CONFLICT 19.2 EC SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **CONFLICT 19.2 EC**
Other identifier: **Emamectin benzoate**
Recommended use: Insecticide
Restrictions on use: Agriculture, small-scale farming

Supplier: **Universal Crop Protection (Pty) Ltd**
Co. Reg. No.: 1983/008184/07
PO Box 801,
Kempton Park, 1620, South Africa
Telephone: (011) 396 2233
Fax: (011) 396 4666
Website: www.villacrop.co.za

Emergency telephone numbers:
24 Hr Transport / Spill emergency no:
(Hazcall24) +27 86 044 4411
(Client: Villa Crop Protection)
Griffon Poison Information Centre +27 82 446 8946
(Client: Villa Crop Protection)
Poisoning Emergency telephone numbers:
Griffon Poison Information Centre +27 82 446 8946
Poisons Information Centre +27 861 555 777

2. HAZARDS IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	**Hazard categories**	**H-statements**
Physical		
Flammable liquid	Flammable liquid 4	H227
Health		
Oral	Acute Toxicity 4	H302
Aspiration	Aspiration Toxicity 1	H304
Dermal	Acute Toxicity 5 Skin Irritation 2	H313 H315
Eye	Eye Damage 1	H318
Specific Target Organ Toxicity Single Exposure	STOT SE 1	H370
Specific Target Organ Toxicity Repeated Exposure	STOT RE 1	H372
Environment		
Aquatic Acute	Aquatic Acute 1	H400
Aquatic Chronic	Aquatic Chronic 1	H410

The most important adverse effects:
Physiochemical effects: Combustible liquid.

Human health effects:
Harmful if swallowed or in contact with skin.
May be fatal if swallowed and enters airways.
Causes skin irritation.
Causes serious eye damage.
Causes damage to nervous system.
Causes damage to nervous system through prolonged or repeated exposure.

Label elements:

Signal word: Danger
Hazard statements:
H227: Combustible liquid.
H302: Harmful if swallowed.
H304: May be fatal if swallowed and enters airways.
H313: May be harmful in contact with skin.
H315: Causes skin irritation.
H318: Causes serious eye damage.
H370: Causes damage to nervous system.
H372: Causes damage to nervous system through prolonged or repeated exposure.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.
Precautionary statements:
P203: Obtain, read and follow all safety instructions before use.
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260: Do not breathe fume, mist, vapours, or spray.
P264+P265: Wash hands thoroughly after handling. Do not touch eyes.
P270: Do not eat, drink or smoke when using this product.
P273: Avoid release into the environment.
P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
P301+P316: IF SWALLOWED: Get emergency medical help immediately.
P302+P352+P317: IF ON SKIN: Wash with plenty of water and non-abrasive soap. Get medical help.
P305+P354+P338+P317: IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical help.
P308+P316: IF exposed or concerned: Get emergency help immediately.
P318: IF exposed or concerned, get medical advice.
P319: Get medical help if you feel unwell.
P331: Do NOT induce vomiting.
P332+P317: If skin irritation occurs: get medical help.
P362+P364: Take off contaminated clothing and wash it before reuse.

P391: Collect spillage.
P403: Store in a well-ventilated place.
P405: Store locked up.
P501: Dispose of content/container to suitable landfill in accordance with local regulations.

Other hazards:
None known.

Toxicity:
Classification according to GHS: Category 5.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance / Mixture: Mixture
Composition:

Chemical name	CAS	Conc. (m/v %)	Classification EC 1272/2008
Emamectin benzoate	155569-91-8	1.92 %	Acute Toxicity 3 (H301) Acute Toxicity 3 (H311) Eye Damage 1 (H318) Acute Toxicity 3 (H331) STOT SE 1 (H370) STOT RE 1 (H372) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Calcium dodecyl-benzene sulfonate	26264-06-2	< 5 %	Acute Toxicity 4 (H302) Skin Irritation 2 (H315) Eye Damage 1 (H318) Aquatic Chronic (H413)
N-butyl-pyrrolidone	3470-98-2	< 10 %	Acute Toxicity 4 (H302) Skin Irritation 2 (H315) Eye Irritation 2 (H319) STOT SE 3 (H335)
Methanol	67-56-1	< 10 %	Flammable Liquid 2 (H225) Acute Toxicity 3 (H301) Acute Toxicity 3 (H311) Acute Toxicity 3 (H331)
			STOT SE 1 (H370)
Solvent Naphtha	64742-94-5	< 70 %	Aspiration Toxicity 1 (H304)

