Use medicines responsibly.

CERTIFECT™ contains fipronil, (S)-methoprene and amitraz. The recommended minimum dose is 6.7 mg/kg b.w. for fipronil, 6 mg/kg for (S)-methoprene and 8 mg/kg for amitraz. Treatment schedule: Monthly intervals throughout the tick and/or flea seasons, based on local epidemiological situations. For use on dogs only: CERTIFECT is for the treatment and prevention of infestations in dogs by ticks and fleas and prevention of environmental flea contamination by inhibiting the development of all flea immature stages. The product can be used as part of a treatment strategy for the control of flea allergy dermatitis (FAD). Elimination of fleas and ticks on the dog within 24 hours. The treatment indirectly reduces the risk of transmission of tick-borne diseases (canine babesiosis, monocytic ehrlichiosis, granulocytic anaplasmosis and borreliosis) from infected ticks for 4 weeks. Can be used for treatment of infestations by chewing lice (Trichoodectes canis). For dogs over 60 kg, use the appropriate combination of two pipettes that most closely matches the bodyweight. Can be used in breeding, pregnant and lactating bitches. Can be used in puppies over 8 weeks of age and weighing more than 2 kg. Do not use on sick (e.g. systemic diseases, diabetes, fever) or convalescent animals. Do not use on rabbits or cats. CERTIFECT remains effective after exposure to sunlight or if the animal becomes wet after rain, bathing or water immersion. However, shampooing or immersion of the animal in water directly after treatment or frequent shampooing may reduce the duration of activity. In these cases do not treat more frequently than once a fortnight. Treated animals should not be bathed until 48 hours after treatment. If the dog requires shampooing, it is better to do so before applying the product. All stages of fleas can infest the dog’s basket, bedding and regular resting areas such as carpets and soft furnishings. In case of massive flea infestation and at the beginning of the control measures these areas should be treated with a suitable environmental product and then vacuums regularly. After treatment with CERTIFECT ticks will generally be killed and fall off the dog within 24 hours after infestation without having a blood meal. However, the attachment of single ticks after treatment cannot be excluded. For this reason the transmission of infectious diseases cannot be completely excluded if conditions are unfavourable. Avoid contact with the dog’s eyes. Spot-on application only. Do not administer orally or via any other route. It is important to make sure that the product is applied to dry skin where the animal cannot lick it off and to make sure that animals do not lick each other following treatment. The treated area may appear wet or oily after treatment. In the absence of additional safety studies, do not repeat the treatment at intervals of less than 2 weeks. Do not treat puppies less than 8 weeks of age and dogs less than 2 kg bodyweight. Dogs should be prevented from accessing streams and rivers for 48 hours following treatment. Transient skin reactions at the application site (skin discoloration, local hair loss, itching, redness) and general itching or hair loss may occur on rare occasions. If dogs lick the application site after treatment excessive salivation, vomiting, hyperglycaemia, increased sensitivity to stimulation, lethargy, bradycardia or bradypnea may also be observed. Signs are transitory and generally resolve without treatment within 24 hours. The risk of experiencing adverse reactions may increase with overdosing, so animals should always be treated with the correct pipette size according to bodyweight. This veterinary medicinal product may cause skin sensitisation, allergic reactions and mild eye irritation in humans. Animals or persons with a known hypersensitivity to any of the active ingredients or excipients should avoid contact which, on very rare occasions, can cause respiratory irritation and dermatal reactions in certain individuals. The use of protective gloves is recommended. Avoid direct contact with the application site. Children should not be allowed to play with treated dogs until the application site is dry. It is therefore recommended that dogs are not treated during the day, but during the early evening, and that recently treated animals are not allowed to sleep with owners, especially children. This veterinary medicinal product contains amitraz, which can lead to neurological side-effects in individuals. Amitraz is a monoamine oxidase inhibitor (MAOI); therefore, people taking MAOI-containing medication should take particular care. To minimise the potential for inhalation, apply in the open air or in a well-ventilated area. Do not smoke, drink or eat whilst handling. Wash hands thoroughly after use. Used pipettes should be disposed of immediately in accordance with local requirements. Any unused product or waste material derived from it should be disposed of in accordance with local requirements and should not enter water courses as this may be dangerous for fish and aquatic organisms. Stored pipettes must be kept in the intact foil package. In case of accidental spillage onto skin, wash off immediately with soap and water. If it accidentally gets into the eyes, they should be thoroughly flushed with water. If side effects are noted, seek immediate medical assistance and show the package leaflet or label to the physician. CERTIFECT is a trademark of Merial Ltd. Further information is available from Merial Animal Health Ltd, CM19 5TG.
CERTIFECT™ redefines tick control for dogs.

