

# Attacke

## SAFETY DATA SHEET

### 1. PRODUCT & COMPANY IDENTIFICATION

**Product Name:** Attacke  
**Pesticide Classification:** Insecticide  
**UN No:** 3351

#### Supplier

Enviro Bio-Chem (Pty) Ltd  
Co. Reg. No.: 2013/194774/07  
44 Kerk Street, Lichtenburg  
North West, South Africa 2740

#### Registration Holder

Erintrade t/a RT Chemicals  
Co. Reg. No.: CK 2001/036403/23  
44 Kerk Street, Lichtenburg  
North West, South Africa 2740

**Telephone:** +27 87 231 7261  
**Fax:** 086 541 7948  
**Website:** [www.envirobiochem.co.za](http://www.envirobiochem.co.za)

**24 Hr Emergency Number:** Bateleur: +27 83 123 3911

#### **In case of Poisoning:**

Poison Information Centre: +27 82 446 8946  
Tygerberg Hospital: (+27 21) 931 6129  
Poison Emergency Enquiries: (+27 21) 689 5227

**Common Name:** Lambda-cyhalothrin 50g/l EC

**Chemical Name:** (S)- $\alpha$ -cyano-3-phenoxybenzyl (Z)-(1R,3R)-3-(2-chloro-3,3,3-trifluoroprop-1-enyl) -2,2-dimethylcyclopropanecarboxylate  
and  
(R)- $\alpha$ -cyano-3-phenoxybenzyl (Z)-(1S,3S)-3-(2-chloro-3,3,3-trifluoroprop-1-enyl) -2,2-dimethylcyclopropanecarboxylate (IUPAC)

**Empirical Formula:** C<sub>23</sub>H<sub>19</sub>ClF<sub>3</sub>NO<sub>3</sub>

**CAS No.:** 91465-08-6

**RSA Reg. No.:** L7669 Act 36 of 1947

**Namibia Reg No.:** N-AR 1191

**Botswana Reg. No.:** W130504

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Ingredient Name</u>	<u>Concentration</u>
Lambda-cyhalothrin	5%
Xylene (solvent)	88%
Aromatic hydrocarbons (emulsifying agents)	

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## 3. HAZARD IDENTIFICATION

**Hazard Class:** WHO Class II -Moderately hazardous.

**Main Hazard:** The product is toxic.

**Flammability:** Flammable

**Chemical Hazard:** Vapours can be released during a fire that form explosive mixtures at temperatures at or above the flash point. Vapours may flow along surfaces to distant ignition sources and flash back. Irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

**Biological Hazard:** Very toxic to aquatic life with long lasting effects.

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## 4. FIRST AID MEASURES AND PRECAUTIONS

If poisoning is suspected, do not wait for symptoms to develop. Contact a physician, the nearest hospital, or the nearest Poison Control Centre.

**Symptoms of Human Poisoning:** Eye contact leads to eye redness, pain and discomfort. Skin contact leads to temporary itching, tingling, burning or numbness (paresthesia) as well dry skin and redness. Ingestion leads to a burning sensation, nausea and aspiration into the lungs may cause pain and difficult breathing. Inhalation leads to nose and throat irritation, dizziness, drowsiness, incoordination, headaches and nausea.

### First Aid Measures:

**Skin Contact:** Remove contaminated clothing and wash the affected area with soap and clean water, preferably under an emergency shower. If soap is not immediately available, rinse for 15 minutes with clean water. Contact a physician if a rash or other symptom of over-exposure appears.

**Eye Contact:** Immediately flush gently with copious volumes of clean, clear running water, holding the eyelids apart to ensure rinsing of the entire surface of the eyes and the eyelids. Remove contact lenses if present and continue for a minimum of 15 minutes. Contact a physician if irritation occurs or persists.

**Ingestion:** Contact a physician immediately. Rinse the mouth with plenty of water. Do not give anything by mouth to an unconscious person. Do not induce vomiting. If vomiting occurs spontaneously, keep the airways clear and lower the head below waist level to prevent fluid from entering the lungs.

**Inhaled:** Immediately get the affected persons out of the contaminated area to fresh, ventilated air. Keep warm and allow to rest. Give artificial respiration if breathing has stopped. Call an ambulance and contact a physician when breathing difficulties persist.

**Note to physician:** Paresthesia after skin contact is transient. Treat symptomatically. In acute cases of xylene ingestion or overexposure, the patient should be evaluated for signs of respiratory distress.

