SAFETY DATA SHEET

Section 1: IDENTIFICATION

Product Name:	**PROCLAIM OPTI**
Design Code:	A16955P
Recommended Use:	**Insecticide**
Company Details:	**Syngenta Crop Protection Limited**
Address:	Level 4, 60 Parnell Road, Parnell **AUCKLAND 1052** **NEW ZEALAND**
Telephone number:	**(weekdays) 09 306 1500**
Emergency Telephone number:	**(24 Hours) 0800 734 607**
National Poisons & Hazchem Information Centre :	**0800 POISON (0800 764 766)**

Section 2: HAZARDS IDENTIFICATION

Hazard classification:	6.1D (oral, inhalation), 6.1E (dermal), 6.9B (oral), 9.1A, 9.3C, 9.4A
Priority Identifier:	WARNING KEEP OUT OF REACH OF CHILDREN
Secondary Identifiers:	6.1D/E = May be harmful if swallowed, inhaled or absorbed through the skin. 6.9B = May cause neurotoxic damage from repeated oral exposure at high doses. 9.1A = Very toxic to fish and aquatic organisms. Higher risk of toxic effects in estuarine environments. 9.3C = Harmful to terrestrial vertebrates. 9.4A = Very toxic to terrestrial invertebrates.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Mixture:
Chemical Identity of ingredients:

Ingredient	CAS no.	Content (%)
Emamectin Benzoate (technical grade)	155569-91-8	>=3 - <10
other ingredients determined not to be hazardous	-	to 100%

Section 4: FIRST AID MEASURES

Description of First Aid measures:

General Advice:	For advice contact the National Poisons Centre on 0800 POISON (0800 764 766) or a doctor immediately. Begin artificial respiration if the victim is not breathing. Use mouth to nose rather than mouth to mouth. Obtain medical attention.
If inhaled:	Move the victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a Doctor or the National Poisons Centre immediately.

In case of skin contact:	Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a doctor. Wash contaminated clothing before re-use.
In case of eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at leas 15 minutes. Remove contact lenses (if present). Immediate medical attention is required.
If swallowed:	If swallowed seek medical advice immediately and show the container or label. DO NOT induce vomiting.
Important symptoms and effects, both acute and delayed:	
Symptoms:	Lack of co-ordination. Tremors Dilation of the pupil
Indication of any immediate medical attention and special treatment needed:	
Treatment:	This material is believed to enhance GABA activity in animals. It is probably wise to avoid drugs that enhance GABA activity (barbiturates, benzodiazepines, valproic acid) in patients with potentially toxic mectin exposure. Toxicity can be minimised by early administration of chemical absorbents (eg activated charcoal). If toxicity from exposure has progressed to cause severe vomiting, the extent of resultant fluid and electrolyte imbalance should be gauged. Appropriate supportive parental fluid replacement therapy should be given, along with other required supportive measures as indicated by clinical signs, symptoms and measurements.

Section 5: FIRE-FIGHTING MEASURES

Extinguishing media:	
Suitable extinguishing media:	Small fires: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Large Fires: Alcohol resistant foam or water spray.
Unsuitable extinguishing media:	Do not use a solid water stream as it may scatter and spread fire.
Special hazards arising from the substance or mixture:	
Specific hazards during fire-fighting:	As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10) Exposure to decomposition products may be a hazard to health.
Advice for firefighters:	
Special protective equipment for firefighters:	Wear full protective clothing and self-contained breathing apparatus.
Further information:	Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

Section 6: ACCIDENTIAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Refer to protective measures listed in Sections 7 and 8.
Avoid dust formation.

Environmental Precautions:

Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and material for containment and cleaning up:

Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).
Do not create a powder cloud by using a brush or compressed air.
Clean contaminated surface thoroughly.
Clean with detergents. Avoid solvents.
Retain and dispose of contaminated wash water.

If the product contaminates rivers and lakes or drains inform respective authorities.