- CERTIFECT starts killing ticks on dogs in as little as 2 hours and eliminates >90% of them in 24 hours – faster than any other product.
- It disrupts tick attachment and prevents feeding.
- It reduces the risk of transmission of tick-borne disease.
- CERTIFECT also delivers integrated flea control, killing adult fleas and preventing eggs and larvae from developing.
- It is long lasting, providing continued protection for a full month.
- Plus it’s effective after bathing or swimming.

Ticks and tick-borne disease are serious issues.

- Ticks were considered a regional problem but they are more widespread than previously thought.*
- 64% of vets say ticks are an increasing problem in their area.†
- The risk of tick-borne disease transmission is high: 1 in 3 ticks in the UK carry a potentially harmful pathogen‡ and 43% of dog owners have seen a tick on their dog.‡‡

The UK could see a rise in tick-borne disease.

The Pet Travel Scheme no longer requires dogs to be treated for ticks before entering the UK. This could lead to an increase in exotic ticks and tick-borne disease entering the UK.

Currently the UK is at low to medium risk of certain tick-borne diseases which are high risk in continental Europe.

** Babesiosis
- Transmitted by *Dermacentor reticulatus, Rhipicephalus sanguineus.*
- Clinical signs: anorexia, haemolytic anaemia, icterus, pyrexia and splenic and hepatic enlargement.

** Lyme disease (Borrelia)
- Transmitted by *Ixodes ricinus.*
- Clinical signs: pyrexia, lameness, arthritis, lymphadenopathy, lethargy and anorexia.

** Ehrlichiosis
- Transmitted by *Rhipicephalus sanguineus.*
- Clinical signs: anaemia, pyrexia, depression, lethargy, anorexia, dyspnoea, joint pain and stiffness and patechiation.

** Anaplasmosis
- Transmitted by *Ixodes ricinus.*
- Clinical signs: lethargy, swollen painful joints, vomiting, diarrhoea and occasionally neurological signs.

CERTIFECT kills ticks before they attach and so reduces the risk of disease transmission.
The power of synergy.

The enhanced acaricidal effect demonstrated when amitraz and fipronil are combined can be attributed to the following mechanisms:

1. a low dose of amitraz potentiates the acaricidal effect of fipronil and tick mortality was demonstrated at non-lethal doses of fipronil when combined with amitraz. This results in an increased speed of kill and longer duration of activity compared to the active substances alone.

2. a low dose of amitraz also results in abnormally increased tick motility and thereby increases the tick exposure to fipronil on the dog’s coat.

Fipronil plus amitraz tick efficacy at 6 hours is equal to efficacy of fipronil alone at 48 hours.

Deadly to dead in no time. That’s the CERTIFECT effect.

Fast speed of kill

- Owners do not want to see ticks on their dogs.
- The acaricidal efficacy of CERTIFECT can be observed from 2 hours.
- More than 90% of ticks are eliminated within 24 hours.
- Killing ticks rapidly reduces the risk of transmission of tick-borne disease.

Reducing the risk of tick-borne disease.

CERTIFECT has been proven to reduce transmission of tick-borne diseases for up to 4 weeks:

- Canine babesiosis
- Monocytic ehrlichiosis
- Granulocytic anaplasmosis
- Borreliosis.
The importance of expellency.

Expellency is a property of amitraz that results in disruption of attachment or rapid detachment causing the tick to fall off the host.

The effect of amitraz
Amitraz is an agonist of octopamine receptors, causing neurotoxicity and abnormal tick behaviour:
- withdrawal of mouthparts in pre-attached ticks
- disruption of the attachment process
- increased motility
- tremors and convulsions.

The objective of tick control is to prevent attachment, feeding and transmission of disease, as well as ensuring that unattached ticks are killed.

In contrast, ticks that are repelled could still attach to other hosts and transmit disease.

Efficacy of CERTIFECT in the control of tick species commonly infesting dogs in the UK.

