyes**: Causes serious eye irritation
  - **If on Skin**: Non-irritant.
  - **If Inhaled**: May result in minor irritation.

First aid actions:

- **If Swallowed**: Do NOT induce vomiting. Contact at POISON CENTRE or doctor/physician if you feel unwell.
- **If in Eyes**: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.
- **If on Skin**: Immediately flush body and clothes with large amounts of water. Remove contaminated clothing and wash before reuse. Wash affected areas with soap and water. If skin irritation occurs, get medical advice/attention.
- **If Inhaled**: Remove to fresh air and keep in a position comfortable for breathing.

Workplace facilities:

- Eyewash facilities and safety shower.

Notes for medical personnel:

- Medical conditions aggravated by exposure – impaired respiratory function. Provide symptomatic/supportive care as necessary.

Section 5: Fire Fighting Measures

Type of hazard: Not flammable.

HAZCHEM code: N/A

Combustion products: Unknown.

Extinguishing media & methods: Use media suitable to flammable material concerned. Prevent runoff entering waterways.

Recommended protective clothing: Regular protective clothing and self contained breathing apparatus.
Section 6: Accidental Release Measures

Personal protection: See Section 8.3 for appropriate PPE. No particular equipment required.

Containment and clean up:
FOR SPILLS ON LAND
Containment Avoid runoff into storm sewers or other bodies of water.
Cleanup Recover product and place in an appropriate container for disposal. Avoid breathing dust. Ventilate and wash the spill area. Pick up wash liquid with additional absorbent and place in a chemical waste container.

FOR SPILLS IN WATER
Containment Avoid runoff into storm sewers or other bodies of water. Isolate contaminated water.
Cleanup Remove contaminated water for treatment or disposal.

Special requirements: See Section 13 for instructions for the disposal of waste/contaminated material.

Section 7: Handling and Storage

Subsection 1: Handling
Handling practices Wear appropriate PPE as detailed in Section 8.3. Keep out of reach of children.

Subsection 2: Storage
Site requirements Do not store near flame, sparks or hot surfaces. Do not store or transport near food or feed. Do not contaminate food or feed. Do not put into food or drink containers. Store in a cool, dry place, out of direct sunlight.
Packaging Keep pesticide in original container.

Section 8: Exposure Controls/Personal Protection

Subsection 1: Workplace Exposure Guidelines (may also be considered in section 2)
No exposure standards are set at this time.

Subsection 2: Engineering Controls
Exposure control measures Use in a well ventilated area or with breathing protection.

Subsection 3: Personal Protective Equipment (PPE)
Detail specifications for equipment Use eye protection.
General hygiene Always wash exposed skin after handling and before eating.

Section 9: Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Yellow – brown powder</td>
</tr>
<tr>
<td>Odour</td>
<td>Faint organic/malt</td>
</tr>
<tr>
<td>Specific gravity (kg/L)</td>
<td>0.473</td>
</tr>
<tr>
<td>Solubility</td>
<td>Suspends readily in water</td>
</tr>
<tr>
<td>pH</td>
<td>4.1 10% slurry at 24degC</td>
</tr>
<tr>
<td>Boiling point (degC)</td>
<td>Not available</td>
</tr>
<tr>
<td>Freezing point (degC)</td>
<td>Not available</td>
</tr>
<tr>
<td>Flashpoint (degC)</td>
<td>Not flammable</td>
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</table>
Section 10: Stability and Reactivity

Stability of substance: Stable under normal conditions.

Conditions to avoid: High temperatures will damage spore viability.

Material to avoid: Alkalinity inactivates product.

Hazardous decomposition products: Unknown.

Hazardous polymerization: Will not occur.

Section 11: Toxicological Information

Acute (Product Specific):
- Eye irritation: Transient, mild to moderate irritation was observed in test animals in a study with this product. Rinsing the eyes with water dramatically reduced irritation scores.
- Oral LD50 (rat): >5,050 mg/kg (rat). EPA Toxicity Category IV.
- Dermal LD50 (rabbits): >2,020 mg/kg (rabbit). EPA Toxicity Category III.
- Inhalation toxicity: Due to the non-dusty characteristics of the product, the test facility was unable to generate a sufficiently high enough concentration of respirable particles. Animal test not warranted.
- Irritation of the skin (rabbits): Transient, slight or mild irritation noted in a dermal irritation study with this product. EPA Toxicity Category IV.
- Sensitisation: In a study with this product, no skin sensitisation was observed.

Chronic/Carcinogenicity: No adverse effects known. None of the components are classified as carcinogens.

Teratology (Birth Defects) Information: No adverse effects known.

Reproduction Information: No adverse effects known.

See Section 2 for general hazard information.

Section 12: Ecological Information

Potential Environmental Interactions: Low Toxicity to fish and wildlife. Biobit® DF is toxic only to caterpillars of certain lepidopterous insects (moths and butterflies). It does not harm beneficial insects and mite predators, and leaves no harmful crop residues.

Section 13: Disposal Considerations

Product disposal: Use as directed or inactivate with heat and bury.

Container disposal: Puncture, or shred and bury empty containers in a local authority landfill.

Section 14: Transport Information

UN Number: N/A
DG Class and Subsidiary Group: N/A
Proper shipping name: N/A
Packing group: N/A
HAZCHEM code: N/A
Special precautions: Do not carry more than 3kg on a passenger service vehicle.
Section 15: Regulatory Information

<table>
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<tr>
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<tbody>
<tr>
<td></td>
<td>Approved Pursuant to the HSNO Act 1996, Number HSR000698. See <a href="http://www.epa.govt.nz">www.epa.govt.nz</a> for approval conditions.</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>HSNO Controls:</th>
<th>Trigger quantities for this substance:</th>
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</thead>
<tbody>
<tr>
<td>SDS must be available for</td>
<td>0.1kg</td>
</tr>
<tr>
<td>Signage</td>
<td>10,000kg</td>
</tr>
<tr>
<td>Emergency Plan</td>
<td>10,000kg</td>
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</table>

Section 16: Other Information

<table>
<thead>
<tr>
<th>Revision due:</th>
<th>8 May 2022</th>
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<tbody>
<tr>
<td>Additional information:</td>
<td>Directions for use are found on the product label.</td>
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Glossary:

- **ACVM**: Agricultural Compounds and Veterinary Medicines (in relation to Group or Act 1997)
- **CAS**: Chemical Abstract Services Number, used to uniquely identify chemical compounds
- **HSNO**: Hazardous Substances and New Organisms (legislation 1996)
- **LD50**: Lethal Dose fatal to 50% of test animals/organisms
- **PPE**: Personal Protective Equipment

This SDS summarises our best knowledge of the health and safety hazard information available for this product and how to safely handle and use it. Since the use of this information and the conditions of the use of this product are not under the control of Grochem, it is the user’s responsibility to determine conditions of safe use of the product.