

# SAFETY DATA SHEET



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## 1) IDENTIFICATION OF THE SUBSTANCE / PREPARATION

Commercial name: **DORINE® EC 50**

Usage: Insecticide

Company identification: Bayer (Pty.) Ltd.  
Reg. No. 1968/011192/07  
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SOUTH AFRICA

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In case of poisoning emergencies:  
Bayer (office hours only): +27 11 921 5310/5663/5471/5639  
Tygerberg Poison Centre: +27 21 931 6129  
Griffon Poison Information Centre: +27 82 446 8946

## 2) HAZARD IDENTIFICATION OF THE PRODUCT

Flammable.  
Irritating to respiratory system.  
Risk of serious damage to eyes.  
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
Harmful: may cause lung damage if swallowed.  
Repeated exposure may cause skin dryness or cracking.  
Vapours may cause drowsiness and dizziness.

## 3) COMPOSITION / INFORMATION ON THE INGREDIENTS

Chemical nature: Emulsifiable concentrate (EC)  
Esbiothrin (pyrethroid) 50 g/l  
Piperonyl Butoxide 300 g/l

### Hazardous components:

Chemical Name	CAS-No. / EINECS-No.	Symbol(s)	R-phrase(s)	Concentration [%]
Esbiothrin	84030-86-4	Xn, N	R20/22, R50/53	5.0
Piperonyl butoxide	51-03-6 200-076-7	N	R50/53	30.0

For the full text of the R phrases mentioned in this Section, see Section 16.

## 4) FIRST AID MEASURES

General advice: Remove contaminated, soaked clothing immediately and dispose of safely.

Inhalation: Move the patient to fresh air and keep at rest. If symptoms persist, call a physician.

Skin contact: Take off all contaminated clothing immediately. Wash off immediately with soap and plenty of water. After skin contact: Apply Vitamin E cream or simple toilet milks. When symptoms persist or in all cases of doubt seek medical advice.

Eye contact: In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Ingestion: Do not induce vomiting. Wash out mouth with water. Keep at rest. Obtain medical attention.

### NOTES TO PHYSICIAN:

Symptoms: Local: After skin contact: paresthesia (local). May cause skin and eye irritation. Inhalation may provoke the following symptoms: irritation, cough.  
Systemic: Excitement, gastrointestinal discomfort, tremor, dizziness, headache, listlessness, nausea and vomiting, epigastric pain, muscular fasciculation of limbs, unconsciousness, convulsions and coma (very high doses).

Risks: This product/preparation contains a pyrethroid.  
Must NOT be confused with organophosphorus compounds!

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Risk of product entering the lungs on vomiting after ingestion.

**Treatment:** Local: Initial treatment should be symptomatic and supportive.  
 After eye contact: Instillation of local anaesthetic drops e.g. 1% Amethocaine Hydrochloride eye drops. Give Analgesics as necessary.  
 Systemic: Endotracheal intubation should be done and gastric lavage performed, followed by administration of charcoal.  
 Monitoring of respiratory and cardiac functions  
 ECG - monitoring (Electrocardiogram)  
 Check for pulmonary oedema in event of inhalation.  
 Keep airway clear, administer artificial respiration if necessary.  
 Against convulsions: Give diazepam: for adults 5-10 mg intravenously as necessary until fully sedated; for children 2.5 mg i.v.  
 There is no antidote.  
 Contraindication: Atropine  
 Contraindication: Derivatives of adrenaline  
 Recovery: Spontaneous.

## 5) FIRE FIGHTING MEASURES

**Fire hazards:** FLAMMABLE LIQUID. Flash point (Closed Cup): 41 °C.

**Suitable extinguishing media:** Water spray, alcohol-resistant foam, dry powder, carbon dioxide (CO<sub>2</sub>)

**Extinguishing media which must not be used for safety reasons:** High volume water jet

**Specific hazards during fire fighting:** In case of fire the evolution of dangerous gases is possible.

**Special protective equipment for fire-fighters:** In the event of fire and/or explosion do not breathe fumes.  
 Wear self contained breathing apparatus for fire fighting if necessary.  
 Chemical impermeable gloves, face shield, effective respirator or self contained breathing apparatus as dictated by circumstances, full length protective clothing and boots

**Further information:** Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat.  
 Whenever possible, contain fire-fighting water by bunding area with sand or earth.

