



SUMITOMO CHEMICAL (U.K.) PLC

SAFETY DATA SHEET DIPEL® DF

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

| | |
|-----------------------|------------------------------------------------------------------------------------|
| Product name | DIPEL® DF |
| Name | <i>Bacillus thuringiensis subsp. kurstaki</i> , 540 g/kg water dispersible granule |
| GIFAP Code | WG |
| Synonyms; trade names | |

1.2. Relevant identified uses of the substance or mixture and uses advised against

| | |
|----------------------|-------------------------------------------|
| Identified uses | Biological insecticide (agricultural use) |
| Uses advised against | Not for public use |

1.3. Details of the supplier of the safety data sheet

| | |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Supplier | Sumitomo Chemical (UK) Plc Hythe House 200 Shepherds Bush Road Hammersmith London W6 7NL regulatory@scuk.sumitomo-chem.co.uk +44 (0)203 538 3099 |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

1.4. Emergency telephone number

| | |
|---------------------|-------------------------|
| Emergency telephone | +44 (0)1235 239670 (EU) |
|---------------------|-------------------------|

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

| | |
|-----------------------|------|
| Physical hazards | None |
| Health hazards | None |
| Environmental hazards | None |

2.2. Label elements

| | |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pictogram | None |
| Signal word | None |
| Hazard statements | None |
| Precautionary statements | P261 Avoid breathing spray. P280 Wear protective gloves/protective clothing/eye protection/face protection. P302+P352 IF ON SKIN: Wash with plenty of water. P363 Wash contaminated clothing before reuse. |

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P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except empty clean containers which can be disposed of as non-hazardous waste.

Supplemental label information

EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

**Special risks and safety precautions
(Commission Regulation (EU)
547/2011):**

General provisions

SP1 Do not contaminate water with the product or its container. (Do not clean application equipment near surface water.)

Specific safety precautions

SPo2 Wash all protective clothing after use.

2.3. Other hazards

Contains *Bacillus thuringiensis*. Micro-organisms may have the potential to provoke sensitising reactions.

SECTION 3: Composition/information on ingredients**3.1. Substances**

Classification according to
Regl 1272/2008

3.2 Mixtures

Classification according to
Regl 1272/2008

***Bacillus thuringiensis subsp. kurstaki (Strain ABTS-351,
serotype 3a3b)***

54.0%

CAS number: NA

Classification

None

Sodium sulphate

>0.1%

CAS number: 7757-82-6

Classification

Eye Irrit. 2 – H319

The full text for all hazard statements is displayed in Section 16.

Other information

Code ID : ABG-6404

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

In all cases of doubt, seek medical attention.

Inhalation

Move to fresh air. If symptoms persist, seek medical advice.

Ingestion

Rinse mouth. Never induce vomiting in unconscious or confused persons. Always seek medical attention

Skin contact

Remove contaminated clothing. Wash skin immediately with water. Launder clothes before reuse.

Eye contact

Rinse thoroughly with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical advice if irritation develops.

4.2. Most important symptoms and effects, both acute and delayed**General information**

Dust may be irritating to the respiratory tract and cause symptoms of bronchitis.
May cause an allergic skin reaction.

4.3. Indication of any immediate medical attention and special treatment needed**Notes for the doctor**

Symptomatic treatment is advised.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Dry chemical powder. Carbon dioxide (CO₂). Sand. Foam. Water.

Unsuitable extinguishing media None known.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products Thermal decomposition during combustion may evolve toxic and irritant vapours.

5.3. Advice for firefighters

Protective actions during firefighting Water used to extinguish a fire should not be allowed to enter the drainage system or watercourses.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA), suitable protective clothing and eye/face protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment, and emergency procedures

For non-emergency personnel Avoid contact with skin. Wear protective gloves, safety goggles or face shield, and suitable protective clothing. Remove ignition sources. Evacuate the danger area.

For emergency responders Avoid contact with skin. Wear protective nitrile gloves, safety goggles or face shield, and suitable protective clothing. Remove ignition sources. Evacuate the danger area or consult an expert.

6.2. Environmental precautions

Environmental precautions Do not allow escape into sewage system or watercourses. Do not wash residues into drains or other waterways.

6.3. Methods and material for containment and cleaning up

Containment of a spill Do not allow escape into sewage system or watercourses.

Methods for cleaning up Clean up spills immediately. Sweep up and place into sealable containers. Dig up heavily contaminated soil and place into drums. Use a damp cloth to clean floors and other objects, and also place in sealable container. Dispose of all waste and contaminated clothing in the same manner as waste chemicals (i.e. via an authorized disposal facility). Do not wash residues into drains or other waterways.

