

Section 1 - Identification of the Material and Supplier

Conquest Crop Protection Pty Ltd
Level 1/4 Collingwood Street
Osborne Park, WA 6017

Phone: (08) 9347 0500 (Business hours)

Fax (08) 9347 0551

Emergency (24 Hours): 1800 033 111 (Australia wide)

Chemical nature: Emulsifiable concentrate containing emamectin (as the emamectin benzoate)

Trade Name: Conquest Warrior EC Insecticide

APVMA Code: 89546

Product Use: Agricultural insecticide for use as described on the product label.

Creation Date: July, 2022

This version issued: July, 2022 and is valid for 5 years from this date.

Poisons Information Centre: Phone 13 1126 from anywhere in Australia

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as HAZARDOUS according to the criteria of SWA.

The product is NOT dangerous according to Australian Dangerous Goods (ADG) Code in packagings that do not incorporate a receptacle exceeding 500 kg(L) or IBCs.

SUSMP Classification: S5

ADG Classification: Class 9: Environmentally hazardous substance.

UN Number: 3082, Environmentally hazardous substance, liquid, n.o.s. (EMAMECTIN BENZOATE)



GHS Signal Word: DANGER

Flammable liquid Category 4

Aspiration hazard Category 1

Carcinogen Category 2

Toxic to reproduction Category 1

Skin corrosion/irritation Category 2

Serious eye damage/eye irritation Category 2

Specific Target Organ Toxicity - Single Exposure Category 2

Specific Target Organ toxicity - repeated exposure Category 2

Hazardous to aquatic environment short term/Chronic Category 2

HAZARD STATEMENT:

H227: Combustible liquid.

H304: May be fatal if swallowed and enters airway.

H351: Suspected of causing cancer.

H360: May damage fertility or the unborn child.

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H371: May cause damage to organs.

H373: Causes damage to organs through prolonged or repeated exposure

H401: Toxic to aquatic life.

H411: Toxic to aquatic life with long lasting effects

PREVENTION

P210: Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking.

P280: Wear appropriate protective equipment.

P203: Obtain, read and follow all safety instructions before use.

P264: Wash contacted areas thoroughly after handling.

P264+P265: Wash hands and skin thoroughly after handling. Do not touch eyes.

P260: Do not breathe dust/fume/gas/mist/vapors/spray.

P270: Do not eat, drink or smoke when using this product.

SAFETY DATA SHEET

Issued by: Conquest Crop Protection Pty Ltd

Emergency Phone: 1800 0333 111 (any time)

Poisons Information Centre: 13 1126 from anywhere in Australia, (0800 764 766 in New Zealand)

P273: Avoid release to the environment.

RESPONSE

- P318: if exposed or concerned, get medical advice.
- P319: Get medical help if you feel unwell.
- P321: see the specific treatment on the label.
- P301+P316: IF SWALLOWED: Get emergency medical help immediately.
- P302+P352: IF ON SKIN: Wash with plenty of water.
- P308+P318: IF exposed or concerned: Get emergency medical help immediately.
- P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P331: Do NOT induce vomiting.
- P332+P317: If skin irritation occurs: Get medical help.
- P370+P378: In case of fire: Use dry sand , dry chemical or alcohol resistant foam to extinguish.
- P337+P317: If eye irritation persists: Get medical help.
- P362+P364: Take off contaminated clothing and wash it before reuse.
- P391: Collect spillage.

STORAGE

- P405: Store locked up.
- P403: Store in a well-ventilated place.

DISPOSAL

- P501: Dispose of contents and containers as specified on the registered label.

Emergency Overview

Physical Description & colour: Clear yellow – brown liquid.

Odour: Aromatic hydrocarbon odour

Major Health Hazards: Emamectin benzoate can be highly toxic if swallowed. Ingestion of Emamectin benzoate can cause acute oral toxicity or death. Also, it can Emamectin benzoate can be toxic if inhaled. The dust or fumes can cause respiratory discomfort and stress. Long-term exposure to Emamectin benzoate can lead to changes in lung function. Repeated dermal contact can result in abrasive skin damage. Open cuts and irritated skin are especially vulnerable to the detrimental effects of Emamectin benzoate as it can enter the bloodstream through these openings and cause systemic injuries.

