

# CLOSIER ADE + B12®

REGISTRATION: Q-0209-123



## Injectable solution

Broad-spectrum anthelmintic, lice killer, mange treatment, trematocide, and vitamin supplement.



### FORMULA

Each 100 mL contains:

Ivermectin	2 g
Closantel	10 g
Vitamin A	8,000,000 UI
Vitamin D3	1,500,000 UI
Vitamin E	1,000 UI
Vitamin B12	20 mg
Vehicle q.s.	100 mL

### Use in species



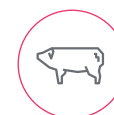
Cattle  
(Meat and milk)



Sheep



Goats



Pigs

### PHARMACOKINETICS:

Ivermectin has adequate absorption and excellent bioavailability; reaches peak plasma concentration in 4–6 hours, with residual effect up to 21 days. Distribution volume >5.3 L/kg, indicating wide localization in tissues (skin, lungs), but low penetration into CNS, reducing toxic effects. Widely distributed in bile, fat, liver, and less in brain. Long half-life, metabolized in liver via oxidative pathways and eliminated in bile (feces), <5% in urine. Closantel: rapid absorption via parenteral route, plasma concentrations in 8–24 h in sheep and 24–28 h in cattle. Elimination half-life 12–15 days, excreted via feces.

### PHARMACODYNAMICS:

Ivermectin: releases gamma-aminobutyric acid (GABA), an inhibitory neurotransmitter that blocks nerve transmission from ventral cord neurons to motor neurons, immobilizing and killing parasites. Also acts on ion channels (chloride) in nerve and muscle cells. Closantel (salicylanilide): produces mitochondrial disturbances in the parasite, causing spastic paralysis within 2 h, absorption alterations at 8 h, and severe damage to sexual organs in 12–24 h. Inhibits oxidative phosphorylation, depriving the parasite of energy and causing death.

### INDICATIONS FOR USE AND TARGET SPECIES:

Broad-spectrum anthelmintic indicated for treatment of gastrointestinal and pulmonary parasitoses caused by nematodes and *Fasciola spp.*; control and treatment of ectoparasites such as mange-causing mites, blood-sucking mites, and lice. For use in cattle (beef and dairy), sheep, goats, and swine.

### DOSAGE:

Cattle: 1 mL/100 kg.

Sheep: 0.5 mL/50 kg.

Goats: 0.5 mL/50 kg.

Swine: 1 mL/66 kg.

Equivalent: Ivermectin 0.2 mg/kg; Closantel 1 mg/kg.

Do not administer more than 6 mL to animals weighing more than 600 kg.

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**ROUTE OF ADMINISTRATION:** Subcutaneous

## **WITHDRAWAL PERIOD:**

Treated animals must not be used for human consumption until 28 days after last application. Do not administer to animals producing milk for human consumption.

## **STORAGE CONDITIONS:**

Store in a cool, dry place protected from light. Keep out of reach of children.

## **WARNINGS:**

Do not administer intravenously.  
Do not exceed the recommended dose.  
Use of this product for control of *Boophilus spp.* ticks is prohibited.  
Consult a Veterinarian.  
Veterinary use only.  
Sale requires a medical prescription.

**For exclusive use by the Veterinarian.**