CERTIFECT causes rapid detachment of existing tick infestations

With the addition of a small dose of amitraz to fipronil, CERTIFECT results in rapid detachment of existing ticks, and prevents attachment of new ticks, so ticks will fall off the host and die within 24 hours.

Dogs infested with adult ticks on D-2. Ticks counted on D-1 and at 4, 12 and 24 hours after treatment on D0.

CERTIFECT also prevents new ticks from attaching

CERTIFECT applied on D0. Dogs then exposed to ticks on D1, D7, D21, D28. Attached and unattached ticks counted 24 hours after each infestation on D2, D8, D15, D22, D29.

For more information visit www.fleatickrisk.com

The expellency benefit of CERTIFECT: pet owners no longer find ticks on their dogs.

Hákos et al., Parasitology 2012

Prullage et al., Vet. Parasitology 179 (2011)
CERTIFECT provides Integrated Flea Control.

Integrated Flea Control: 2 compounds with different modes of action to target adult and immature flea stages simultaneously.

- **Fipronil** binds to 3 different ligand-gated chloride channels:
  - GABA
  - N-Glutamate
  - D-Glutamate
  resulting in hyper-activity before death within 24 hours of exposure.

- (S)-**methoprene** is an insect growth regulator (IGR) that inhibits the development of flea eggs and larvae. This mimics the action of juvenile hormone and causes the impaired development and death of developing stages.

**CERTIFECT has a non-systemic mode of action.**

The importance of Integrated Flea Control.

Results from European field trials conducted in 2009¹ and in-home studies* conducted in 2011² showed:

- higher than expected flea prevalence before starting treatment
- single pet homes can require 2 to 4 months of treatment to resolve a home infestation. Multi-pet homes take longer
- Integrated Flea Control can accelerate the resolution of home infestations.

Data from an independent field study published in 2011 demonstrated the combination of fipronil and (S)-methoprene reduced flea emergence by >97% within 6 weeks³.

 Preventing the development of new adult fleas.

1 Due to the adulticide activity of fipronil, it was only possible to collect eggs from day 43. Prior to this, 100% of fleas were being killed before they laid eggs. Fipronil alone has no effect on the development of immature flea life stages.

2 Eggs are produced soon after initial infestation due to lack of adulticide activity, but their development is blocked by (S)-methoprene.

3 As some eggs begin to be produced (S)-methoprene steps in, preventing the normal development of these eggs all the way through to the end of the flea treatment interval (8 weeks) and providing extra protection when it’s needed most.

**Reduction in larval hatch**

- Fipronil
- (S)-methoprene

**% REDUCTION**

<table>
<thead>
<tr>
<th>DAYS</th>
<th>Fipronil</th>
<th>(S)-methoprene</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>100</td>
<td>90</td>
</tr>
<tr>
<td>22</td>
<td>80</td>
<td>70</td>
</tr>
<tr>
<td>29</td>
<td>60</td>
<td>50</td>
</tr>
<tr>
<td>36</td>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td>43</td>
<td>20</td>
<td>10</td>
</tr>
</tbody>
</table>

¹ Study conducted in Tampia under conditions optimal for flea reproduction and home infestation.
² Dryden and Carithers et al 2011
³ Dryden and Payne et al 2011

Application and mode of action.

- CERTIFECT is applied in two spots on the dog's neck between the base of the skull and the shoulder blades. From here it diffuses down a concentration gradient and is distributed over the dog's coat.
- CERTIFECT concentrates in the sebaceous glands and is constantly replenished onto the skin and coat, which gives CERTIFECT its prolonged efficacy even after bathing, swimming or grooming.

Unique dual-chambered pipette

fipronil + (S)-methoprene

Usage of CERTIFECT.

CERTIFECT can be used:
- on pregnant and lactating bitches
- on puppies from 8 weeks weighing more than 2kg
- on dogs which live in households with cats. Studies show that cats co-habiting with dogs treated with CERTIFECT didn’t show any adverse effects, even though no specific precautions were taken.

Additional benefits.

- CERTIFECT remains effective after bathing, water immersion and exposure to sunlight.
- Has a non-systemic mode of action.
- Also controls biting lice.
- Licensed as a Prescription Only Medicine and for monthly application.
- Available in four different packs of 3 pipettes: small, medium, large and extra large.
- Packs are colour-coded and clearly labelled for easy selection.

Remember, CERTIFECT is for dogs only and should not be used on cats.