



BIONEM WP 5

Version 1 / EU
1020000249521/8
Revision Date: 02.12.2014
Print Date: 13.11.2017

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name BIONEM WP 5
Product code (UVP) 80240511

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

Use Insecticide, Nematicide

1.3 Details of the supplier of the safety data sheet

Supplier Bayer AG
Kaiser-Wilhelm-Allee 1
51373 Leverkusen
Germany

Telefax +49(0)2173-38-7394

Responsible Department Product Safety and Specification Management
+49(0)2173-38-3409 (during business hours only)
Email: BCS-SDS@bayer.com

1.4 Emergency telephone no.

Emergency telephone no. ZCUST-X01.00000178
+1 (760) 476-3964 (Company 3E for Bayer AG, Crop Science Division)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

Eye irritation: Category 2
H319 Causes serious eye irritation.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Xi Irritant, R36

2.2 Label elements

Labelling in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

Hazard label for supply/use required.



Signal word: Warning

Hazard statements

H319 Causes serious eye irritation.
EUH401 To avoid risks to human health and the environment, comply with the instructions for use.
Contains Bacillus firmus. May cause sensibilisation.

**BIONEM WP 5**Version 1 / EU
102000024952

2/8

Revision Date: 02.12.2014
Print Date: 13.11.2017**Precautionary statements**

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P337 + P313 If eye irritation persists: Get medical advice/ attention.
 P501 Dispose of contents/container in accordance with local regulation.

2.3 Other hazards

No other hazards known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.2 Mixtures****Chemical nature**

Wettable powder (WP)

Bacillus firmus I-1582 5% Biological control with insecticidal/nematicidal properties

Hazardous components

R-phrases according to EC directive 67/548/EEC

Hazard statements according to Regulation (EC) No. 1907/2006

Name	CAS-No. / EC-No.	Classification		Conc. [%]
		EC Directive 67/548/EEC	Regulation (EC) No 1272/2008	
Bacillus firmus (Strain I-1582) (contains 7.1 x 10 exp10 UFC per gram)		Not classified	Not classified	5,00
Ammonium chloride	12125-02-9 235-186-4	Xn; R22 Xi; R36	Acute Tox. 4, H302 Eye Irrit. 2, H319	> 1,00 – < 25,00
Silica, amorphe	7631-86-9 231-545-4	Not classified	Not classified	>= 1,00
Potassium chloride	7447-40-7 231-211-8	Not classified	Not classified	> 1,00

Further information

Substances which do not meet the classification criteria according to Directive 67/548/EEC as amended:

Silica, amorphe (7631-86-9): Substance with an EU indicative Occupational Exposure Limit value (OEL) below the threshold value for reporting.

For the full text of the R-phrases/ Hazard statements mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES**4.1 Description of first aid measures****General advice**

Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely.

Inhalation

Move to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.

**BIONEM WP 5**Version 1 / EU
1020000249523/8
Revision Date: 02.12.2014
Print Date: 13.11.2017

Skin contact	Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. If symptoms persist, call a physician.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. If eye irritation or redness persists, see an ophthalmologist.
Ingestion	Rinse mouth. Do NOT induce vomiting. Call a physician or poison control center immediately.
4.2 Most important symptoms and effects, both acute and delayed	
Symptoms	No symptoms known or expected.
4.3 Indication of any immediate medical attention and special treatment needed	
Treatment	Treat symptomatically. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. There is no specific antidote.

SECTION 5: FIREFIGHTING MEASURES**5.1 Extinguishing media**

Suitable	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable	High volume water jet

5.2 Special hazards arising from the substance or mixture Dangerous gases are evolved in the event of a fire.

5.3 Advice for firefighters

Special protective equipment for fire-fighters In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus.

Further information Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures**

Precautions Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment.

6.2 Environmental precautions Do not allow to get into surface water, drains and ground water.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up Use mechanical handling equipment. Clean contaminated floors and objects thoroughly, observing environmental regulations. Keep in suitable, closed containers for disposal.

**BIONEM WP 5**Version 1 / EU
102000024952

4/8

Revision Date: 02.12.2014
Print Date: 13.11.2017

6.4 Reference to other sections Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE**7.1 Precautions for safe handling**

Advice on safe handling Avoid dust formation. Use only in area provided with appropriate exhaust ventilation.

Hygiene measures Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands immediately after work, if necessary take a shower. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt).

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a place accessible by authorized persons only.

Advice on common storage Keep away from food, drink and animal feedingstuffs.

Suitable materials Aluminium composite film (min. 0,007 mm Aluminium)

7.3 Specific end uses Refer to the label and/or leaflet.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control parameters**

Components	CAS-No.	Control parameters	Update	Basis
Ammonium chloride	12125-02-9	10 mg/m ³ (TWA)		OES BCS*
Potassium chloride	7447-40-7	1 mg/m ³ (TWA)		OES BCS*

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

8.2 Exposure controls**Personal protective equipment**

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection

If product is handled while not enclosed, and if contact may occur:
Wear respirator with a particle filter mask (protection factor 4) conforming to European norm EN149FFP1 or equivalent.
Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.