4. FIRST AID MEASURES

Remove the victim from the area of exposure. Wash off remaining material with plenty of water. In the event of any complaints or symptoms, avoid further exposure.
Inhalation: Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention if irritation occurs. **Seek medical attention if you feel unwell after inhalation**.
Skin: Remove contaminated clothing and shoes. Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. **Obtain medical attention if skin irritation occurs.**
Eyes: Flush eyes with clean water for at least 15 – 20 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. **Seek medical attention.**
Ingestion: Seek medical attention or call a poison control centre for treatment advice. **Do not induce vomiting**. Do not give anything by mouth to an unconscious person. If the person is alert, rinse mouth thoroughly with water. **If swallowed, get emergency medical help immediately.**
Anticipated acute effects: Harmful if swallowed or in contact with skin.
May be fatal if swallowed and enters airways.
Causes skin irritation.
Causes serious eye damage.
Anticipated delayed effects: Causes damage to nervous system.
Causes damage to nervous system through prolonged or repeated exposure.

Most important symptoms / effects: None known.
Advice to physician: Treat symptomatically and supportively. No specific antidote known.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Use carbon dioxide or dry chemical for small fires and water fog or foam for large fires.
Unsuitable Extinguishing Media: High volume water jet. Use a water jet only to cool heated containers.
Specific hazards: Combustible liquid.
Special fire-fighting procedures: Remove spectators from surrounding area. Isolate the fire area and evacuate all personnel downwind of the fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Remain upwind of fire. Avoid inhaling hazardous vapours and fumes from burning materials. Remove container from fire area if possible and without risk. Do not use high volume water jet, due to

contamination risk. Do not scatter the burning material. Water can be used to cool unaffected containers but must be contained for later disposal. Contain fire control agents for later disposal. Avoid pollution of waterways by run-off from the site.
Personal protective equipment: Wear NIOSH / MSHA approved self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: May be fatal if swallowed and enters airways. Avoid contact with eyes and skin. **Do not breathe in spray mist or vapours**. Ventilate area of spill or leak, especially in contained areas.
Protective equipment: Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.
Emergency procedures: Alert firefighting personnel, evacuate unprotected personnel and animals.
Environmental Precautions: Prevent spilled product from entering sewers, waterways or ground water. This product is classified as very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Any spillages or uncontrolled discharges into watercourses should be reported immediately to the police and the Department of Water / Environmental Affairs.
Methods and Materials for Containment: Contain spilled product by diking area with sand or earth.
Methods and Materials for Clean-up: Cover contained spill with an inert absorbent material such as sand, vermiculite, earth or other appropriate material. Vacuum, scoop, or sweep up material and place the material into a clean, dry, sealable container. Label containers with the contents and dispose of according to local regulations. Do not place spilled material back in original container. Do not re-use spilled material. Collect washings and add to the drums already collected. Do not flush spilled material or washings into drains or waterways. To decontaminate the spill area, tools and equipment, wash with water and suitable detergent. See section 13 for disposal considerations.

7. HANDLING AND STORAGE

Handling:
Precautions for safe handling: May be fatal if swallowed and enters airways. Avoid contact with eyes and skin. Ensure adequate ventilation during handling and use. Do not inhale spray mist or vapours. Do not handle broken packages without protective equipment. Immediately clean up spills that occur during handling. Keep containers closed when not in use. In the case of contact with the product refer to First Aid Measures – Section 4.
General occupational hygiene: Practice good hygiene when using this material. Wash hands before eating, drinking, chewing gum, smoking, using the toilet or applying cosmetics. Worker should shower at the end of each workday. Launder all clothing before it is re-used.
Storage:
Conditions for safe storage: Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original, labelled container, tightly closed in an isolated, dry, cool and well- ventilated area. Avoid excess heat. Not to be stored next to foodstuffs, feed and water supplies. Avoid cross contamination with other pesticides and fertilisers.
Incompatible substances and mixtures: Refer to product label.
Packaging material: Fluorinated plastic containers.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Components	Exposure limits	Type of exposure limit	Source
Methanol	200 ppm	TWA OEL-RL	*Hazardous Chemical Substances Regulations, 1995*
Naphtha (petroleum distillates)	500 ppm	OSHA PEL	*www.osha.gov*

