


Section 1 Identification of the mixture and of the company	
1.1	Product identifier
	Product name DELFIN® WG
	Synonyms
1.2	Relevant identified uses of the mixture and uses advised against
	Use of the product Bioinsecticide
	Uses advised against All uses other than for use as a Bioinsecticide.
1.3	Details of the supplier of the Safety Data Sheet
	Supplier Andermatt Biocontrol UK Limited
	Address 43 Hove Park Road, Hove, BN3 6LH United Kingdom
	Phone (technical) +44 (0) 79 39 39 50 59
	E-mail contact@anderfattuk.com
1.4	Emergency telephone number
	Phone (medical) +44 (0) 870 600 6266 (National Poisons Information Service)
Section 2 Hazards identification	
2.1	Classification of the mixture
	Classification according to Regulation (EC) No 1272/2008 (CLP)
	CLP Classification H319: Causes serious eye irritation
2.2	Label elements
	Labelling according to CLP (Regulation (EC) No 1272/2008)
	Hazard Pictogram(s)
	
	Signal Word Warning
	Hazard Statements H319: Causes serious eye irritation
	Precautionary Statements P101: If medical advice is needed, have product container or label at hand. P102: Keep out of reach of children.
	Prevention P261: Avoid breathing spray. P264: Wash hands thoroughly after handling. P280: Wear protective gloves and eye protection.
	Response P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. P337+P313: If eye irritation persists: Get medical advice/attention.
	Disposal P501: Dispose of contents/container according to local regulations.

Additional label elements (refer to section 16 for further information)

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

SP1: Do not contaminate water with the product or its container.

2.3 Other hazards

Not classified as PBT (persistent, bioaccumulative and toxic) / vPvB (very persistent and very bioaccumulative) by EU criteria.

Section 3 Composition/information on ingredients

3.1 Substances / Mixtures

Ingredient	CAS No.	EC No.	Wt %	Classification CLP
<i>Bacillus thuringiensis</i> subspecies <i>kurstaki</i> SA-11	68038-71-1	Not available.	70 - 90	Not classified.
Sodium polynaphthalenesulfonate	9084-06-4	Not available.	10 - 20	H412

Section 4 First aid measures

4.1 Description of first aid measures

Eye Contact	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. Do not apply any medicating agent except on the advice of a physician.
Skin Contact	IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Do not apply any medicating agent except on the advice of a physician.
Inhalation	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If signs/symptoms persist, get medical advice/attention.
Ingestion	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Irritant effects, cough, shortness of breath. May cause sensitization in some individuals.

4.3 Indication of any immediate medical attention and special treatment needed

Note to Physicians: No information available.

Section 5 Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	Dry chemical, alcohol foam, carbon dioxide.
Unsuitable extinguishing media	Not available.

5.2 Special hazards arising from the mixture

Hazardous combustion products	Dust may form explosive mixtures in air. Carbon monoxide. Carbon dioxide. Oxides of sulphur.
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5.3 Advice for firefighters

Protection of Firefighters: Keep upwind of fire. Wear protective clothing and self-contained breathing apparatus.

