



SAFETY DATA SHEET

The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Warlock 19.2 EC

Revision date 13-Oct-2022

Version 2.01

Supersedes Date:

09-May-2022

Product Code(s) INS00059-27

Print Date 13-Oct-2022

ADM.01700.I.1.A 9502923

1. Identification

Product identifier

Warlock 19.2 EC

Other means of identification

Synonyms Emamectin benzoate 1.92 EC
Formulation type EC
Registration Number(s) L9872
Pure substance/mixture Mixture

Recommended use of the chemical and restrictions on use

Recommended use Insecticide
Uses advised against No information available

Detailed information about the manufacturer, supplier, and/or importer

Supplier ADAMA SOUTH AFRICA (PTY) LTD
Ground Floor, Simeka House
The Vineyards Office Estate
99 Jip de Jager Drive
Bellville 7530

Emergency telephone number

Emergency Telephone +27 82 446 8946 (Griffon Poison Centre)
+27 86 155 5777 (Tygerberg Poison Information Centre)
+27 86 100 6366 and +27 83 253 6618 (SPILL TECH)

E-mail address SDS@ADAMA.COM

2. Hazard(s) identification

Classification of the substance or mixture

Aspiration hazard	Category 1 - (H304)
Serious eye damage/eye irritation	Category 1 - (H318)
Skin sensitization	Category 1 - (H317)
Reproductive toxicity	Category 1B - (H360)
Specific target organ toxicity (single exposure)	Category 2 - (H371)
Specific target organ toxicity (repeated exposure)	Category 2 - (H373)
Acute aquatic toxicity	Category 1 - (H400)

Chronic aquatic toxicity	Category 1 - (H410)
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Label elements**Signal word**

Danger

Hazard pictograms**Hazard statements**

H304 - May be fatal if swallowed and enters airways
 H317 - May cause an allergic skin reaction
 H318 - Causes serious eye damage
 H360 - May damage fertility or the unborn child
 H371 - May cause damage to organs
 H373 - May cause damage to organs through prolonged or repeated exposure
 H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements

P102 - Keep out of reach of children
 P203 - Obtain, read and follow all safety instructions before reuse
 P260 - Do not breathe dust/fume/gas/mist/vapors/spray
 P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
 P264 + P265 - Wash face, hands and any exposed skin thoroughly after handling. Do not touch eyes
 P270 - Do not eat, drink or smoke when using this product
 P272 - Contaminated work clothing should not be allowed out of the workplace
 P273 - Avoid release to the environment
 P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P301 + P316 - IF SWALLOWED: Get emergency medical help immediately
 P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
 P305+P354_P388 - IF IN EYE: Immediately rinse with water for several minutes. Remove contact lenses if present, and easy to do
 P308 + P316 - If exposed or concerned: Get emergency medical help immediately
 P317 - Get medical help
 P318 - If exposed or concerned get medical advice.
 P319 - Get medical help if you feel unwell
 P321 - Specific treatment (see supplemental first aid instructions on this label)
 P333+317 - If skin irritation or rash occurs get medical help
 P362+364 - Take off contaminated clothing and wash it before reuse
 P391 - Collect spillage
 P405 - Store locked up
 P501 - Dispose of contents/ container to an approved waste disposal plant

Additional information

This product is classified as hazardous according to the criteria in South Africa - GHS classification and labelling of chemicals – SANS10234 and the Regulations for Hazardous Chemical Agents - 2021.

Other hazards

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

3. Composition/information on ingredients

Substance

Not applicable

Mixture**Synonyms**

Emamectin benzoate 1.92 EC

Chemical name	CAS No	Weight-%	EC No	INTERNATIONAL GHS CLASSIFICATION	M-Factor
Hydrocarbons, C10, aromatics, <1% naphthalene	-	61-66	918-811-1	Asp. Tox. 1 (H304) STOT SE 3 (H336) Aquatic Chronic 2 (H411)	
N-Methyl-2-pyrrolidone	872-50-4	9-12	212-828-1	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Repr. 1B (H360) STOT SE 3 (H335)	
Benzenesulfonic acid, C10-13-(linear)alkyl derivs., calcium salt	-	3-6	932-231-6	Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Aquatic Chronic 3 (H412)	
2-Ethylhexan-1-ol	104-76-7	2-4	203-234-3	Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335)	
Emamectin-benzoate	155569-91-8	1-3		Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Eye Dam. 1 (H318) STOT SE 1 (H370)(nervous system) STOT RE 1 (H372)(nervous System) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	M=10000 M=10000
2,6-di-tert-butyl-p-cresol	128-37-0	< 2	204-881-4	Aquatic Acute 1(H400) Aquatic Chronic 1(H410)	

Full text of H- and EUH-phrases: see section 16**Additional information**

Note: The other ingredients do not cause or contribute towards the correct GHS classification of Warlock 19.2 EC and are therefore, in terms of the South African Regulations for Hazardous Chemical Agents - 2021. Regulation 14(b), not listed in the table above.