Engineering Controls:
It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Local Exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OELs or other specified exposure limits. Local exhaust ventilation is preferred. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire and other applicable regulations.
Personal Protective Equipment:
Respiratory Protection: For most well-ventilated conditions, no respiratory protection should be needed. If used in a poorly ventilated area (airborne concentrations exceed exposure limits), use a NIOSH approved, air-purifying respirator with cartridges / canisters approved for organic vapours/dusts.
Hand Protection: The use of chemically protective impervious gloves is recommended to prevent against skin contact.
Eye Protection: The use of chemical safety goggles is recommended to prevent against eye contact. Contact lenses are not protective eye devices.
Skin and Body Protection: Employees must wear appropriate protective impervious clothing, rubber boots, hat and equipment to prevent repeated or prolonged skin contact with this substance. Do not wear leather clothing.

Emergency eyewash: Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Light yellow liquid, free from visible suspended matter and sediment; emusifiable concentrate.
Odour: Sweet, faint odour.
Odour threshold:
pH (1% aqueous dilution): 5.0 – 8.0
Melting point: Not available.
Freezing Point: Not available.
Boiling Point: Not available.
Flash Point: Not available.
Flammability: Not available.
Upper / lower explosion limits: Not available.
Vapour Pressure (mm Hg): Not available.
Relative Vapour Density: Not available.
Density / Relative density: 0.977
Solubility: Not soluble in water.
n-octanol / water partition coefficient: Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Not available.

10. STABILITY AND REACTIVITY

Chemical stability: The product is stable for two years at ambient temperature and pressure, under normal storage and handling conditions. Avoid storage under extreme temperatures and conditions. Store below 50 °C, preferably below 30 °C, and not for prolonged periods in direct sunlight.
Reactivity: None known.
Possibility of hazardous reactions: Unlikely to occur.
Conditions to avoid: Extreme heat or exposure to flames.
Incompatible materials: Strong oxidizers, strong bases, strong reducing agents.
Hazardous decomposition products: Alcohols. carbon monoxide and carbon dioxide may form under burning conditions or with incomplete combustion.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
Oral LD_{50} (24h) > 1237 mg/kg (rat)
Dermal LD_{50} > 2185 mg/kg (rat/rabbit)
Inhalation LC_{50} (4h) > 31 mg/ℓ (rat)
Skin Irritation: Causes skin irritation.
Eye Damage: Causes serious eye damage.
Skin Sensitization: Not classified.
Respiratory Sensitization: Not classified.
Reproductive cell mutagenicity: Not classified.
Carcinogenicity: Not classified.
Reproductive toxicity: Not classified.
Specific target organ toxicity – single exposure: Causes damage to nervous system.
Specific target organ toxicity – repeated exposure: Causes damage to nervous system through prolonged or repeated exposure.
Aspiration hazard: May be fatal if swallowed and enters airways.
Chronic effects: Not available.
POTENTIAL ADVERSE EFFECTS:
Inhalation: Not classified.
Ingestion: May be fatal if swallowed and enters airways.
Skin: May be harmful in contact with skin.

12. ECOLOGICAL INFORMATION

This product is very toxic to aquatic life with long lasting effects.