6.4. Reference to other sections

Reference to other sections For personal protection see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Fire and explosion prevention No specific recommendations.

Usage precautions Follow precautions for safe handling described in this safety data sheet. Avoid spilling. Do not allow to escape into sewage system or water courses.

Advice on general occupational hygiene Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in a dry and cool place. Keep away from sunlight. Keep container in a well-ventilated place. Keep away from food, drink and animal feedingstuffs. Do not drink, eat and smoke in work areas.

Other information Do not mix with water (except for the normal preparation).

7.3. Specific end use(s)

Specific end use(s) See label on the container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DIPEL® DF**Occupational exposure limits**

There is no national exposure limit for this product.
No chemical safety report is required for this kind of product.

8.2. Exposure controls

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|-----------------------------------------|-------------------------------------------|
| Appropriate engineering controls | Provide adequate ventilation. |
| Eye/face protection | Wear safety goggles or face shield. |
| Hand protection | Wear protective nitrile gloves. |
| Other skin and body protection | Wear suitable protective clothing. |
| Hygiene measures | Laundry clothes before reuse. |
| Respiratory protection | In case of dust formation, use dust mask. |

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

| | |
|-----------------------------------------------------|--------------------------------------------------------------------------------------|
| Name | <i>Bacillus thuringiensis subsp. kurstaki</i> , 540 g/kg water dispersible granule |
| Appearance | Granule (visual inspection) |
| Colour | Light brown (visual inspection) |
| Odour | Musty, yeast-like odour (Olfactory assessment) |
| Odour threshold | Not determined |
| pH | pH (diluted solution): 4.49 (1%) @ 25°C (CIPAC MT 75.2) |
| Melting point | Not determined |
| Initial boiling point and range | Not applicable |
| Flash point | Not applicable |
| Evaporation rate | Not applicable |
| Flammability (solid, gas) | Not "highly flammable" (EEC A.10) |
| Upper/lower flammability or explosive limits | Not determined |
| Vapour pressure | Not applicable |
| Vapour density | Not applicable |
| Relative density | Not applicable |
| Bulk density | 0.473 g/ml @ 23°C (FIFRA 151A-16) |
| Solubility(ies) | Suspends and partially soluble in water |
| Solubility in other solvents | Not applicable |
| Partition coefficient | Not applicable |
| Auto-ignition temperature | 252°C (EEC A.16) |
| Decomposition temperature | No decomposition up to the autoignition temperature |
| Viscosity | Not applicable |
| Explosive properties | Not explosive (based on the characteristics of the active substance and ingredients) |
| Oxidising properties | Not oxidising (based on the characteristics of the active substance and ingredients) |

9.2. Other information

| | |
|------------------------------------------|----------------|
| Relative vapour density (air = 1) | Not determined |
| Surface tension | Not determined |

SECTION 10: Stability and reactivity**10.1. Reactivity**

Reactivity Stable under recommended storage and handling conditions. See also section 7.

10.2. Chemical stability

Stability Stable for a minimum of 2 years under recommended storage and handling conditions. See section 7.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None known.

DIPEL® DF**10.4. Conditions to avoid**

Conditions to avoid Avoid high temperature, light, humidity.

10.5. Incompatible materials

Materials to avoid Oxidisers.

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition may evolve toxic and irritant vapours. See also section 5.

SECTION 11: Toxicological information**11.1. Information on toxicological effects**

Name *Bacillus thuringiensis subsp. kurstaki*, 540 g/kg water dispersible granule

Acute toxicity - oral

Acute toxicity - oral LD₅₀: >5050 mg/kg, Oral, Rat (OECD 401)

Acute toxicity - dermal

Acute toxicity - dermal LD₅₀: >2020 mg/kg, Dermal, Rabbit (OECD 402)

Acute toxicity - inhalation

Acute toxicity - inhalation LC₅₀, 4 hours: > 5.15 mg/l, nose only, Inhalation, Rat (OECD 425)

Skin corrosion/irritation

Skin corrosion/irritation Slightly irritating (OECD 404)

Serious eye damage/irritation

Serious eye damage/irritation Moderately irritating (OECD 405)

Skin sensitisation

Skin sensitisation Buehler test - Guinea pig: Not sensitising. (OECD 406)

Toxicological information on ingredients

Name Active substance; *Bacillus thuringiensis subsp. kurstaki* (Strain ABTS-351), technical grade

Germ cell mutagenicity

Genotoxicity – in vitro No validated methods available for microorganisms.

Genotoxicity – in vivo No validated methods available for microorganisms.

Carcinogenicity

Carcinogenicity (rat): Negative.