4. First-aid measures**Description of necessary first aid measures****General advice**

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). First aider: Pay attention to self-protection.

Inhalation

Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a physician.

Skin contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Consult a physician if necessary.

Eye contact

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Seek immediate

medical attention/advice.

Ingestion Rinse mouth. Do NOT induce vomiting. Get medical attention immediately if symptoms occur.

For emergency responders

Self-protection of the first aider Use personal protective equipment as required.

Most important symptoms/effects, acute and delayed

Symptoms None known.

Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media

Suitable Extinguishing Media Dry chemical. Carbon dioxide (CO₂). Water spray. Alcohol resistant foam.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the chemical

Specific hazards arising from the chemical Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Product is or contains a sensitizer. May cause sensitization by skin contact. Combustible material.

Flammable properties Combustible material

Explosive properties No data available.

Specific/special fire-fighting measures

Specific/special fire-fighting measures No information available.

Special protective equipment and precautions for fire-fighters

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Take precautionary measures against static discharges. Do not touch or walk through spilled material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak.

Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment	Stop leak if you can do it without risk. Do not touch or walk through spilled material. Dike far ahead of liquid spill for later disposal.
Methods for cleaning up	Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.
Other information	Refer to protective measures listed in Sections 7 and 8.

7. Handling and storage**Preventive measures for safe handling**

Advice on safe handling	Use personal protection equipment. Do not breathe vapor or mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Use with local exhaust ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. In case of insufficient ventilation, wear suitable respiratory equipment. Take off contaminated clothing and wash before reuse. Remove contaminated clothing and shoes.
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Precautions for safe handling

General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.
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Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Store locked up. Keep out of the reach of children. Store away from other materials.
Incompatible materials	Strong acids. Strong bases. Strong oxidizing agents.

8. Exposure controls/personal protection**Control parameters**

Exposure guidelines	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies
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Chemical name	ACGIH TLV
2,6-di-tert-butyl-p-cresol 128-37-0	TWA: 2 mg/m ³ inhalable fraction and vapor

Appropriate engineering controls

Engineering controls	Ensure adequate ventilation, especially in confined areas.
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Individual protection measures, such as personal protective equipment

Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Hand protection	Suitable chemical resistant gloves (EN 374) also with prolonged, direct contact

(recommendation: protection index 6, corresponding > 480 minutes Permeability time (permeation) according to EN 374): e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm).

Eye/face protection	Tight sealing safety goggles.
Skin and body protection	Use suitable protective clothing and equipment if required, such as safety goggles certified to EN 166, gloves certified to EN 374, protective boots certified to EN 13832, and/or a water repellent woven coverall with 65% polyester and 35 % cotton.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.
Environmental exposure controls	Local authorities should be advised if significant spillages cannot be contained.

9. Physical and chemical properties

Information on basic physical and chemical properties

<u>Property</u>	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
Appearance			
Physical state	: Liquid		
Color	: light yellow		
Odor	: No data available		
Odor threshold	: No data available		
pH	: 6.7 - 7.7	CIPAC MT 75.3	1 % aqueous solution
Melting point / freezing point °C	: ----		Not applicable
Boiling point / boiling range °C	: No data available		
Flash point °C	: > 65		
Evaporation rate	: ----		No data available
Flammability (solid, gas)	: Not applicable		
Upper/lower flammability or explosive limits	: No data available		
Vapor pressure kPa	: No data available		
Vapor density	: No data available		
Relative density	: 0.92 - 0.96	CIPAC MT 3	
Solubility(ies) mg/l	: No data available		
Partition coefficient Log Pow	:		See Section 12 for additional Ecological Information
Autoignition temperature °C	: No data available		
Decomposition temperature °C	: No data available		
Kinematic viscosity mm ² /s 40 °C	: ----		No data available
Explosive properties	: No data available		
Oxidizing properties	: No data available		
Surface tension	: ----		No data available
Particle Size	: Not applicable		
Other information			
Bulk density g/ml	: ----		

10. Stability and reactivity

Reactivity

Reactivity No information available.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge Yes.

Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

Conditions to avoid

Conditions to avoid Heat, flames and sparks.

Incompatible materials

Incompatible materials Strong acids. Strong bases. Strong oxidizing agents.

Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

11. Toxicological information

Information on toxicological effects

Acute toxicity

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Oral LD50 mg/kg	: > 2000	Rat	OECD 423	
Dermal LD50 mg/kg	: > 2000	Rat	OECD 402	
Inhalation LC50 LC50	: > 5.46	Rat	OECD 403	
Skin corrosion/irritation	: Non-irritating to the skin	Rabbit	OECD 404	
Serious eye damage/eye irritation	: Causes serious eye damage	Rabbit	OECD 405	
Sensitization	: Skin sensitizer	Mouse	OECD 429 LLNA	

Chronic toxicity

Germ cell mutagenicity

Chemical name

Emamectin-benzoate : Not classified

Carcinogenicity

Chemical name

Emamectin-benzoate : Not Carcinogenic

Reproductive toxicity

Chemical name

Emamectin-benzoate : Not toxic for the reproductive system

STOT - Single Exposure

Chemical name

Emamectin-benzoate : H370 - Causes damage to organs

STOT - Repeated Exposure

Chemical name

Emamectin-benzoate : H372 - Causes damage to organs through prolonged or repeated exposure

Aspiration hazard

Chemical name

Emamectin-benzoate : No data available

12. Ecological information

Ecotoxicity

Aquatic toxicity

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Acute toxicity				
Fish 96-hour LC50 mg/l	: 2.25	Rainbow trout	OECD 203	
Crustacea 48-hour EC50 mg/l	: 0.173	Daphnia magna	OECD 202	
Algae 72-hour EC50 mg/l	: ----			No data available
Other plants EC50 mg/l	: ----			No data available

Chronic aquatic toxicity

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Fish NOEC mg/l	: No data available			
Crustacea NOEC mg/l	: No data available			
Algae NOEC mg/l	: No data available			
Other plants NOEC mg/l	: No data available			

Terrestrial Toxicity

Birds Oral LD50 mg/kg				
Chemical name				
Emamectin-benzoate	: 76	A. platyrhynchos		No data available

Bees Oral LD50 µg/bee

Chemical name				
Emamectin-benzoate	: 0.0036			contact

Abiotic Degradation

Water DT50 days				
Chemical name				
Emamectin-benzoate	: ----			No data available

Soil DT50 days

Chemical name				
Emamectin-benzoate	: 25.2 - 414			20 °C

Biodegradation

Chemical name				
Emamectin-benzoate	: Not readily biodegradable			

Log Pow

	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
Chemical name			
Emamectin-benzoate	: 5.0	OECD 117	pH 7

Bioconcentration factor (BCF)

Chemical name				
Emamectin-benzoate	: 82 L/kg ww			No data available

Adsorption/Desorption

	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
Chemical name			
Emamectin-benzoate	: 643.01		Kf

13. Disposal considerations

Disposal methods

Waste from residues/unused products	Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.
Contaminated packaging	Improper disposal or reuse of this container may be dangerous and illegal.

14. Transport information

ADR

14.1 UN number	UN3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Hydrocarbons, C10, aromatics, <1% naphthalene, Emamectin-benzoate)
14.3 Transport hazard class(es)	9
Labels	9
14.4 Packing group	III
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Hydrocarbons, C10, aromatics, <1% naphthalene, Emamectin-benzoate), 9, III
14.5 Environmental hazard	Yes
14.6 Special Precautions for Users	
Special Provisions	274, 335, 601, 375
Classification code	M6

RID

14.1 UN number	UN3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Hydrocarbons, C10, aromatics, <1% naphthalene, Emamectin-benzoate)
14.3 Transport hazard class(es)	9
Labels	9
14.4 Packing group	III
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Hydrocarbons, C10, aromatics, <1% naphthalene, Emamectin-benzoate), 9, III
14.5 Environmental hazard	Yes
14.6 Special Precautions for Users	
Special Provisions	274, 335, 375, 601
Classification code	M6