ECOTOXICITY DATA:
Emamectin benzoate

Fish:		
LC_{50} (96 h)	Rainbow trout	0.174 mg/ℓ
	Sheepshead minnows	1.430 mg/ℓ
Daphnia:		
LC_{50} (48 h)		0.00099 mg/ℓ
Birds:		
Acute oral LD_{50}	Mallard ducks	76 mg/kg
	Bobwhite quail	264 mg/kg
Dietary LC_{50} (8d)	Mallard ducks	570 mg/kg diet
	Bobwhite quail	1320 mg/kg diet
Bees:		Toxic
Worms:		
LC_{50}	(Dry soil)	> 1000 mg/kg soil

ENVIRONMENTAL EFFECTS
Based on information for the active ingredient
Plants: Metabolism has been investigated in lettuce, cabbage and sweetcorn. It is non-systemic, and rapidly degrades in sunlight to various complex residues in which undegraded parent is the only significant residue. The residues were very low.
Persistence and degradability: Rapidly degraded.
Bio-accumulative potential: Emamectin benzoate is partially metabolised but rapidly cleared (DT_{50} following oral dosing 34–51 h), indicating that it has no potential for bioaccumulation.
Mobility in soil: Not determined.
Other adverse effects: Not determined.

13. DISPOSAL CONSIDERATIONS

Waste: Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product

cannot be reused or re-processed. Never pour untreated waste or surplus product into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers. Comply with local legislation applying to waste disposal. The product may be taken to a registered waste disposal site or incineration plant.
Container: Emptied containers retain product residues. Do not re-use the empty container for any other purpose. Invert the empty container over the spray or mixing tank and drain for at least 30 seconds after the flow has slowed down to dripping. Thereafter rinse the empty container three times in succession with one quarter of the container volume fresh water and decant the rinsate into the spray or mixing tank.
Puncture the triple rinsed container and dispose of via an approved collector or recycler (www.croplife.co.za). Do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages. Observe all labelled safeguards until container is destroyed.

14. TRANSPORT INFORMATION

UN Number: **3082**
Road Transport ADR / ORD:
Class: 9
Packaging group: III
UN Proper Shipping Name: Environmentally hazardous substance, liquid, N.O.S. (Emamectin benzoate 19.2 g/ℓ)

Maritime Transport IMDG / IMO:
Class: 9
Packaging group: III
UN Proper Shipping Name: Environmentally hazardous substance, liquid, N.O.S. (Emamectin benzoate 19.2 g/ℓ)

Marine pollutant (Y/N): Yes
Air Transport IATA / ICAO:
Class: 9
Packaging group: III
UN Proper Shipping Name: Environmentally hazardous substance, liquid, N.O.S. (Emamectin benzoate 19.2 g/ℓ)

Special / Environmental Precautions: Wedge drums tightly to avoid movement.
Transport in bulk: Refer to MARPOL 73/78, Annex II and the IBC code.

15. REGULATORY INFORMATION

Safety, health and environmental regulations / legislation for the mixture:
OHSA 1993 Regulations for Hazardous Chemical Substances.
Relevant information regarding restrictions: None.
EU regulation: Regulation EC1272/2008 (EU-GHS/CLP)
Other national regulations: None.
Chemical Safety Assessment carried out? No

16. OTHER INFORMATION

Packaging: Packed in 10, 20, 30, 50, 100, 250, 400, 450, 500, 700, 750, 800 ml & 1, 2, 2.5, 5, 10, 15, 20, 25, 50 and 100 litres fluorinated plastic containers, labelled according to South African regulations and guidelines.
Other hazard statements, abbreviations and explanations:
H301: Toxic if swallowed.
H311: Toxic in contact with skin.
H319: Causes serious eye irritation.
H331: Toxic if inhaled.
H335: May cause respiratory irritation.
H413: May cause long lasting harmful effects to aquatic life.
IATA: International Air Transport Association.
IBC: International Bulk Chemical.
ICAO: International Civil Aviation Organization.
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization.
LD_{50} value: The median lethal dose or the amount of a toxic agent that is sufficient to kill 50 percent of a population within a certain period of time.
OEL/RL: Occupational exposure limit-recommended limit.
TWA: Time-weighted average – The average exposure over a specified period, usually a nominal eight hours.
ST/STEL: Short-term exposure limits.
Disclaimer: The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage and use of the product. It is not applicable to unusual or non-standard uses of the product nor where instructions or recommendations are not followed. All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

END OF DOCUMENT
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For detailed information on revisions, contact the Registration holder.