Section 6		Accidental release measures
6.1	Personal precautions, protective equipment and emergency procedures	
	For non-emergency personnel	Avoid generation of dusts. Do not inhale dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area and observe emergency procedures.
	For emergency responders	Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.
6.2	Environmental precautions	Keep out of drains, sewers, ditches, and waterways.
6.3	Methods and material for containment and cleaning up	
	Methods for Containment	Contain spill. Reclaim material if possible.
	Methods for Clean-Up	Collect mechanically. Sweep, vacuum, or shovel material into a container for disposal. Avoid generation of dusts. Clean up affected area with plenty of water containing a strong detergent. Flush the area with water to remove any residue. Do not allow wash water to contaminate water supplies.
	Other Information	Dispose of in accordance with local regulations for disposal of non-hazardous waste.
6.4	Reference to other sections	See Section 8 for occupational exposure limits and risk management measures. Refer to Section 13 for disposal considerations.
Section 7		Handling and storage
7.1	Precautions for safe handling	Avoid breathing dust. Avoid contact with skin and eyes. Avoid contact with open wounds. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. See Section 8 for appropriate personal protective equipment. Keep away from excessive heat and open flames. After handling, wash hands before eating, drinking, or smoking.
7.2	Conditions for safe storage, including any incompatibilities	Store in a dry place. Store in a closed container. Protect from sunlight.
7.3	Specific end use(s)	Follow application instructions on product labels and any technical documents provided with the product.
Section 8		Exposure controls/personal protection
8.1	Control parameters	None
8.2	Exposure controls	
	Engineering Controls	Ensure ventilation is adequate to keep airborne dust levels low.
	Personal Protective Equipment	Not required.
	Eye/face protection	Not required.
	Skin protection	Not required.
	Hand protection	Wear protective gloves.
	Body protection	Wear suitable protective clothing. For brief contact, no precautions other than clean body-covering clothing should be needed.
	Respiratory protection	Not required.
	Thermal hazards	Not applicable.

General Hygiene Considerations	Handle according to established industrial hygiene and safety practices.
Environmental exposure controls	Follow all applicable environmental protection legislation.

Section 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Solid (granules)
Colour	Brown
Odour	Fishmeal odour.
Odour threshold	Not available.
pH	5.5 to 6.5
Melting point/freezing point	Not applicable (since it is a mixture, only a range would be measured).
Initial boiling point and boiling range	Not relevant (since used as a solid at normal conditions).
Flash point	Not available.
Evaporation rate	Not applicable (product is a solid).
Flammability	The product is not flammable and the temperature of auto-flammability was found to be > 400°C.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	Negligible
Partition coefficient: n-cotanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not applicable (product is a solid at normal conditions).
Explosive properties	The formulation has no explosive properties regarding shock, attrition or thermal impact.
Oxidising properties	The formulation has no oxidising properties.

9.2 Other information

Not available.

Section 10 Stability and Reactivity

10.1 Reactivity

No known hazardous reactions when handled and stored according to stated provisions.

10.2 Chemical stability

Stable when handled and stored according to stated provisions.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Avoid exposure to moisture. Exposure to excessive heat or open flame.

10.5 Incompatible materials

No known incompatible materials.

10.6 Hazardous decomposition products

No known hazardous decomposition products.

Section 11 Toxicological information

11.1 Information on toxicological effects

Likely Routes of
Exposure

Eye contact, skin contact, ingestion and inhalation.

Symptoms

Eye

Irritating to the rabbit eye. Conjunctival irritation, completely reversible within 14 days.

Skin

Not irritating.

Ingestion

None.

Inhalation

None.

Acute toxicity

Toxicological information on the substance or mixture:

LD₅₀ (oral)

> 5000 mg/kg (rat and mouse)

LD₅₀ (dermal)

No observed effect at 3.5 E+9 CFU/kg (rabbit)

LD₅₀ (inhalation)

No observed effect based on a test for the corresponding active ingredient.

Skin corrosion/irritation

No signs of dermal irritation, no oedema or erythema, were observed even after 24h dermal exposure (rabbit).

Serious eye
damage/irritation

Classified as eye irritant. Conjunctival irritation, completely reversible within 14 days.

Respiratory or skin
sensitization

Not sensitizing

Mutagenicity

The Technical Grade Active Ingredient is not mutagenic according to Salmonella reverse mutation assay and according to the mutagenicity test run on Chinese hamster ovary cells.

Germ cell mutagenicity

Not mutagenic, see above.

Carcinogenicity

No data available.

Reproductive toxicity

No data available.

Developmental toxicity

No data available.

Fertility

No data available.

Target Organs

Skin.

STOT-single exposure

No data available.

STOT-repeated exposure

No data available.

Aspiration hazard

Not an aspiration hazard.

