

Delfin

Section 1: Identification

Product name: Delfin

Other names: Delfin WG, Javelin WG

Recommended use: Bio-insecticide

Manufacturer/Importer details: Fruitfed Supplies (part of PGG Wrightson Ltd)
1 William Pickering Drive
Albany, Auckland 0632
New Zealand

Phone: 09 448 0510

24 hour emergency contact: 0800 CHEMCALL (0800 243 622)

National Poisons Centre: 0800 POISON (0800 764 766)

Section 2: Hazard identification

Product is classified as hazardous according to the Hazardous Substances (Classification) Notice 2017 of the HSNO Act, 1996.

HSNO Approval: HSR000699

Hazardous classification: 9.1D

Signal word: **No signal word required**

Hazard statements: Take all reasonable steps to ensure that the substance does not cause any significant adverse effects to the environment beyond the application area
Do not apply directly into or onto water

Prevention statements: P103: Read label before use
P273: Avoid release to the environment
Do not apply directly into or onto water

Response statements: Nil

Storage statement/s: Nil

Disposal statement/s: P501 Dispose of product and containers in accordance with local Regulations. See section 13 for more details.

Section 3: Composition/information on ingredients

Chemical identity of ingredients with health or environmental hazards:

Ingredient	CAS No.	Proportion w/w
<i>B. thuringiensis kurstaki</i> Strain SA-11	68038-71-1	85%
Other ingredients	-	15%

Delfin

Section 4: First-aid measures

First aid measures:	Call the National Poisons Centre or doctor for treatment advice. Have the product container or label at hand.
Inhalation:	Move person to fresh air. If person feels unwell, seek medical or call 111.
Ingestion:	If swallowed, rinse mouth with water but do not induce vomiting. Seek medical advice if person feels unwell.
Skin contact:	If skin or hair contact occurs, remove contaminated clothing and rinse skin and hair with running water.
Eye contact:	If splashed in the eyes, wash out immediately with water.
First aid facilities:	Provide running water close to areas where product contact or splashing may occur.
Advice to doctor:	Treat symptomatically.

Section 5: Fire-fighting measures

Flammability:	Non-flammable
Appropriate extinguishing media:	Dry chemical, foam, carbon dioxide. No unsuitable extinguishing media are known
Combustion products:	None known
Special protective equipment and precautions for fire-fighters:	None known

Section 6: Accidental release measures

Personal precautions:	Applicators and other handlers must wear: Long sleeved shirt and long pants Waterproof gloves Shoes plus socks Mixers and loaders must wear dust-filtering respirator meeting standards of at least N-95, r-95 or P-95. Repeated exposure to microbial proteins may cause allergic sensitization.
Environmental precautions:	Contain spillage. Do not allow to contaminate any waterway.
Procedure for clean up:	Wear appropriate protective clothing and prevent material from entering waterways. Absorb spills with inert material and place in waste container. Wash area with water and absorb with further inert material. Dispose of waste safely in approved landfill. Do not allow wash water to contaminate water supplies.

Section 7: Handling and storage

Safe handling:	Avoid contact with skin, eyes, open wounds or clothing. When mixing or applying wear protective clothing including water proof
----------------	--

Delfin

	gloves and goggles. Remove PPE and wash hands and exposed skin before meals and after work. Apply using accurately calibrated equipment in accordance with NZS 8409. Do not apply directly to water and avoid runoff to water bodies. Take all reasonable steps to ensure that the substance does not cause any significant adverse effects to the environment beyond the application area
Safe storage:	Keep out of reach of children. Store in original container tightly closed in a, cool, dry, well-ventilated place inaccessible and pets and away from heat and direct sunlight. Protect from freezing. Storage at temperatures above 30°C may impair effectiveness. Storage must be in accordance with current version of NZS 9409: Management of Agrichemicals.

Section 8: Exposure controls/personal protection

Occupational exposure limits:	No WES values or Biological Exposure indices have been set by WorkSafe in Edition 11, November 2019. However it is recommended that airborne concentrations should be kept below 3 mg/m ³ for respirable particulates and 10 mg/m ³ for inhalable particulates.
Biological limit value:	No BEI is set at the time (version 4, March 2018).
Engineering controls:	Ensure ventilation is adequate to keep airborne dust levels low.
Respiratory protection:	Mixer loaders and applicators must wear a dust/mist filtering respirator meeting standards of at least N-95, R-95 or P95. Repeated exposure to high concentrates of microbial proteins can cause allergic sensitization
Hand protection:	Water proof gloves.
Eye protection:	None specified
Skin protection:	Wear long sleeved shirt, long pants, shoes and socks.
General hygiene:	Wash hands before rest breaks, eating, drinking, smoking, and at the end of work. Remove clothing /PPE immediately if pesticide gets inside. Contaminated clothing should be washed separately before reuse

Section 9: Physical and chemical properties

(a)	Appearance:	Solid brown granules.
(b)	Odour:	Fishy
(c)	Odour threshold:	Not established
(d)	pH 1% suspension:	5.5-6.5, 1% dilution
(e)	Melting point/freezing point:	Not applicable
(f)	Initial boiling point and boiling range:	Not applicable
(g)	Flash point:	Not applicable

Delfin

(h)	Flammability (solid, gas):	Not determined
(i)	Upper/lower flammability or explosive limits:	Not determined
(j)	Vapour pressure:	Not applicable
(k)	Vapour density:	Not applicable
(l)	Relative density:	0.428-0.473 g/cc
(m)	Solubility:	Not determined
(n)	Partition coefficient: n-octanol/water:	Not determined
(o)	Auto-ignition temperature:	Not determined
(p)	Decomposition temperature:	Not determined
(q)	Kinematic viscosity:	Not applicable