## 6) ACCIDENTAL RELEASE MEASURES

**Personal:** Wear suitable protective clothing and effective respirator; avoid skin contact. Eliminate all ignition sources, no smoking in vicinity. Report incident to emergency personnel in the event of a large spillage.

**Environmental:** Prevent contamination of sewers, waterways, low areas, drinking water crops and/or grazing. The material is toxic to fish, bees and wildlife.

**Methods for cleaning:** Extinguish all ignition sources. Dike spill. Absorb liquid spillage with sand, earth or other suitable inert absorbent material, carefully shovel up and transfer to salvage drum and dispose of as for flammable and toxic waste.

**Prevention of secondary hazards:** No smoking or naked flames. Inspect for damaged containers.  
 Avoid contact of the product with nitric acid, sulphuric acid and/or strong oxidizing agents.

**Protective clothing:** Chemical impermeable gloves, safety goggles or face shield, effective respiratory protection or self contained breathing apparatus as dictated by circumstances, full length protective clothing, apron and boots.

**Accidental spillages:** Soak up liquid spillage with dry sand, sweep up and dispose of as for toxic and flammable waste in accordance with local/national regulations. Protective clothing to be worn when clearing spillage.

## 7) HANDLING AND STORAGE

**Handling:** Use only as per directions on label.  
 Flammable - do not handle or store near open flame.  
 Do not inhale spray mist.  
 Wear rubber gloves, face shield and dust mask when handling and applying.  
 Avoid skin contact and wash with soap and water after accidental skin contact.  
 Do not eat, drink or smoke while applying or before washing hands and face.

**Environmental:**

**Precautions:** During application and when cleaning equipment and protective clothing, contamination of all sources of drinking water, rivers, dams, other crops or grazing shall be prevented.

**Hazards:** The product is toxic to fish, bees and wildlife.

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Cleaning equipment after use: Clean protective clothing, used protective clothing and the workers' personal clothing shall be kept apart. At the end of each day, all protective clothing and respirators shall be decontaminated, washed, rinsed and dried. Extra care must be taken when cleaning equipment after use.

Storage:  
Suitable conditions: Store under lock and key, out of reach of children, animals and uninformed persons. Store in a cool, dry place away from sunlight, sources of heat and naked flames.

Precautions: Store away from farm feeds, foodstuffs, eating utensils and drinking water. Store away from nitric acid, sulphuric acid and/or strong oxidizing agents.

Packaging materials:  
Recommended packaging: Original container.  
Unsuitable packaging: Solvent is incompatible with vinyl coatings, butyl rubber and/or natural rubber.

## 8) EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure limits: Recommended Occupational exposure limit for solvent: 50 ppm total hydrocarbon.

Exposure controls: Effective ventilation to be maintained. Where concentrations of solvent vapours in air may exceed limits of safety, approved respirators may be necessary to prevent overexposure by inhalation.

Personal protection:  
Mixing of concentrate: Gloves, full length overalls.  
Application: Gloves, goggles, dust mask, full length overalls. Wash exposed skin area, face and hands after use.  
Manufacture: Chemical impermeable gloves, barrier cream on exposed skin, goggles or face shield, respiratory protection, full length overalls, apron and boots.  
Emergency: Chemical impermeable gloves, safety goggles or face shield, effective respiratory protection or self contained breathing apparatus as dictated by circumstances, full length protective clothing and boots.

Specific hygiene measures: Contact with the liquid should be avoided by persons showing a skin photosensitization reaction.

## 9) PHYSICAL AND CHEMICAL PROPERTIES

Form: Liquid

Colour: Yellow, clear

Odour: Characteristic

Flash point: ca. 42 °C (closed cup)

Density at 25 °C: 0,939 g/cm<sup>3</sup>

Solubility: Esbiothrin, technical in water at 20 °C: 4,6 mg/l; Soluble in ethanol, acetone, toluene at more than 500 g/kg.

## 10) STABILITY AND REACTIVITY

Corrosiveness: The solvent is incompatible with vinyl coatings, butyl rubber and/or natural rubber.

Stability: Esbiothrin is degraded by UV light. Esbiothrin is light sensitive, store product in original container.

