

Centauro[®]

insect repellent for horse and rider

BRAND BOOK

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About Centaura

The Centaura Brand Book

Insects are more than just a nuisance — they can transmit diseases and may cause allergic reactions in humans and animals. Now riders, trainers and vets can protect their horses and themselves with **Centaura** — the first insect repellent for both horses and the people around them.

The **Centaura Brand Book** contains everything you need to know about the **Centaura** brand and the product's benefits, indication areas, target audience, competitors, formula and other product information.



Centaura value proposition

Now you can protect your horse and yourself with a single insect repellent. **Centaura** is gentle on the skin, simple to apply and won't stain your clothing or gear — and it keeps insects away from horses for up to **24 hours**.



What is Centauro?

The first insect repellent for both horse and rider, **Centauro** provides safe, long-lasting protection against insects in general, and disease carrying insects in particular.



Centauro brand positioning

- protect your horse — and yourself — from insects with **Centauro**, the first insect repellent for both horse and rider
- **Centauro** is the only insect repellent on the market to contain a full 20 percent icaridin
- **Centauro** works immediately to protect your horse and you from insects, and studies show that **Centauro** provides long-lasting protection (up to 24 hours for horses)
- **Airosol**[®], **Centauro**'s innovative, environmentally friendly air propellant system, lets you apply the product even while the can is upside down — so you can protect all those hard-to-reach places
- **Centauro**'s gentle formula won't harm or stain your clothing or gear — and it's safe for sensitive skin, too
- long shelf life of 2 years means you can benefit from economies of scale — and you won't waste any product

The Centaura target audience

Centaura is registered for use on people and horses. It's ideal for people who work with horses, including riders, stable personnel and veterinarians — but it can also be used by people who work with other animals, such as dogs, cattle and sheep, or work outdoors.

Besides horses, Centaura benefits:

- veterinarians
- horse owners
- stable personnel
- pony or horse riding instructors and students
- trainers
- jockeys
- show jumpers
- dressage riders
- drivers
- polo players
- fox hunters
- cowboys
- cattle rustlers
- zookeepers
- farmers

Why choose Centaura?

Centaura offers:

- protection for both horses and humans
- defence against a wide range of insects including mosquitoes, ticks and flies
- long-lasting effectiveness, up to 24 hours
- a comfortable, non-sticky formula with a pleasant scent
- an easy-to-apply, environmentally friendly non-aerosol spray
- a formula that won't stain or harm textiles, leather or synthetic materials



Trust Centaura

Centaura:

- contains the WHO's repellent of choice for malaria prevention
- is registered by the EPA (Environmental Protection Agency) in the US
- has shown efficacy in GLP studies in humans and horses
- is registered for both horses and humans
- contains the same active ingredient as in AUTAN[®] (SC Johnson)



Insect Protection

The insects

Centaura is effective against the following insects:



Mosquitoes

Aedes aegypti
Aedes taeniorhynchus
Aedes albopictus
Culex quinquefasciatus
Anopheles stephensi
Anopheles dirus
Anopheles gambiae
Verrallina lineata

Flies

Stomoxys calcitrans
(biting house fly, stable fly)

Tabanidae (horse fly)

Phlebotomus dubosqui

Ticks

Ixodes ricinus (sheep tick)

Ixodes scapularis

Other

Culicoides impunctatus
(Scottish biting midge)

* Names in bold indicate insects pictured.

More about insects

Seasonal insects

Biting insects are more prevalent during certain seasons, weather conditions and times of day. Except for the odd bug that prefers the indoors, biting insects are rarely seen in winter, and they're uncommon in autumn. With some exceptions, the high seasons for the majority of biting insects in the northern hemisphere are spring and summer.



Culicoides impunctatus (Scottish biting midge)

Circadian rhythms & the weather

A few biting insects, including some mosquitoes, attack at night — even indoors. However, aside from bedbugs which feed on their victims while they sleep at night, most biting insects are active during the day. They tend to be most active very early, around sunrise, and then late afternoon and early evening. Throughout the middle of the day, when the sun is bright and breezes can be strong, they often stay in protected areas.

Weather also affects insect biting patterns. Insects tend to bite most just before, and sometimes even during, storms. Generally, areas with strong, steady breezes are often free of biting insects; while nearby areas that are protected from the wind might be infested.

Managing insects

In the fight against insects, there are two main approaches:

Repellents & Insecticides

Unlike insecticides, which kill insects, repellents simply prevent insects from landing on a host. This means that repellents have a much better toxicological profile than insecticides, so they're gentler on your horse, yourself and the environment.



Ixodes ricinus (sheep tick)

What you need to know about **insecticides**.

- An insecticide is a pesticide that kills insects. Insecticides can also be ovicides and larvicides, which kill insect eggs and larvae respectively.
- insecticides are used in agriculture, medicine, industry and in homes
- most insecticides have neurotoxic effects on insects and act on contact and/or ingestion
- insecticides can also have a repellent effect
- Insects can mutate and become resistant to specific insecticides. This makes the product obsolete.
- Nearly all insecticides can significantly alter ecosystems. Many are highly toxic to humans, and as the chemicals spread throughout the food chain, they can affect many species.



What you need to know about repellents.

- repellents prevent insects from landing on a host (whether human or animal)
- the repellent's active ingredient forms a scented "film" on the skin
- this scent seems to be what disrupts the mechanism that attracts insects to human and animal skin
- repellents work best when applied to the entire surface of your horse's coat, or your skin



Managing Insects with Centaura

What about Centaura?

Centaura is classified as a repellent.