Section 10: Stability and reactivity

Stability of the substance:	Stable when handled and stored according to stated provisions.
Conditions to avoid:	Avoid exposure to sunlight and moisture. Exposure to excessive heat or open flame.
Incompatible materials:	No known incompatible materials.
Hazardous decomposition products:	No known hazardous decomposition products

Section 11: Toxicological information

	Toxicity classifications determined by assessment of the components in the formulated mixture.	
(i)	Acute toxicity:	Not classified as acutely toxic.
(ii)	Aspiration hazard:	Not classified as aspirant hazard
(iii)	Respiratory irritation:	Not classified as a respiratory irritant
(iv)	Skin corrosion / irritation:	Not irritating to skin
(v)	Serious eye damage / irritation:	Not classified as eye irritant
(vi)	Respiratory or skin sensitisation:	Not classified as a sensitiser
(vii)	Germ cell mutagenicity:	Not classified as a mutagen
(viii)	Carcinogenicity:	Not classified as a carcinogen
(ix)	Reproductive toxicity:	Not classified as a reproductive toxicant
(x)	Specific organ toxicity:	Not classified as a specific target organ or system toxicant
(xi)	Narcotic effects:	Not classified as causing narcotic effects.
	Toxicological information for product:	LD50 Oral: >5000 mg/kg, rat

Delfin

LD50 Dermal: No observed effect at 3,500,000,000 CFU/kg, rabbit
LC50 Inhalation No observed effect based on test with active ingredient.

Section 12: Ecological information

Ecotoxicological classifications determined by assessment of the components in the formulated mixture.

- (a) Aquatic toxicity: Not classified as toxic to aquatic invertebrates
- (b) Terrestrial vertebrate toxicity: Not classified as toxic to terrestrial vertebrates
- (c) Terrestrial invertebrate toxicity: Not classified as toxic to terrestrial invertebrates
- (d) Persistence and degradability: *Bacillus thuringiensis* subspecies *kurstaki* (Btk) shows a rapid loss of activity in response to UV light.
- (e) Potential to be bioaccumulative: Btk is not pathogenic and does not reproduce in living organisms other than target Lepidopteran larvae
- (f) Mobility in soil: Low based on data for Btk active ingredient.

Ecotoxicological information]:

Species	Test method	Test substance	LC50
Northern Bobwhite	5-day	Btk SA-11 Technical	LC ₅₀ > 3.86 x 10 ⁹ CFU/kg body weight
<i>Oncorhynchus mykiss</i>	30-day	Btk SA-11 Technical	LC ₅₀ > 1x 10 ⁸ CFU/mL
<i>Daphnia magna</i>	48 hour, static	Btk SA-11 Technical	LC ₅₀ > 1x 10 ⁸ CFU/mL
<i>Selenastrum capricornutum</i>	72 hour	Btk SA-11 Technical	LC ₅₀ > 1x 10 ⁶ CFU/mL
<i>Apis mellifera</i> L	48 hour, dose response	Javelin/Delfin WG	LD ₅₀ oral > 428.66 µg/bee LD ₅₀ contact > 320 µg/bee

Section 13: Disposal considerations

- Product disposal: Dispose of this product only by using according to the label or through Agrecovery chemical disposal or similar approved service or to an approved landfill. Avoid contamination of any water supply with product
- Container disposal: Recycle through Agrecovery if possible or appropriate recycling facility. Alternatively, crush and bury in an approved landfill. Do not use container for any other purpose. Avoid contamination of any water supply or stream with product or empty container.

Section 14: Transport information

- UN number: Not applicable
- UN proper shipping name: Not applicable

Delfin

UN class:	Not applicable
Packing group:	Not applicable
Subsidiary risk:	Not applicable
Environmental hazards:	Not applicable
Special precautions:	Not applicable

Section 15: Regulatory information

HSNO:	Approved substance under the HSNO Act 1996.
HSNO approval number:	HSR000699.
Tolerable exposure limit / environmental exposure limit:	Not set.
HSNO controls:	See www.epa.govt.nz
77A Additional controls:	The substance must not applied onto or into water.
ACVM:	Registered under the Agricultural Compounds Veterinary Medicines Act 1997.
ACVM registration number:	P004529
Conditions of registration:	See www.foodsafety.govt.nz

Section 16: Other information

Date of issue:	12/06/2020
Reason for reissue:	Ensuring compliance with Hazardous Substances (Safety Data Sheets) Notice.
Replaces:	SDS issued March 2015
Information references:	Supplier Safety Data Sheet NZ EPA Approved hazardous substances with controls Workplace Exposure Standards and Biological Exposure Indices
Abbreviations:	ACVM: Agricultural Chemicals and Veterinary Medicines Group HSNO: Hazardous substances and New Organisms Act 1996 (HSNO Act) EPA: Environmental Protection Authority of New Zealand CAS Number: Chemical Abstracts Service Number CFU: Colony Forming Units. A measure of ingredient for biological active ingredients. LD50: Lethal Dose 50% (Population) LC50: Lethal Concentration 50% (Population) WES-TWA: Workplace exposure standards – Time-weighted average WES-STEL: Workplace exposure standards – Short-term exposure limit

The data provided in this safety data sheet is based on current knowledge and experience. The purpose of this document is to describe the product in terms of its safety requirements. The above details do not imply any guarantee concerning composition, properties or performance of the product.