Hand protection

Wear CE Marked (or equivalent) nitrile rubber gloves (minimum

**BIONEM WP 5**Version 1 / EU
102000024952

5/8

Revision Date: 02.12.2014

Print Date: 13.11.2017

thickness of 0,4 mm). Wash when contaminated and dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.

Eye protection

Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

Skin and body protection

Wear standard coveralls and Category 3 Type 5 suit.
If there is a risk of significant exposure, consider a higher protective type suit.
Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently.
If chemical protection suit is splashed, sprayed or significantly contaminated, decontaminate as far as possible, then carefully remove and dispose of as advised by manufacturer.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

Form	powder
Colour	light brown
pH	6,0 - 8,0 at 1 % (23 °C) (deionized water)
Bulk density	800 - 960 kg/m ³ (loose)

9.2 Other information Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY**10.1 Reactivity**

Thermal decomposition Stable under normal conditions.

10.2 Chemical stability Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions No hazardous reactions when stored and handled according to prescribed instructions.

10.4 Conditions to avoid Extremes of temperature and direct sunlight.

10.5 Incompatible materials Store only in the original container.

10.6 Hazardous decomposition products No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION**11.1 Information on toxicological effects**

Acute oral toxicity LD50 (rat) > 2.000 mg/kg

Acute inhalation toxicity LC50 (rat) > 5,02 mg/l
Exposure time: 4 h
Determined in the form of a respirable fine dust.

Acute dermal toxicity LD50 (rat) > 2.000 mg/kg

**BIONEM WP 5**Version 1 / EU
102000024952

6/8

Revision Date: 02.12.2014
Print Date: 13.11.2017

Skin irritation	Slight irritant effect - does not require labelling. (rabbit)
Eye irritation	Moderate eye irritation. (rabbit)
Sensitisation	Micro-organisms may have the potential to provoke sensitising reactions.

Assessment repeated dose toxicity

Bacillus firmus did not cause specific target organ toxicity in experimental animal studies.

Assessment Mutagenicity

Bacillus firmus: Test not required for microorganisms.

Assessment Carcinogenicity

Bacillus firmus: Test not required for microorganisms.

Assessment toxicity to reproduction

Bacillus firmus: Test not required for microorganisms.

Assessment developmental toxicity

Bacillus firmus: Test not required for microorganisms.

SECTION 12: ECOLOGICAL INFORMATION**12.1 Toxicity**

Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)) > 100 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient.
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Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) > 100 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient.
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Toxicity to aquatic plants	IC50 (Pseudokirchneriella subcapitata) 24,2 mg/l Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient.
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12.2 Persistence and degradability

Biodegradability	Bacillus firmus: Evaluation of biodegradability is not relevant for micro-organisms.
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12.3 Bioaccumulative potential

Bioaccumulation	Bacillus firmus: Evaluation of bioaccumulation is not relevant for micro-organisms.
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12.4 Mobility in soil

Mobility in soil	Bacillus firmus: Immobile in soil
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12.5 Results of PBT and vPvB assessment

PBT and vPvB assessment	Bacillus firmus: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).
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12.6 Other adverse effects



BIONEM WP 5

Version 1 / EU
102000024952

7/8

Revision Date: 02.12.2014
Print Date: 13.11.2017

Additional ecological information No other effects to be mentioned.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product In accordance with current regulations and, if necessary, after consultation with the site operator and/or with the responsible authority, the product may be taken to a waste disposal site or incineration plant.

Contaminated packaging Not completely emptied packagings should be disposed of as hazardous waste.

Waste key for the unused product **020108** agrochemical waste containing dangerous substances

SECTION 14: TRANSPORT INFORMATION

According to ADN/ADR/RID/IMDG/IATA not classified as dangerous goods.

This classification is in principle not valid for carriage by tank vessel on inland waterways. Please refer to the manufacturer for further information.

14.1 – 14.5 Not applicable.

14.6 Special precautions for user

See sections 6 to 8 of this Safety Data Sheet.

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

No transport in bulk according to the IBC Code.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Further information

WHO-classification: III (Slightly hazardous)

15.2 Chemical Safety Assessment

A chemical safety assessment is not required.

SECTION 16: OTHER INFORMATION

Text of R-phrases mentioned in Section 3

R22 Harmful if swallowed.

R36 Irritating to eyes.

Text of the hazard statements mentioned in Section 3

H302 Harmful if swallowed.

H319 Causes serious eye irritation.



BIONEM WP 5

Version 1 / EU
102000024952

8/8

Revision Date: 02.12.2014
Print Date: 13.11.2017

The information contained within this Safety Data Sheet is in accordance with the guidelines established by Regulation (EU) 1907/2006 and Regulation (EU) 453/2010 amending Regulation (EU) No 1907/2006 (and any subsequent amendments). This data sheet complements the user's instructions, but does not replace them. The information it contains is based on the knowledge available about the product concerned at the time it was compiled. Users are further reminded of the possible risks of using a product for purposes other than those for which it was intended. The required information complies with current EEC legislation. Addressees are requested to observe any additional national requirements.

Reason for Revision: Safety Data Sheet according to Regulation (EU) No. 453/2010.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.
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