General information

Current available studies for skin sensitisation assessment are not appropriate for micro-organisms. Consequently, products containing microbials are required to carry a precautionary phrase but are not classified. Based on the available data, no classification criteria are met for any of these hazard classes.

Route of exposure

This product is for agricultural use; therefore, the most probable routes of exposure are via skin or inhalation.

SECTION 12: Ecological information**12.1. Toxicity**

Name *Bacillus thuringiensis subsp. kurstaki*, 540 g/kg water dispersible granule

Acute aquatic toxicity

Acute toxicity - algae EC₅₀ 72 hours: 50.84 mg/l, *Pseudokirchneriella subcapitata* (OECD 201)

Acute toxicity - terrestrial LD₅₀, 48 hours, oral: >222.41 µg/bee *Apis mellifera* (Honeybee) (OECD 213)

LD₅₀, 48 hours, contact: >185.0 µg/bee *Apis mellifera* (Honeybee) (OECD 214)

Ecological information on ingredients

Name Active substance; *Bacillus thuringiensis subsp. kurstaki* (Strain ABTS-351), technical grade

Toxicity - fish LC₅₀, 32 days: >2.87 x 10⁹ cfu/l test media (>143.5 mg as/l), Infectivity/pathogenicity, *Onchorhynchus mykiss* (Rainbow trout) (FIFRA Guideline 154-19)

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|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Toxicity - aquatic invertebrates | LC ₅₀ , 32 days: >2.87 x 10 ⁹ cfu/l test media (>143.5 mg as/l), Infectivity/pathogenicity, <i>Lepomis macrochirus</i> (Bluegill) (FIFRA Guideline 154-19) EC ₅₀ , 21 days: 14 mg/l, adult mortality/immobility, <i>Daphnia magna</i> NOEC <5 mg/l (FIFRA 154-20) EC ₅₀ , 21 days: 13 mg/l, adult mortality/immobility, <i>Daphnia magna</i> EC ₅₀ , 21 days: 7.8 mg/l, reproduction, <i>Daphnia magna</i> NOEC = 2.5 mg/l (OECD 211) |
| Toxicity - terrestrial | LD ₅₀ , 14 days, oral: >4042 µg/bee <i>Apis mellifera</i> (Honeybee) (FIFRA 154A-24) NOEC, 5 days: >2857 mg/kg bw <i>Colinus virginianus</i> (Bobwhite quail) (FIFRA 154A-16) NOEC, 5 days: >2857 mg/kg bw <i>Anas platyrhynchos</i> (Mallard duck) (FIFRA 154A-16) LC ₅₀ , 30 days: >1000 mg/kg soil (no effect), <i>Eisenia foetida</i> (Earthworm) NOEC = 1000 mg/kg dry soil (OECD 207) |

12.2. Persistence and degradability**Ecological information on ingredients**

| | |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name | Active substance; <i>Bacillus thuringiensis subsp. kurstaki</i> (Strain ABTS-351), technical grade |
| Degradation – biotic | Btk is naturally present in the environment; leaching is unlikely to occur. |
| Degradation – abiotic | Btk shows a rapid loss of activity in response to UV light; increasing humidity also contributes to this reduction. High values of pH (pH9) also decrease the insecticidal activity. |

12.3. Bioaccumulative potential**Ecological information on ingredients**

| | |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Name | Active substance; <i>Bacillus thuringiensis subsp. kurstaki</i> (Strain ABTS-351), technical grade |
| Bioaccumulative potential | Not applicable; the substance is not pathogenic to non-target organisms and has not been seen to reproduce in non-target organisms. |

12.4. Mobility in soil**Ecological information on ingredients**

| | |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name | Active substance; <i>Bacillus thuringiensis subsp. kurstaki</i> (Strain ABTS-351), technical grade |
| Adsorption/desorption coefficient | Adsorption K _{Foc} values: not applicable for microbial substances Desorption K _{Foc-des} values: not applicable for microbial substances |

12.5. Results of PBT and vPvB assessment**Ecological information on ingredients**

| | |
|-------------------------------------------|----------------------------------------------------------------------------------------------------|
| Name | Active substance; <i>Bacillus thuringiensis subsp. kurstaki</i> (Strain ABTS-351), technical grade |
| Results of PBT and vPvB assessment | Not required (no chemical safety report required). |

12.6. Other adverse effects**Ecological information on ingredients**

| | |
|------------------------------|----------------------------------------------------------------------------------------------------|
| Name | Active substance; <i>Bacillus thuringiensis subsp. kurstaki</i> (Strain ABTS-351), technical grade |
| Other adverse effects | No other known adverse effects on the environment. |

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

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|-------------------------|---------------------------------------------------------------------------|
| Disposal methods | According to local regulations. For further advice, contact manufacturer. |
|-------------------------|---------------------------------------------------------------------------|

