

TEMPES 100 EC

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: TEMPES 100 EC
Other identifier: Bifenthrin 100 EC
Recommended use: Insecticide and Acaricide
Restrictions on use: Agriculture

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	Flammable liquid 3	H226
Health		
Oral	Acute Toxicity 4	H302
Dermal	Acute Toxicity 4	H312
	Skin Irritation 2	H315
	Skin Sensitisation 1	H317
Eye	Eye Irritation 2	H319
Inhalation	Acute Toxicity 4	H332
Carcinogen	Carcinogenicity 2	H351
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:

Physicochemical effects: Flammable liquid.

Human health effects:

Harmful if swallowed, inhaled or in contact with skin.

Causes skin and serious eye irritation.

May cause an allergic skin reaction.

Suspected of causing cancer.

Causes damage to organs (nervous system) through prolonged or repeated exposure.

Label elements:



Signal word: Danger.

Hazard statements:

H226: Flammable liquid and vapour.

H302: Harmful if swallowed.

H312: Harmful in contact with skin.

H315: Causes skin irritation.

H317: May cause an allergic skin reaction.

H319: Causes serious eye irritation.

H332: Harmful if inhaled.

H351: Suspected of causing cancer.

H372: Causes damage to organs (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.

P233: Keep container tightly closed.

P240: Ground and bond container and receiving equipment.

P241: Use explosion-proof equipment.

P242: Use non-sparking tools.

P243: Take action to prevent static discharges.

P260: Do not breathe fume, mist, vapours and spray.

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

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

P271: Use only outdoors or in a well-ventilated area.

P272: Contaminated work clothing should not be allowed out of the workplace.

P273: Avoid release into the environment.

P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.

P301+P302+P304+P317: IF SWALLOWED, INHALED OR ON SKIN: Get medical help.

P302+P352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.

P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [shower].

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P318: IF exposed or concerned, get medical advice.
 P319: Get medical help if you feel unwell.
 P330: Rinse mouth.
 P333+P317: If skin irritation or rash occurs: Get medical help.
 P337+P317: If eye irritation persists: Get medical help.
 P362+P364: Take off contaminated clothing and wash it before reuse.
 P391: Collect spillage.
 P403+P235: Store in a well-ventilated place. Keep cool.
 P405: Store locked up.
 P501: Dispose of contents/container to suitable landfill in accordance with local regulations.

Other hazards:
 None known.

Toxicity:
 Classification according to GHS: Category 4

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture.

Composition:

Chemical Name	CAS	Conc. (m/v %)	Classification EC 1272/2008
Bifenthrin	82657-04-3	10 %	Acute Toxicity 2 (H300) Skin Sensitisation 1B (H317) Acute Toxicity 3 (H331) Carcinogenicity 2 (H351) STOT RE 1 (H372) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Dimethyl benzene	1330-20-7	< 85 %	Flammable liquid 3 (H226) Acute Toxicity 4 (H312) Skin Irritation 2 (H315) Acute Toxicity 4 (H332)
Calcium dodecylbenzene sulfonate	26264-06-2	< 5 %	Acute Toxicity 4 (H302) Skin Irritation 2 (H315) Eye Damage 1 (H318) Aquatic Chronic 4 (H413)

POE (1) lauryl ether	9002-92-0	< 10 %	Acute Toxicity 4 (H302) Eye Irritation 2 (H319) Aquatic Chronic 3 (H412)
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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. Get medical help if you feel unwell.

Inhalation: Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention if irritation occurs. **Seek medical attention.**

Skin: Remove contaminated clothing, shoes and leather goods. Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. **Seek medical attention.**

Eyes: Flush eyes with clean water for at least 15 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. **Seek medical attention if irritation persists.**

Ingestion: Do not induce vomiting due to the aromatic solvent. Do not give anything by mouth to an unconscious person. **Obtain medical attention** or call a poison control centre for treatment advice. If the person is alert and respiration is not depressed, rinse mouth thoroughly with water and give large quantity of water to drink. Establish and maintain airway. Treat respiratory difficulty with artificial respiration and oxygen. Qualified medical personnel should perform administration of gastric lavage or oxygen.

Anticipated acute effects:

Harmful if swallowed, inhaled or in contact with skin. Causes skin and serious eye irritation. May cause an allergic skin reaction. Suspected of causing cancer.

Anticipated delayed effects: Causes damage to organs (nervous system) through prolonged or repeated exposure.

Most important symptoms/effects: None known.

Advice to physician: There is no specific antidote available. Treat symptomatically and supportively.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Extinguish fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used to cool unaffected stock, but avoid water coming into contact with product. Use as little water as possible.

Unsuitable Extinguishing Media: High volume water jet.
Specific hazards: In case of fire the following toxic gases may be produced: Carbon monoxide, Carbon dioxide, Hydrogen chloride and Hydrogen fluoride.

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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: 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 to be very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Any spillages or uncontrolled discharges into water courses 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, earth or silica gel.

Methods and Materials for Clean-up: Cover contained spill with an inert absorbent material such as sand, earth or other appropriate non-combustible 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 (i.e. organic solvent, detergent bleach or caustic). Add the solution to the drums already collected. Open burning or dumping of this material is prohibited. See section 13 for disposal considerations.