Compatibility: The product may be used with residual insecticides.

Fire: Esbiothrin and piperonyl butoxide decompose in a fire to emit acrid smoke and irritating fumes.

Chemical contact: The solvent is incompatible with vinyl coatings, butyl rubber, natural rubber, nitric acid, sulfuric acid, strong oxidizing agents.

## 11) TOXICOLOGICAL INFORMATION

Acute toxicity:  
LD<sub>50</sub> oral, rat: 3,345 mg/kg  
LD<sub>50</sub> dermal, rat: > 4,000 mg/kg  
Acute inhalation toxicity: Irritating to respiratory system.

Skin irritation, rabbit: Slight irritant effect - does not require labeling

Eye irritation, rabbit: Risk of serious damage to eyes

Sensitization: non-sensitizing (guinea pig)  
OECD Test Guideline 406, Buehler test

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Further information: Cutaneous sensations may occur, such as burning or stinging on the face and mucosae. However, these sensations cause no lesions and are of a transitory nature (max. 24 hours).  
When inhaled in larger quantities, the solvent vapours cause a narcotic effect.

## 12) ECOLOGICAL INFORMATION

### Toxicity to fish:

For esbiothrin, technical the LC<sub>50</sub> (96-h) for Rainbow trout is 0,01 mg/l and for bluegill is 0,033 mg/l.  
For piperonyl butoxide, technical the LC<sub>50</sub> (24 hours) for Carp is 5,3 mg/l .

### Toxicity to birds:

For esbiothrin, technical the acute oral LD<sub>50</sub> for Mallard ducks and bobwhite quail is more than 5 000 mg/kg.  
For piperonyl butoxide, technical the acute oral LD<sub>50</sub> for starling is more than 100 mg/kg.

Marine Pollutant: P<sub>3</sub> - Product contains a marine pollutant.

Degradation: Esbiothrin, technical is degraded by UV light.

## 13) DISPOSAL CONSIDERATIONS

Waste from residues: Residue to be disposed of as for toxic and flammable waste in accordance with local/national regulations.

Disposal of used packaging material: Invert the empty container over the spray or mixing tank and allow to drain for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the container three times with a volume of water equal to a minimum of 10 % of that of the container. Add the rinses to the contents of the spray tank and destroy the empty container by perforation and flattening and dispose of as toxic waste in accordance with local/national regulations. DO NOT re-use for any other purpose.

## 14) TRANSPORT INFORMATION

Un No.: 1993

Class: 3

MFAG: \*\*

Subsidiary risk: •

Packaging group: III

Declaration for land shipment: 1993 FLAMMABLE LIQUID, N.O.S.

Declaration for sea shipment: 1993 FLAMMABLE LIQUID, N.O.S.

Declaration for shipment by air: 1993 FLAMMABLE LIQUID, N.O.S.

Marine pollutant.

## 15) REGULATORY INFORMATION

Classification and labelling in accordance with the EC Directive on dangerous preparations 1999/45/EC as amended.

Symbols: Xn Harmful  
N Dangerous for the environment

### Risk phrase(s):

R10: Flammable.

R22: Harmful if swallowed.

R36/38: Irritating to eyes and skin.

R51: Very toxic to aquatic organisms.

R55: Toxic to fauna.

R57: Toxic to bees.

### Safety phrase(s):

S2: Keep out of the reach of children.

S15: Keep away from heat.

S23: Do not breathe spray mist.

S24: Avoid contact with skin.

S28: After contact with skin, wash with plenty of water.

S36/39: Wear suitable protective clothing and eyes/face protection.

Exceptional labelling: To avoid risks to man and the environment, comply with the instructions for use.

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WHO Classification: II (moderately hazardous)

## 16) OTHER INFORMATION

Text of R-phrases mentioned in Section 3:

R20/22: Harmful by inhalation and if swallowed.

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

Consult the label for directions for use.

THIS INFORMATION CONCERNS ONLY THE PRODUCT AS CONFORMING TO ITS SPECIFICATIONS AND LIMITED TO THE USES HEREIN STATED.

This sheet complements the technical sheet of use but does not replace it. The information contained on this sheet is based on knowledge of the product on the date of publication. It is given in good faith.

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