Reference to other sections: Refer to disposal considerations listed in Section 13.
Refer to protective measures listed in sections 7 and 8.

Section 7: HANDLING AND STORAGE

Precautions for Safe handling:

Advice on safe handling: This material is capable of forming dust clouds in air, which, if ignited, can produce a dust cloud explosion.
Flames, hot surfaces, mechanical sparks and electrostatic discharges can serve as ignition sources for this material.
Electrical equipment should be compatible with the flammability characteristics of this material. The flammability characteristics will be made worse if the material contains traces of flammable solvents or is handled in the presence of flammable solvents.

This material can become readily charged in most operations.

Avoid contact with skin and eyes.
When using do not eat, drink or smoke.
For personal protection see section 8.

Conditions for safe storage, including any incompatibilities:

Requirements for storage areas and containers: Keep containers tightly closed in a dry, cool and well-ventilated place.
Keep out of reach of children. Keep away from food, drink and animal feeding stuffs.

Specific end use(s)

Specific use(s) For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

Section 8: EXPOSURE CONTROL / PERSONAL PROTECTION

Control Parameters
Occupational Exposure Limits:

Components	CAS No	Exposure limit	Type of exposure limit	Source
Silica	61790-53-2	4 mg/m^3	TWA (inhalable dust)	CH SUVA
Silica	61790-53-2	10 mg/m^3	TWA (inhalable dust)	NZ WES
Further information	Harm to the unborn child is not to be expected when the OEL-value is respected.			
Emamectin benzoate	155569-91-8	0.02 mg/m^3	TWA	Syngenta

Exposure controls

Engineering measures:
Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.
The extent of these protection measures depends on the actual risks in use.
Maintain air concentrations below occupational exposure standards.
Where necessary, seek additional occupational hygiene advice.

Personal Protective Protection:

Eye protection:
No special protective equipment required.

Hand protection:

Material: Nitrile rubber
Break through time: >480 min
Glove thickness: 0.5 mm

Remarks:
Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion and the contact time. The breakthrough time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin and body protection:
Choose body protection in relation to its type, to the concentration and amount of dangerous substances and to the specific work-place.
Remove and wash contaminated clothing before re-use.
Wear as appropriate:
Impervious protective suit.

Respiratory protection:
No personal respiratory protective equipment normally required.
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Protective measures:
The use technical measures should always have priority over the use of personal protective equipment.
When selecting personal protective equipment, seek appropriate professional advice.
Personal protective equipment should be certified to appropriate standards.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Appearance:	Granules
Colour:	Dark to dark brown
Odour:	No data
Odour threshold:	No data
pH value	7-11, concentration: 1% w/v
Melting point / freezing point:	No data
Initial boiling point and boiling range:	No data
Flash point:	No data
Flammability (solid, gas):	May form combustible dust concentrations in air.
Burning number:	2 (20°C) 2 (100°C)
Upper / lower flammability / explosive limits:	No data
Vapour pressure:	No data
Vapour Density:	No data
Density:	1 g/cm^3 (25°C)
Solubility:	No data
Partition co-efficient: n-octanol / water:	No data
Autoignition temperature	No data
Decomposition temperature:	No data
Dynamic viscosity:	43.9-358 mPa.s (40°C) 57.8-409 mPa.s (20°C)
Explosive properties:	Not explosive
Oxidising properties:	Not oxidising
Minimum ignition temperature:	500°C
Minimum ignition energy:	100 – 300 mJ

Section 10: STABILITY AND REACTIVITY

Reactivity:
None reasonably foreseeable.

Chemical Stability:
The product is stable when used in normal conditions.

Possibility of Hazardous Reactions:
No dangerous reaction known under conditions of normal use.

Conditions to Avoid
No decomposition if used as directed.

Incompatible Materials:
None known

Hazardous Decomposition Products:
No hazardous decomposition products are known.

Section 11: TOXICOLOGICAL INFORMATION

HSNO Classifications:
6.1D/E = May be harmful if swallowed, inhaled or absorbed through the skin.
6.9B = May cause neurotoxic damage from repeated oral exposure at high doses.