7. HANDLING AND STORAGE

Handling:

Precautions for safe handling: Harmful if swallowed and inhaled. Avoid contact with eyes and skin. Do not inhale spray mist or vapours. Ensure adequate ventilation during handling and use. Do not handle broken containers without protective equipment. Immediately clean up spills that occur during handling. Keep containers tightly 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. Do not store near heat, open flame, sources of ignition or hot surfaces. 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
Dimethyl benzene	100 ppm	Up to 10-hour TWA	"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 OSHA PELs 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.

Hand Protection: Employee must wear appropriate chemically resistant gloves e.g., nitrile rubber gloves to prevent contact with this mixture.

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Eye Protection: Wear a face shield when handling the concentrate and when applying the product. The use of safety goggles is recommended if a face shield is not used.

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 mixture; the employer should provide an eyewash fountain or appropriate alternative within the immediate work area for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Light brown liquid, emulsifiable concentrate.

Odour: Mild solvent odour.

pH: 6 – 8.

Melting point: Not available.

Freezing Point: Not available.

Boiling Point: Not available.

Flash Point: Not available.

Flammability: Flammable liquid and vapour.

Upper/lower explosion limits: Not available.

Vapour Pressure (mm Hg): Not available.

Relative Vapour Density: Not available.

Density: 0.95 g/cm³.

Solubility: Emulsifies 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 2 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: None known.

Conditions to Avoid: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.

Incompatible Materials: Strong oxidizers, strong bases, strong reducing agents.

Hazardous Decomposition Products: None.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Calculated according to GHS.

Oral LD₅₀ (24 h) >400 mg/kg (rat).

Dermal LD₅₀ (24 h) >1800 mg/kg (rabbit).

Inhalation LC₅₀ (4 h) >4.7 mg/l (rat).

Skin Irritation/Corrosion: Causes skin irritation.

Eye Damage/Irritation: Causes serious eye irritation.

Skin Sensitization: May cause an allergic skin reaction.

Respiratory Sensitization: Not classified.

Reproductive cell mutagenicity: Not classified.

Carcinogenicity: Suspected of causing cancer.

Reproductive toxicity: Not classified.

Specific target organ toxicity – single exposure: Not classified.

Specific target organ toxicity – repeated exposure: Causes damage to organs (nervous system) through prolonged or repeated exposure.

Aspiration hazard: Not classified.

Chronic Effects: Not available.

POTENTIAL ADVERSE EFFECTS:

Inhalation: Harmful if inhaled.

Skin contact: Harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction.

Eye contact: Due to inert, this product may cause serious irritation to eyes.

Ingestion: Harmful if swallowed.

12. ECOLOGICAL INFORMATION

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

ECOTOXICITY DATA:

Active ingredient (Bifenthrin)

Fish:

LC ₅₀ (96 h)	Bluegill sunfish	0.269 µg/l
	Rainbow trout	0.15 µg/l

Daphnia:

LC ₅₀ (48 h)		0.16 µg/l
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Algae:

EC ₅₀		>8 mg/l
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Birds:

Acute LD ₅₀	Bobwhite quail	>1800 mg/kg
	Mallard ducks	>1250 mg/kg
Dietary LC ₅₀ (8 d)	Bobwhite quail	4450 mg/kg diet
	Mallard ducks	1280 mg/kg diet

Bees:

Oral LD ₅₀		0.1 µg/bee
Contact LD ₅₀		0.01462 µg/bee

Worms:

LC ₅₀	Earthworms	>16 mg/kg soil
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ENVIRONMENTAL EFFECTS:

Plants: Extensively metabolised, with 50-80% hydrolysis. The most important metabolite is 4'-hydroxybifenthrin.

Persistence and degradability: Soil DT₅₀ (lab) 53 – 192 days (mean 106 days).

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Bio-accumulative Potential: Log $K_{ow} > 6.0$. The majority of administered substance is excreted, with complete elimination in 48 hours.

Mobility in soil: $K_{oc} 1.31 - 3.02 \times 10^5$.

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 vapour and 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: 1993
Road Transport ADR/IRD:
 Class: 3
 Packaging group: III
 UN Proper Shipping Name: FLAMMABLE LIQUID, N.O.S. (dimethylbenzene 80%)

Maritime Transport IMDG/IMO:
 Class: 3
 Packaging group: III
 UN Proper Shipping Name: FLAMMABLE LIQUID, N.O.S. (dimethylbenzene 80%)

Marine Pollutant (Y/N): Yes, Considered a marine pollutant.

Air transport IATA/ICAO:
 Class: 3
 Packaging group: III
 UN Proper Shipping Name: FLAMMABLE LIQUID, N.O.S. (dimethylbenzene 80%)

Special/Environmental Precautions: None known.

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 50, 100, 150, 200, 500 ml and 1, 2, 5, 10, 20, 25 and 50 litres fluorinated plastic containers, labelled according to South African regulations and guidelines.

Other hazard statements, abbreviations and explanations:

H300: Fatal if swallowed.

H318: Causes serious eye damage.

H331: Toxic if inhaled.

H412: Harmful to aquatic life with long-lasting effects.

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.

LD₅₀ 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.

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.