**Antidote:** There is no specific antidote for poisoning with this product.

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## 5. FIRE FIGHTING MEASURES

**Flammability:** Flammable

**Extinguishing Agents:** Use water spray, foam, dry chemical or carbon dioxide (CO<sub>2</sub>). Do not use a water jet.

**Firefighting:** Wear complete firefighting gear including protective gloves, eye protection and self-contained breathing apparatus. Stay upwind if possible. Evacuate non-essential persons from the area. Do not breath fumes and smoke. Use water spray to cool containers exposed to fire or heat. Contain run-off by diking. Wash clothing and equipment before re-use. Prevent use of contaminated buildings and equipment until decontaminated.

**Special Hazards:** The active ingredient will decompose in direct flames, giving off toxic gases.

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## 6. ACCIDENTAL RELEASE MEASURES (SPILLAGE)

**Personal Precautions:** Flammable vapours may be present. Eliminate all ignition sources and ventilate the spill area. Reposition any leaking containers to minimize further leakage. Prevent the generation of electrostatic charges as a result of flow, agitation, etc. Prevent exposure to the product or its vapours. Wear suitable protective clothing as described in Section 8. Avoid creating excessive evaporation during any clean-up operations. If exposure occurred, see Section 4 for first aid measures. Remove all contaminated clothing promptly. Have clothing thoroughly laundered before re-use, but don't take it home for laundering.

**Environmental Precautions:** Contain the spill and keep it out of the municipal sewers or open bodies of water. Prevent contamination of the soil. Spills on porous surfaces can contaminate the groundwater. Do not feed animals with contaminated fodder.

**Small Spills:** Contain the spill with absorbent material (for example paper towel). Soak up carefully and as completely as possible and transfer the contaminated liquid and solid material to a suitable container for disposal according to Section 13. Keep even small amounts separate from other waste. Avoid creating vapours. Then wash the surface with detergent and water, but do not dispose of the wash-water into the sewer system.

**Large Spills:** Evacuate the area of non-essential persons. Contain the spill immediately by diking with inert materials (for example sand or soil). Carefully pump as much as possible of the liquid to salvage containers. Absorb the remaining material with clay granules, sand or another absorbent material and sweep or shovel into secure waste containers. Contain in a secure location until recovery or appropriate disposal according to Section 13. Decontaminate the spill area with detergent and water, but prevent water from entering the sewer, streams or drinking water supplies.

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## 7. HANDLING AND STORAGE REQUIREMENTS

**Handling:** This material is flammable and an irritant. Keep children, uninformed persons and pets away during use. Use only as directed on the product label and heed all warnings and precautions. Wear suitable protective clothing as described in Section 8 and wash them after use. Ground all containers when transferring the material. Do not eat, drink or smoke whilst mixing or applying the product. Do not handle the product near ignition sources, food, feed or drinking water. Do not inhale vapours or spray mist. Do not handle or apply the product under strong windy conditions. Prevent drift of spray mist onto other crops, grazing, rivers, dams or areas not under treatment. Wash thoroughly with soap and water after handling this product. Clean the applicator immediately after use and dispose of the wash water where it will not contaminate the soil, crops, grazing, dams, streams or underground water.

**Storage:** Store in the original container in a cool, dry, ventilated, locked place out of direct sunlight and out of the reach of children and uninformed persons. Store away from food, feed, drink and tobacco products. Store where streams and underground water cannot be accidentally contaminated. Keep the container closed when not in use.

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## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

**Acceptable Daily Intake (ADI):** 0.0005 mg/kg body weight (Lambda-cyhalothrin).

**Exposure Limits:**

Components	Short Term Exposure Limit STEL (15 minutes)	Threshold Limit Value TLV (TWA)
Lambda-cyhalothrin	None adopted	None adopted
Xylene	150 ppm	100 ppm

**Engineering Controls:** Use process enclosures, explosion-proof local exhaust ventilation or other suitable systems to keep airborne levels below hazardous levels, especially when user operations generate vapours or mist. Facilities storing or utilising this material should be equipped with an eye-wash station and emergency shower. Always take the containers out of the storage area and to a well-ventilated spot before opening them and pouring the contents into the spray tank or other mixing chamber.

**Personal Protective Equipment:**

**Clothing:** Long-sleeved shirt, long pants, shoes plus socks, protective waterproof (impermeable) gloves. Employee must wear appropriate protective clothing and equipment to prevent prolonged skin contact with this product. Clothing soaked with product solution should be promptly removed and laundered before re-use.