IMDG

14.1 UN number	UN3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Hydrocarbons, C10, aromatics, <1% naphthalene, Emamectin-benzoate)
14.3 Hazard Class	9
14.4 Packing group	III
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Hydrocarbons, C10, aromatics, <1% naphthalene, Emamectin-benzoate), 9, III, Marine pollutant
14.5 Marine pollutant	P
Environmental hazard	Yes
14.6 Special Precautions for Users	
Special Provisions	274, 335, 969
EmS-No	F-A, S-F
IMDG Stowage and segregation	Category A
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code	No information available

IATA

14.1 UN number	UN3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Hydrocarbons, C10, aromatics, <1% naphthalene, Emamectin-benzoate)
14.3 Transport hazard class(es)	9

14.4 Packing group	III
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Hydrocarbons, C10, aromatics, <1% naphthalene, Emamectin-benzoate), 9, III
14.5 Environmental hazard	Yes
14.6 Special Precautions for Users	A97, A158, A197
Special Provisions	
ERG Code	9L



* Note: UN3077 & UN3082 – These products may be transported as non-dangerous goods under the special provisions of IMDG Code 2.10.2.7; ADR SP375 and ICAO/IATA A197 when packed in single or inner packaging of up to 5L for liquids or 5 kg or less for solids

15. Regulatory information

Safety, health and environmental regulations specific for the product in question

Registration Requirements: Fertilizer, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act 36 of 1947). Pesticide Handling, Storage and Disposal Safety: SANS10206: 2020. Safety Data Sheet and Occupational Exposure Limit Requirements: Regulations for Hazardous Chemical Agents – 2021 – SA Occupational Health and Safety Act. SANS11014:2010. Control of and handling of poisonous/hazardous and non-poisonous/non-hazardous substances/chemicals in workplaces: Hazardous Substances Act, 1973 (Act No.15 of 1973). Occupational Health and Safety Act No. 85 of 1993.

16. Other information

Full text of H-Statements referred to under section 3

H301 - Toxic if swallowed
H304 - May be fatal if swallowed and enters airways
H311 - Toxic in contact with skin
H315 - Causes skin irritation
H318 - Causes serious eye damage
H319 - Causes serious eye irritation
H331 - Toxic if inhaled
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H360 - May damage fertility or the unborn child
H370 - Causes damage to organs
H372 - Causes damage to organs through prolonged or repeated exposure
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H411 - Toxic to aquatic life with long lasting effects
H412 - Harmful to aquatic life with long lasting effects

Date of preparation of the SDS No data available

Revision date 13-Oct-2022

Revision Note Changes made to the last version are labeled with this sign ***.

Key or legend to abbreviations and acronyms used in the safety data sheet

IMDG	International Maritime Dangerous Goods (IMDG)
IATA	International Air Transport Association (IATA)
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Abbreviations and acronyms

ADR -	European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN -	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
CAS Number -	Chemical Abstracts Service number
EC Number -	EINECS and ELINCS Number
EINECS -	European Inventory of Existing Commercial Substances
ELINCS -	European List of notified Chemical Substances
IATA -	International Air Transport Association
ICAO-TI -	Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG -	International Maritime Dangerous Goods
LC50 -	Lethal Concentration to 50 % of a test population
LD50 -	Lethal Dose to 50% of a test population (Median Lethal Dose)
OECD -	Organization for Economic Co-operation and Development
PBT -	Persistent, Bioaccumulative and Toxic substance
RID -	Regulations concerning the International Carriage of Dangerous Goods by Rail
STOT -	Specific Target Organ Toxicity
vPvB -	Very Persistent and Very Bioaccumulative

The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**Classification of the mixture**

H304 -	May be fatal if swallowed and enters airways
H317 -	May cause an allergic skin reaction
H318 -	Causes serious eye damage
H360 -	May damage fertility or the unborn child
H371 -	May cause damage to organs
H373 -	May cause damage to organs through prolonged or repeated exposure
H400 -	Very toxic to aquatic life
H410 -	Very toxic to aquatic life with long lasting effects

Classification procedure

	Classification based on Calculation method
	Classification based on test data
	Classification based on test data
	Classification based on Calculation method
	Classification based on Calculation method
	Classification based on Calculation method
	Classification based on test data
	Classification based on Calculation method

Disclaimer

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 text

End of Safety Data Sheet