Acute toxicity *(similar composition)*

Swallowed:	LD_{50}	2000 mg/kg (rat, female)
Dermal absorption:	LD_{50}	>2000 mg/kg (rat, male and female)
Inhaled:	LC_{50} (4 h)	2.49 mg/L (rat)
Aspiration hazard:	**Not classified**	
Respiratory irritation:	**Not classified**	

Skin corrosion / irritation:	**NON-IRRITANT** (rabbit)
Eye damage / irritation:	**NON-IRRITANT** (rabbit)
Respiratory or Skin Sensitisation:	**NOT A SENSITISER** (skin - guinea pig)
Chronic / Long Term Effects *(active ingredient)*	
Germ cell mutagenicity:	Animal testing did not show any mutagenic effects.
Carcinogenicity:	No evidence of carcinogenicity in animal studies.
Reproductive toxicity:	No toxicity to reproduction.
Specific Organ toxicity:	*Target organs:* Nervous system. *Single exposure:* The substance or mixture is classified as specific target organ toxicant, single exposure. *Repeated exposure:* The substance or mixture is classified as specific target organ toxicant, repeated exposure, Class 6.9B (GHS: Category 1).
Narcotic Effects:	Not classified

Section 12: ECOLOGICAL INFORMATION

HSNO Classifications:

9.1A = Very toxic to aquatic organisms.
9.3C = Harmful to terrestrial vertebrates.
9.4A = Very toxic to terrestrial invertebrates.

Ecotoxicity Effects - product	
Acute toxicity to fish:	LC_{50} (96 h) = 174 mg/L (*Onchorhynchus mykiss* [rainbow trout])
Toxicity to daphnia and other aquatic invertebrates:	EC_{50} (48h) = 1.0 µg /L (*Daphnia magna* (water flea)) LC_{50} (96h) = 0.04 µg/L (*Americamysis bahia* (mysid shrimp))
Toxicity to algae:	EC_{50} (96 h) = 17.4 µg/L (*Pseudokirchneriella subcapitata* [green algae]) NOEC (72h) = 4.6 µg/L (*Pseudokirchneriella subcapitata* [green algae])
Toxicity to Birds:	LD_{50} = >2070 mg/kg (mallard duck) LD_{50} = >2000 mg/kg (bobwhite quail)
Toxicity to soil dwelling organisms:	LC_{50} (14 days) = >1000 mg/kg (earthworms)
Toxicity to Bees:	LD_{50} (oral) = 2.63 µg/bee LD_{50} (contact) = 0.11 µg/bee
Persistence and degradability:	
Biodegradability:	Not readily biodegradable
Stability in water:	Degradation half-life: 0.4 – 1.74 d Not persistent in water.
Bioaccumulative potential:	
Bioaccumulation:	Does not bioaccumulate.
Partition coefficient: n-octanol/water:	Log Pow: 4.0 (25°C)
Mobility in soil:	
Distribution among environmental compartments:	Immobile
Stability in soil:	Percentage dissipation: 50% (DT_{50}: 0.335 – 2.56d) Not persistent in soil.
Other adverse effects:	
Results of PBT and vPvB assessment (product):	This substance contains no components considered to be either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Section 13: DISPOSAL CONSIDERATIONS

Product Disposal:	DO NOT contaminate ponds, waterways or ditches with chemical or used containers. DO NOT dispose of waste into sewer. Dispose of this product only by using according to the label. Otherwise, dispose of waste at an approved landfill or other approved facility that will ensure the substance does not exceed the tolerable exposure limit (TEL) or environmental exposure limit (EEL), where relevant, or will treat the substance so that it is rendered no longer hazardous.
Container Disposal:	Ensure the container is empty. Triple rinse empty container and add rinsate to the spray tank. Recycle empty container through Agrecovery (0800 247 326, www.agrecovery.co.nz). Otherwise crush and bury in a suitable landfill. DO NOT reuse this container for any other purpose.