**Gloves:** Wear chemical resistant gloves whenever the material is handled. Remove and replace them immediately if there is any indication of damage or degradation. Rinse and remove the gloves immediately after use and wash the hands with soap and water.

**Eye Protection:** Wear eye protection. During mixing or pouring operations or other activities in which eye contact with undiluted product is likely to occur, splash goggles should be worn. 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.

**Respiratory:** Work only in a well-ventilated area. If the ventilation is insufficient to keep exposure to product vapours or mist to a minimum, a properly fit-tested respirator fitted with organic vapour cartridges is required.

**Other Protection:** Do not eat, drink or smoke while handling this product. Prevent contamination of food, feeds, drinking water and eating utensils. After using this product wash hands and face before eating. Take extreme care to avoid drift. Wash accurately (preferably a shower) after work shift. Wash hands during breaks and at the end of the work with soap and water.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Transparent liquid.

**Colour:** Pale yellow.

**Odour:** Characteristic of solvents.

**Density:** 0.89 g/ml

**Viscosity:** No data available.

**Solubility in Water (Product):** Forms a stable emulsion in water.

**Solubility in Water (Lambda-cyhalothrin):** 0.005 mg/L at 20 °C.

**Solubility in Water (Xylene):** Immiscible

**Solubility in Solvents (Lambda-cyhalothrin):** Soluble in acetone, methanol, toluene, hexane, ethyl acetate.

**Solubility in Solvents (Xylene):** Miscible with many organic solvents.

**Partition Coefficient (Lambda-cyhalothrin):** (*n*-octanol/water) log Pow = 7 at 20 °C

**pH when diluted in Water:** Data not available.

**Melting Range (Lambda-cyhalothrin):** 45.5 – 47.5 °C

**Boiling Range (Xylene):** 137 – 140 °C

**Decomposition Temperature (Lambda-cyhalothrin):** Above 230 °C

**Vapour Pressure (Xylene):** 0.8 kPa (20 °C)

**Vapour Pressure (Lambda-cyhalothrin):** 2 x 10<sup>-4</sup> mPa at 20 °C (estimated)

**Relative Vapour Density [air = 1] (Xylene):** 3.7

**Henry's Law Constant Estimate (Lambda-cyhalothrin):** 2 x 10<sup>-2</sup> Pa m<sup>3</sup> mol<sup>-1</sup>

**Flash Point:** 38 °C

**Flammability:** Flammable and combustible liquid and vapour. Lambda-cyhalothrin will decompose in direct flames.

**Auto-ignition Temperature (Xylene):** 527 °C

**Explosive Properties (Xylene): Explosive limits, vol% in air:** 1.1 to 7.0

**Oxidising Properties:** None known

**Corrosive Properties:** Non-corrosive

**Hydrolysis (Lambda-cyhalothrin):** Stable to hydrolysis below pH 5. Hydrolysed very slowly at Ph 7 and rapidly at pH 9.

## 10. STABILITY AND REACTIVITY

**Stability:** Stable under normal storage conditions. Hydrolysed above pH 7.

**Conditions to Avoid:** Avoid direct sunlight, open flames, ignition sources, high temperatures, sources of heat, oxidising agents, alkalis and strong acids.

As a result of flow and agitation, electrostatic charges can be generated. Above 27 °C explosive vapour/air mixtures may be formed.

**Incompatible Materials:** Incompatible with non-chemical resistant packing material. The product will react with strong acids and bases and oxidising agents. Xylene may act as solvent for some plastics and rubbers. The active ingredient will be destroyed by hydrolysis above pH 7. Store away from heat sources and ignition sources.

**Decomposition Products:** Product formed in the environment includes 3-(2-chloro-3,3,3-trifluoroprop-1-enyl)-2,2-dimethyl cyclopropane carboxylic acid; 3-phenoxybenzaldehyde; 3-phenoxy-benzoic acid and a few other minor degradation products, some of which are significantly more toxic. Hazardous fumes may be emitted when the product is burning.

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## 11. TOXICOLOGICAL INFORMATION

Acute toxicity based on the active ingredient toxicity and xylene, both of which are of toxicological concern.

### Toxicity of Lambda-cyhalothrin:

**Acute Oral LD<sub>50</sub> (rat):** 60 mg/kg

**Acute Dermal LD<sub>50</sub> (rabbit):** 640 mg/kg

**Acute Inhalation LC<sub>50</sub> (rat, 4 hr):** 0.06 mg/l air.

**Skin and Eye Irritation (rabbit):** Causes skin and eye irritation.

**Skin Sensitization (guinea pig):** None expected (possibly enhanced facial paresthesia effects after repeated exposure to lambda-cyhalothrin technical was observed in man).