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc, (%w/w)	TWA (mg/m ³)	STEL (mg/m ³)
Emamectin benzoate	155569-91-8	>=1 -<3	0.02	not set
Liquid hydrocarbon	64742-81-0	<70	350	not set
N-Methyl-2-pyrrolidone	872-50-4	<20	103	not set
Other ingredients	secret	to 1 L	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak "is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Section 4 - First Aid Measures

General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call.

Inhalation: If inhalation occurs, contact a Poisons Information Centre. Urgent hospital treatment is likely to be needed. Remove source of contamination or move victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. DO NOT allow victim to move about unnecessarily.

Skin Contact: Flush contaminated area with flowing water for at least 20-30 minutes, by the clock. DO NOT INTERRUPT FLUSHING. If necessary, keep emergency vehicle waiting (show paramedics this MSDS and take their advice). Under running water, remove contaminated clothing, shoes and leather goods (e.g. watchbands and belts).

SAFETY DATA SHEET

Eye Contact: Immediately flush the contaminated eye(s) with flowing water for 15 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. Take special care if exposed person is wearing contact lenses.

Ingestion: If swallowed, do NOT induce vomiting; rinse mouth thoroughly with water and contact a Poisons Information Centre, or call a doctor at once. Give activated charcoal if instructed.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. This product is likely to decompose only after heating to dryness, followed by further strong heating.

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

Extinguishing Media: combustible liquid. Use water spray, alcohol resistant foam, dry chemical or carbon dioxide to control small fires. Use alcohol resistant foam in case of large fires.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade. There is little danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is liquid-tight chemical protective clothing and breathing apparatus.

Flash point: Combustible liquid

Hazchem Code: 3Z

Upper Flammability Limit: Not available

Lower Flammability Limit: Not available

Autoignition temperature: Not available

Flammability Class: Not available

Section 6 - Accidental Release Measures

Accidental release: In the event of a major spill, prevent spillage from entering drains or water courses. Evacuate the spill area and deny entry to unnecessary and unprotected personnel. Wear full protective chemically resistant clothing including eye/face protection, gauntlets and self contained breathing apparatus. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include no specific manufacturer recommendations. Use impermeable gloves with care. Eye/face protective equipment should comprise, as a minimum, protective glasses and, preferably, goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8).

Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Because of the corrosiveness of this product, special personal care should be taken in any cleanup operation. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this SDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

Section 7 - Handling and Storage

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage: This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Store in a cool, well ventilated area. Check containers periodically for corrosion and leaks. Containers should be kept closed in order to minimise contamination. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. Check the storage requirement and limits with the relevant authority.

SAFETY DATA SHEET

Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

The following instructions are for handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation: This product should only be used where there is ventilation that is adequate to keep exposure below the TWA levels.

Eye Protection: Protective glasses or goggles must be worn when this product is being used. Failure to protect your eyes may lead to severe harm to them or to general health. Emergency eye wash facilities must also be available in an area close to where this product is being used.

Skin Protection: It is essential that all skin areas are adequately covered by impermeable gloves, overalls, hair covering, apron and face shield. See below for suitable material types.

Protective Material Types: When selecting gloves for use against certain chemicals, the degradation resistance, permeation rate and permeation breakthrough time should be considered. Occupational protective clothing (depending on conditions in which it has to be used, in particular as regards the period for which it is worn, which shall be determined on the basis of the seriousness of the risk, the frequency of exposure to the risk, the characteristics of the workstation of each worker and the performance of the protective clothing). See Australian/New Zealand Standard AS/NZS 4501 for more information.

Respirator: Use an approved vapour respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentrations of mist or vapour, inadequate ventilation, development of respiratory tract irritation) and engineering controls are not feasible. See Australian Standards AS/NZS 1715 and 1716 for more information.