Section 14: TRANSPORT INFORMATION

Rail / Road (NZS 5433)	UN-No:	3077
	Class:	9
	Packing Group:	III
	Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Emamectin benzoate)
Sea (IMDG-Code)	UN-No:	3077
	Class:	9
	Packing Group:	III
	Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Emamectin benzoate)
	EmS Code:	F-A, S-F
	MARINE POLLUTANT:	Yes
Air (IATA)	UN-No:	3077
	Class:	9
	Packing Group:	III
	Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Emamectin benzoate)
	Packing instruction:	Y956 (cargo and passenger aircraft)

Section 15: REGULATORY INFORMATION

HSNO Approval Number:	HSR101328
Tolerable Exposure Limit or Environmental Exposure Limit:	No TEL or EEL values are set for this substance at this time
Required Regulatory Controls:	
Certified handler:	No
Tracking:	No
Record Keeping:	Yes. 9.1A, 9.4A substance
ACVM Registration:	P009526
ACVM Controls:	See www.foodsafety.govt.nz for registration conditions.

International Agreements related to the substance (eg, Montreal Protocol, Stockholm Convention or Rotterdam Convention):	Not applicable

Section 16: OTHER INFORMATION

Date of SDS Preparation / Review:	24 February 2023
Version number of SDS:	2.0

Key / Legend to abbreviations and acronyms used:

AICS - Australian Inventory of Chemical Substances;
ANTT - National Agency for Transport by Land of Brazil;
ASTM - American Society for the Testing of Materials;
bw - Body weight;
CMR -Carcinogen, Mutagen or Reproductive Toxicant;
CPR - Controlled Products Regulations;
DIN - Standard of the German Institute for Standardisation;
DSL - Domestic Substances List (Canada);
ECx - Concentration associated with x% response;
ELx - Loading rate associated with x% response;
EmS - Emergency Schedule;
ENCS - Existing and New Chemical Substances (Japan);
ErCx - Concentration associated with x% growth rate response;
ERG - Emergency Response Guide;
GHS - Globally Harmonized System;
GLP - Good Laboratory Practice;
IARC - International Agency for Research on Cancer;
IATA - International Air Transport Association;
IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk;
IC50 - Half maximal inhibitory concentration;
ICAO - International Civil Aviation Organization;
IECSC - Inventory of Existing Chemical Substances in China;
IMDG - International Maritime Dangerous Goods;
IMO - International Maritime Organization;
ISHL - Industrial Safety and Health Law (Japan);
ISO - International Organisation for Standardization;
KECI - Korea Existing Chemicals Inventory;
LC50 - Lethal Concentration to 50 % of a test population;
LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose);
MARPOL - International Convention for the Prevention of Pollution from Ships;
n.o.s. - Not Otherwise Specified;
Nch - Chilean Norm;
NO(A)EC - No Observed (Adverse) Effect Concentration;
NO(A)EL - No Observed (Adverse) Effect Level;
NOELR - No Observable Effect Loading Rate;
NOM - Official Mexican Norm;
NTP - National Toxicology Program;
NZIoC - New Zealand Inventory of Chemicals;
OECD - Organization for Economic Co-operation and Development;
OPPTS - Office of Chemical Safety and Pollution Prevention;
PBT - Persistent, Bioaccumulative and Toxic substance;
PICCS - Philippines Inventory of Chemicals and Chemical Substances;
(Q)SAR - (Quantitative) Structure ActivityRelationship;
REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals;
SADT - Self-Accelerating Decomposition Temperature;
SDS - Safety Data Sheet;
TCSI - Taiwan Chemical Substance Inventory;
TDG - Transportation of Dangerous Goods;
TSCA - Toxic Substances Control Act (United States);
UN - United Nations;
UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods;
vPvB - Very Persistent and Very Bioaccumulative;
WES – Workplace Exposure Standard (Worksafe NZ)
WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the test.

This version replaces all previous versions.