SECTION 14: Transport information**14.1. UN Number**

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|-------------------------|------|
| UN No. (ADR/RID) | None |
| UN No. (IMDG) | None |
| UN No. (ICAO) | None |

14.2. UN proper shipping name

| | |
|---------------------------------------|--------------|
| Proper shipping name (ADR/RID) | Not relevant |
| Proper shipping name (IMDG) | Not relevant |
| Proper shipping name (ICAO) | Not relevant |

14.3. Transport hazard class(es)

| | |
|----------------------------|----------------|
| ADR/RID class | Not restricted |
| ADR/RID label | Not relevant |
| IMDG class | Not restricted |
| ICAO class/division | Not restricted |

14.4. Packing group

| | |
|------------------------------|--------------|
| ADR/RID packing group | Not relevant |
| IMDG packing group | Not relevant |
| ICAO packing group | Not relevant |

14.5. Environmental hazards

| | |
|-------------------------|----|
| Marine pollutant | No |
|-------------------------|----|

14.6. Special precautions for user

No other special precaution required.

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|------------|--------------|
| EmS | Not relevant |
|------------|--------------|

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the ICB Code

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|---------------------------------------------------------------------------------|----------------|
| Transport in bulk according to Annex II of MARPOL 73/78 and the ICB Code | Not applicable |
|---------------------------------------------------------------------------------|----------------|

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

| | |
|-----------------------|---------------------------------------------------------------|
| EU legislation | There is no specific regulation/legislation for this mixture. |
|-----------------------|---------------------------------------------------------------|

15.2. Chemical safety assessment

No chemical safety assessment is required for this mixture.

SECTION 16: Other information

| | |
|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| Method for evaluating information referred to in Article 9 of Regulation (EC) No 1272/2008 used for the purpose of classification | Classification based on; tests, properties of the active substance |
|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|

| | |
|--------------------------------------------------|-----------------------------|
| Classification abbreviations and acronyms | Eye Irrit. = Eye irritation |
|--------------------------------------------------|-----------------------------|

| | |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Abbreviations and acronyms Used in the safety data sheet | <p>ASTM : American Society for Testing Material CAS: Chemical Abstracts Service. CFR : Code of Federal Regulations CLP : Classification, Labelling and Packaging EC : European Community EEC : European Economic Community EPA : Environmental Protection Agency (USA)</p> |
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EPPO : European and Mediterranean Plant Protection Organization
 EU : European Union
 GIFAP : International Group of National Associations of manufacturers of Agrochemical Products
 GHS: Globally Harmonized System.
 ID : identification
 i.e. : shortening of the Latin expression id est, which is translated as "that is."
 OECD : Organisation for Economic Co-operation and Development
 PBT: Persistent, Bioaccumulative and Toxic substance.
 REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
 Regl : Regulation
 US EPA : United States Environmental Protection Agency
 vPvB: Very Persistent and Very Bioaccumulative.
 w/w : weight per weight
 FIFRA : Federal Insecticide, Fungicide and Rodenticide Act of 1972
 LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
 LC₅₀: Lethal Concentration to 50 % of a test population.
 EC₅₀: 50% of maximal Effective Concentration.
 NOEC: No Observed Effect Concentration.
 NOAEL: No Observed Adverse Effect Level.
 ECb50 : 50% of maximal Effective Concentration on biomass.
 NOECb : No Observed Effect Concentration on biomass.
 DT₅₀ : degradation time for 50% of a compound
 log Pow : Octanol-water partition coefficient.
 Koc : organic carbon adsorption coefficient
 BCF: Bioconcentration Factor.
 UN: United Nations.
 No. : number
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
 RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
 IMDG: International Maritime Dangerous Goods.
 ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
 N.O.S. : Not Otherwise Specified
 EmS : Emergency Response Procedures for Ships Carrying Dangerous Goods
 MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
 IBC: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code).
 SDS : Safety Data Sheet

 Vol. = volume
 CIPAC : Collaborative International Pesticides Analytical Council
 USP : United States Pharmacopeia
 WG: Water dispersible granules

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|----------------------------------|------------------------------------------------------------------------|
| Revision comments | Sections were modified as follows: Identity of the company/undertaking |
| Hazard statements in full | H319 Causes serious eye irritation |
| Reference of the SDS | Based on Btk32000WGCLP/EU/310gb from SCAE |

This information only concerns the above mentioned product for the specific use mentioned and is not valid for such product used in combination with any other product. The information is to our best present knowledge correct and complete and is given in good faith as of the date indicated. It is the user's responsibility to use this information as appropriate for his own particular use of this product.