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Clear yellow to brown liquid
Odour:	Aromatic hydrocarbon odour
Boiling Point:	Not available
Freezing/Melting Point:	No specific data. Liquid at normal temperatures.
Volatiles:	Solvents
Vapour Pressure:	Not available
Vapour Density:	Not available
Specific Gravity:	0.8 – 0.9
Water Solubility:	Emulsifies
pH:	6 – 9 .
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water distribution:	No data
Autoignition temp:	Combustible liquid

Section 10 - Stability and Reactivity

Reactivity: This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

Conditions to Avoid: This product should be kept in a cool place, preferably below 30°C. Keep isolated from open flame and source of ignition. Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

Incompatibilities: strong oxidising agents, aluminium, zinc, iron and their alloys.

Fire Decomposition: This product is likely to decompose only after heating to dryness, followed by further strong heating. Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. May form hydrogen chloride gas, other compounds of chlorine. Bromine compounds. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Polymerisation: Polymerisation reactions are unlikely; they are not expected to occur.

SAFETY DATA SHEET

Section 11 - Toxicological Information

Toxicity: prolonged or frequently repeated exposure may cause allergic reaction in some individuals. Early signs of intoxication include dilation of pupils, muscular incoordination, and muscular tremors.

Acute toxicity: Technical grade emamectin possessed moderate oral toxicity in mice and rats (LD50 63 mg/kg in male rats), low dermal toxicity (>2000 mg/kg with no deaths in rats and rabbits) and moderate inhalational toxicity in rats (LC50 <2120 mg/m³/4h, 3/5 deaths in males). The compound is a severe eye irritant but does not cause skin irritation in rabbits or skin sensitisation in guinea pigs.

Chronic toxicity: Mice fed emamectin in the diet at up to 12.5 mg/kg/day for 78 weeks showed reduced body weight gain and developed tremors and minor neurological abnormalities (e.g. forelimb twitching), with microscopic evidence of sciatic nerve degeneration. Rats fed emamectin in the diet for 53 or 105 weeks showed evidence of liver toxicity (vacuolated hepatocytes, increased serum triglyceride and bilirubin levels) at doses of 1 mg/kg/day and above. At 5 mg/kg/day, rats showed tremors, decreased fore limb grip strength, and nerve degeneration in the brain and spinal cord. The NOEL was 0.25 mg/kg/day. Dogs administered oral doses of emamectin up to 1 mg/kg/day for 53 weeks showed tremors, stiffness of gait, pupil dilation, decreased food intake and weight loss, at doses of 0.75 mg/kg/day and above. Microscopic evidence of nerve degeneration was found in the central and peripheral nervous system of dogs receiving doses of 0.5 mg/kg/day and above. The NOEL was 0.25 mg/kg/day.

Reproductive effects: In a two-generation reproduction study, rats were given emamectin in the diet at doses up to 3.6 mg/kg/day. At doses of 3.6 mg/kg/day, adults of both generations had reduced body weight gain and food intake, with reduced fertility and a slight reduction in the percentage of live pups per litter. The pups from groups treated with 3.6 mg/kg/day showed body tremors, splayed hind limbs, and reduced body weight and food consumption. Most animals given 3.6 mg/kg/day showed nerve degeneration in the brain and spinal cord. Pregnant rats given oral doses of up to 8 mg/kg/day emamectin throughout the period of foetal development had reduced body weight gain and food intake at doses of 8 mg/kg/day. At 8 mg/kg/day, a slight reduction in the foetal body weight and variations in bone development (supernumerary ribs) occurred. Pregnant rabbits given oral doses of up to 8 mg/kg/day emamectin throughout the period of foetal development showed signs of diarrhoea, pupil dilation, decreased body weight and decreased food consumption from 6 mg/kg/day. A slight decrease in foetal body weight was noted in animals treated with 8 mg/kg/day, but there was no effect of treatment on foetuses at doses of 6 mg/kg/day emamectin.

Teratogenic effects: No data available.

Mutagenic effects: Emamectin was negative in tests for mutagenicity in *S. typhimurium*, *E. coli* and Chinese hamster lung cells, in tests for chromosomal damage in Chinese hamster ovary cells and mouse bone marrow cells, and did not cause DNA strand breaks in rat hepatocytes.

Carcinogenic effects: There is no evidence that emamectin causes genetic damage or cancer in animals.

Potential Health Effects

Inhalation:

Short term exposure: Harmful if inhaled. May cause respiratory irritation, lack of coordination, tremors and dilatation of the pupils.