**Chronic Toxicity (2 years):** NOAEL ca. 2.5 mg/kg bw/day (rats); ca. 1.9 mg/kg bw/day (mice). Decreased weight gain was observed at 500 mg/kg diet in rats.

**Carcinogenicity:** No carcinogenic effects were observed in rats nor in mice.

**Mutagenicity:** No mutagenic properties were found (*in vitro* or *in vivo*). Not genotoxic.

**Neurotoxicity:** No histological evidence of damage to the nervous system was observed in chronic studies; reversible neurotoxicity may occur at high doses.

**Teratogenicity:** No teratogenic effects were observed in rats and rabbits.

**Reproductive Hazard:** Not likely to cause reproductive damage.

### Toxicity of Xylene:

**Skin and Eye Irritation (rabbit):** Causes skin and eye irritation.

**Neurotoxicity:** Can affect the central nervous system.

**Reproductive Hazard:** Possibly causes toxicity to human reproduction or development.

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## 12. ECOLOGICAL INFORMATION

Ecotoxicity is based on the active ingredient toxicity.

**Aquatic Toxicity Fish LC<sub>50</sub> (96 hr):** 0.24 µg/l (rainbow trout); 0.21 µg/l (bluegill sunfish). Highly toxic to fish

**Aquatic Toxicity Daphnia EC<sub>50</sub> (48 hr):** 0.36 µg/l

**Aquatic Toxicity Algae EC<sub>50</sub> (96 hr):** >1 000 µg/l

**Avian Toxicity LD<sub>50</sub> (9 days):** >3 950 mg/kg (mallard duck); >5 300 mg/kg (bobwhite quail). Practically non-toxic to birds.

**Bee Toxicity LD<sub>50</sub> (oral):** 38 ng/bee. Highly toxic to bees.

**Biodegradability:** Strongly adsorbed to soil and sediment organic matter and rapidly degraded in soil. The DT<sub>50</sub> for microbial degradation is 23 to 82 days and for field soil is 6 to 40 days.

**Bio-accumulation:** A substance's potential to bioaccumulate can be expressed by the bioaccumulation factor (BAF), the bioconcentration factor (BCF) or the octanol-water partition coefficient (Kow). The BCF for lambda-cyhalothrin is 1660 to 2240 (carp, clean water, flow through system); 19 (maximum reached in a soil/ water system).

**Mobility:** Once adsorbed, lambda-cyhalothrin is relatively immobile with a negligible potential for leaching through soil, but some degradation products leach readily.

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### 13. DISPOSAL CONSIDERATION

**Pesticide Disposal:** Waste resulting from the use of this product should be minimised by completely emptying and rinsing the container into the tank mixture. Dispose of waste product as hazardous waste via a licensed disposal contractor to an approved landfill. Never dispose residual tank mixes and rinsates in the sewer system or where it can contaminate water bodies.

**Package Product Wastes:** Rinse empty containers three times with sufficient water and add the rinsings to the contents of the spray tank. Destroy empty containers by perforation and flattening, then dispose of them by sanitary landfill or by incineration. Pesticide containers must never be used for any other purpose.

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### 14. TRANSPORT INFORMATION

**UN No.:** 3351

**Class:** 6.1 (3)

**Packing Group:** III

**Proper Shipping Name:** Pyrethroid Pesticide; Liquid; Toxic; Flammable (contains lambda-cyhalothrin / xylene)

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### 15. REGULATORY INFORMATION

**Risk Phrases:** R20/22- Harmful by inhalation and if swallowed.

R21- Harmful in contact with skin.

R36/38- Irritating to eyes and skin.

R43- May cause sensitization by skin contact.

R50- Very toxic to aquatic organisms.

**Safety Phrases:** S1/2- Keep locked up and out of reach children.

S13- Keep away from food, drink and animal feeding-stuffs.

S23- Do not breathe vapour/spray.

S24/25- Avoid contact with skin and eyes.

S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.

S61- Avoid release to the environment. Refer to special instructions/safety data sheets.

**National Legislation:** This product is registered under Act 36 of 1947 of the Republic of South Africa. It is a violation of South African law to use this product in any manner inconsistent with its approved labelling. Read and follow all label directions.

## 16. OTHER INFORMATION

**Note:** Read and understand all the information on the product label before using the product.

**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.

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