Repeated Dose Toxicity

No data available.

Narcosis

No data available.

Interactive Effects

No data available.

Chronic Effects

No data available.

Other information on
adverse health effects

No other information available.

Section 12 Ecological information

12.1 Toxicity

Low toxicity and non-pathogenic to tested aquatic species (fish, daphnia, algae), birds, bees and non-target arthropods.

Test species	Test method	Test substance	Findings
Rainbow trout	30-day, semi-static	<i>Bacillus thuringiensis</i> strain SA-11 (Btk- SA-11)	LC ₅₀ > 41.5 mg/L (> 1.0 x 10 ⁹ CFU/L)
<i>Daphnia magna</i>	48-hour, static	<i>Bacillus thuringiensis</i> strain SA-11 (Btk- SA-11)	EC ₅₀ > 41.5 mg/L (> 1.0 x 10 ⁹ CFU/L)
<i>Selenastrum capricornutum</i>	72-hour, static	SAN 415 I (SA-11) Technical Powder (Btk-SA 11)	E _b C ₅₀ & E _r C ₅₀ > 42 mg Btk mg/L (> 1.0 x 10 ⁹ CFU/L)
<i>Eisenia fetida</i>	14-day, static	Delfin WG Biological Insecticide	LC ₅₀ > 1000 mg/kg soil LC ₅₀ > 5.3 x 10 ⁷ SU/kg soil
<i>Apis mellifera</i> L.	Limit test, oral (19d)/ contact (15d); OSCPP	Delfin WG Biological Insecticide	LD ₅₀ Oral > 82 µg /bee (> 4.2 x 10 ⁶ CFU/bee) LD ₅₀ Contact > 100 µg/bee (> 5.1 x 10 ⁶ CFU/bee)

12.2 Persistence and degradability

Bacillus thuringiensis subspecies *kurstaki* (Btk) shows a rapid loss of activity in response to UV light.

12.3 Bioaccumulative potential

Btk is not pathogenic and does not reproduce in living organisms other than target Lepidopteran larvae.

12.4 Mobility in soil

Low based on scientific data for Btk.

12.5 Results of PBT and vPvB assessment

Not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

No data available.

Section 13 Disposal considerations

13.1 Waste treatment methods

Product/Packaging disposal

Use pressure rinsing devices or triple rinsing with water to reduce any product residues in the container to insignificant levels. Don't dispose product or containers on ponds, rivers or ditches. Don't re-use containers for other purposes. Waste disposal and recycling contractors will take cleaned containers.

Waste resulting from the use of the product must be disposed on site or on an approved waste disposal facility. Empty the sprayer out in the field being treated by spraying out on to a relatively pest free part of the field left unsprayed or under-dosed for the crop.

Waste codes/waste designations according to LoW

Not applicable

Waste treatment-relevant information

None

Sewage disposal-relevant information

Waste should not be disposed of by release to sewers

Other disposal recommendations None

Section 14 Transport Information

- 14.1. UN number: Not regulated.
- 14.2. UN proper shipping name: Not regulated.
- 14.3. Transport hazard class(es): Not regulated.
- 14.4. Packing group: Not regulated.
- 14.5. Environmental hazards: Not regulated.
- 14.6. Special precautions for user: Not regulated.
- 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not regulated.

Section 15 Regulatory information

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

Authorisations Btk strains SA-11 is a naturally occurring strain, derived from insects. The strain is deposited in the ARS Culture Collection (also known as Northern Regional Research Laboratory (NRRL) under the reference number NRRL B-30790.

Restrictions on use None.

National regulations Not applicable.

15.2 Chemical Safety Assessment

No Chemical Safety Assessments have been carried out for this substance.

Section 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.

i Indication of changes

Date of printing Not applicable (new SDS)
19.03.2020

Label according to Part 4 Annex II to Regulation 1272/2008 (CLP): EUH401: To avoid risks to human health and the environment, comply with the instructions for use.