Long Term exposure: No data for health effects associated with long term inhalation.

Skin Contact:

Short term exposure: Causes skin irritation.

Long Term exposure: No data for health effects associated with long term skin exposure.

Eye Contact:

Short term exposure: This product is a severe eye irritant.

Long Term exposure: No data for health effects associated with long term eye exposure.

Ingestion:

Short term exposure: May cause gastrointestinal irritation, nausea, diarrhoea and vomiting.

Long Term exposure: No data for health effects associated with long term ingestion.

Carcinogen Status:

There is no evidence that emamectin is carcinogen but the solvents in Warrior EC Insecticide are suspected of causing cancer.

Section 12 - Ecological Information

The product is toxic to aquatic organisms, may cause long-term adverse effects to the aquatic environment.

SAFETY DATA SHEET

Effects on birds: The median lethal dose values determined for emamectin benzoate to mallard duck and northern bobwhite quail were 76 and 264 mg/kg, respectively, and the no-observed-effect levels were <25 and 25 mg/kg, respectively. Clinical signs of toxicity included lethargy, ruffled appearance, loss of righting reflex, and reduction in food consumption; these signs appeared to be fully reversible with cessation of exposure.

Effects on aquatic organisms: Acute toxicity tests conducted to USEPA Guidelines found that emamectin is highly toxic to rainbow trout, bluegill sunfish and fathead minnow (96 h LC50 = 174 µg/L and in the range 140-240 and 156-207 µg/L, respectively), and moderately toxic to sheepshead minnow (96 h LC50 = 1430 µg/L). An early life stage study with fathead minnow found a 32 d NOEC, LOEC and MATC of 12, 28 and 18 µg/L, respectively.

Effects on other organisms: In studies conducted to USEPA Guidelines, emamectin was found to have high toxicity to bees by acute contact exposure (48 h LD50 = 3.6 ng/bee) and with exposure to fresh residues on foliage (100%, 46% and 3% mortality with 3, 8 or 24 h aging of foliage treated at approximately the proposed maximum rate). A study of foliage residue toxicity to a parasitic wasp on cabbages indicated little or no mortality after leaves had been aged for 2 hours following spraying. Very slight toxicity to earthworms was indicated in a study to OECD Guidelines (14 d NOEC = 1000 mg/kg soil).

Environmental Fate:

adsorbed to soil particles **Breakdown in soil and groundwater:** Emamectin benzoate is expected to partition largely to sediment and gradually degrade. Emamectin would not be expected to leach into groundwater, and little desorption of emamectin would be expected from residues

Breakdown in water: Emamectin is unlikely to hydrolysis at significant rates in the environment, though slight hydrolysis may occur in strong alkaline condition.

Breakdown in vegetation: Breakdown of the emamectin occurs primarily through photodegradation at the outset and not metabolism, leading to very similar photodegrade/metabolite profiles in different crops.

Section 13 - Disposal Considerations

Disposal: Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 <http://www.chemclear.com.au/> and for help with the disposal of empty drums, contact DrumMuster <http://www.drummuster.com.au/> where you will find contact details for your area.

Section 14 - Transport Information

ADG

Not classified as a dangerous good when being transported in IBCs or other receptacles < 500 L

Classification for SEA transport (IMO-IMDG):

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EMAMECTIN BENZOATE)
UN number	3082
Class	9
Packing group	III
Marine pollutant	EMAMECTIN BENZOATE
Transport in bulk	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EMAMECTIN BENZOATE)
UN number	3082
Class	9
Packing group	III
Hazchem Code:	3Z

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations.

Section 16 - Other Information

This SDS contains only safety-related information. For other data see product literature.

Acronyms:

ADG Code Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition)

SAFETY DATA SHEET

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Poisons Information Centre: 13 1126 from anywhere in Australia, (0800 764 766 in New Zealand)

AICS	Australian Inventory of Chemical Substances
SWA	Safe Work Australia, formerly ASCC and NOHSC
CAS number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number

THIS SDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS SDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS. OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

This SDS is prepared in accord with the SWA document "Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice" (July 2020)

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End of SDS

SAFETY DATA SHEET