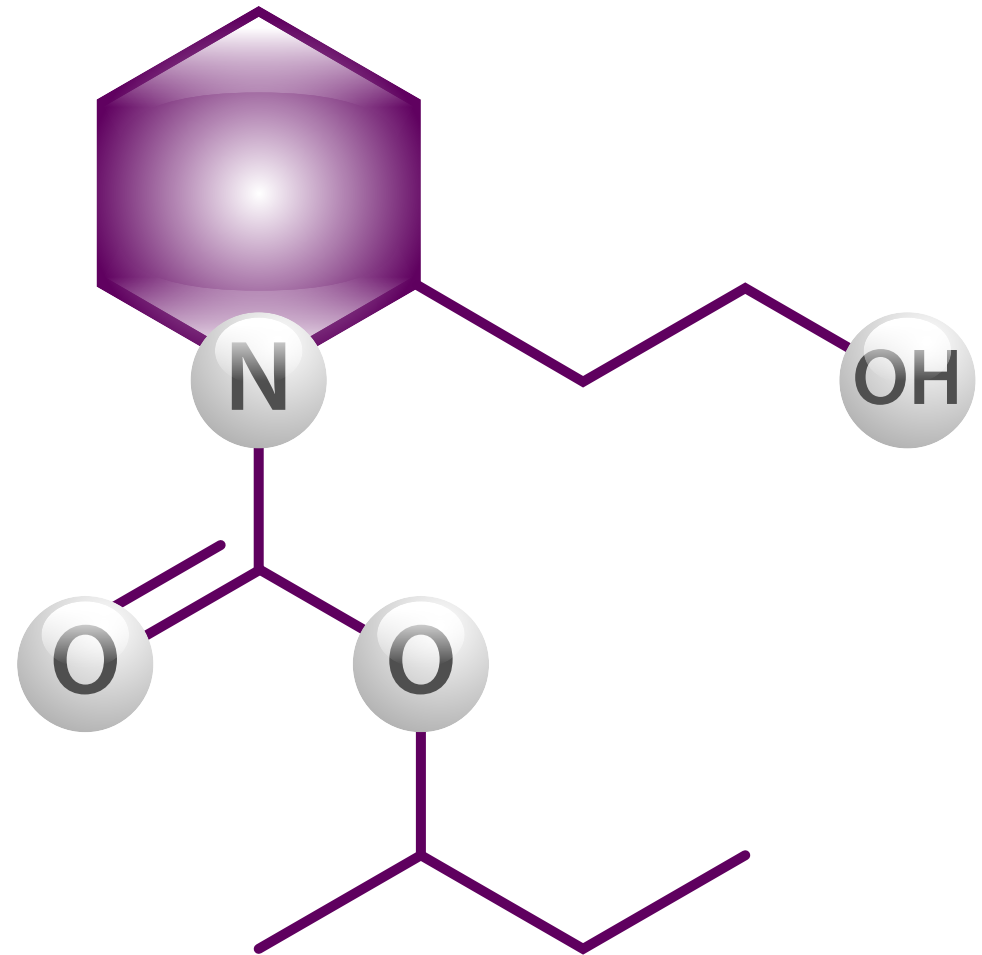
- it contains 20 percent of the active ingredient **Saltidin** (icaridin)
- it is effective, safe and registered for use on horses and humans



Saltidin[®]

Centaura's active ingredient:

- Saltidin (icaridin) 20%
- Saltidin is the brand name for the chemical icaridin, also known as **Picaridin**
- **chemical composition:**
1-methylpropyl-2-(2-hydroxyethyl)-1-piperidine carboxylate



Icaridin

Icaridin is a reliable insect repellent that:

- is safe when used as indicated
- is not sticky and is gentle to the skin
- is hypoallergenic
- has a minimal rate of absorption
- is suitable for children over the age of 2
- has a pleasant scent
- Icaridin has been tested under temperate and tropical conditions against all major disease vectors and pests and is registered for use on humans and horses. Studies showed that icaridin had a significant effect and insects showed no resistance to it.
- it is the World Health Organization's repellent of choice for malaria prevention
- it is registered by the EPA (Environmental Protection Agency) in the US
- it is the active ingredient in AUTAN[®] (SC Johnson)

Why Saltidin 20%?

- **Saltidin** (icaridin) is proven to be safe and efficacious for people and horses
- **Centaura (Saltidin 20%)** protects against a wide range of arthropods, such as mosquitoes, flies, sand flies and ticks – and the germs they carry
- the **World Health Organisation (WHO)** recommends icaridin as the active ingredient of choice in malaria prophylaxis
- **EC Directive 67/548/EWG** (and its amendments) lists icaridin as non-hazardous
- a concentration of 20 percent showed **significant efficacy** for both humans and horses
- While formulations with only 10 percent **Saltidin** provide up to 5 hours protection, formulations with **20% Saltidin** protect humans for twice as long (up to 10 hours). And they protect horses for up to 24 hours.
- **Centaura** is the only product on the market registered for humans and horses that contains **20% Saltidin**

Centaura's Regulatory Environment

Centaura – regulatory information

Biocides Directive 98/8/EC

- <http://ec.europa.eu/environment/biocides/index.htm>
- no product may be on the market unless it has been authorised in accordance with Directive 98/8/EC
- in the future, a product will only be authorised if its active substances are included in Annex I or IA of the Directive
- Icaridin is in the process of being implemented in Annex I of the Directive. It will be included on the list by 2010 and Centaura is going to be authorized thereafter.
- registration in various EU countries possible by MRP



Centaura's Proven Results

Onset & duration of effect

Centaura is effective immediately after application to the skin or an animal's coat. And it provides long-lasting protection for a variety of insects:

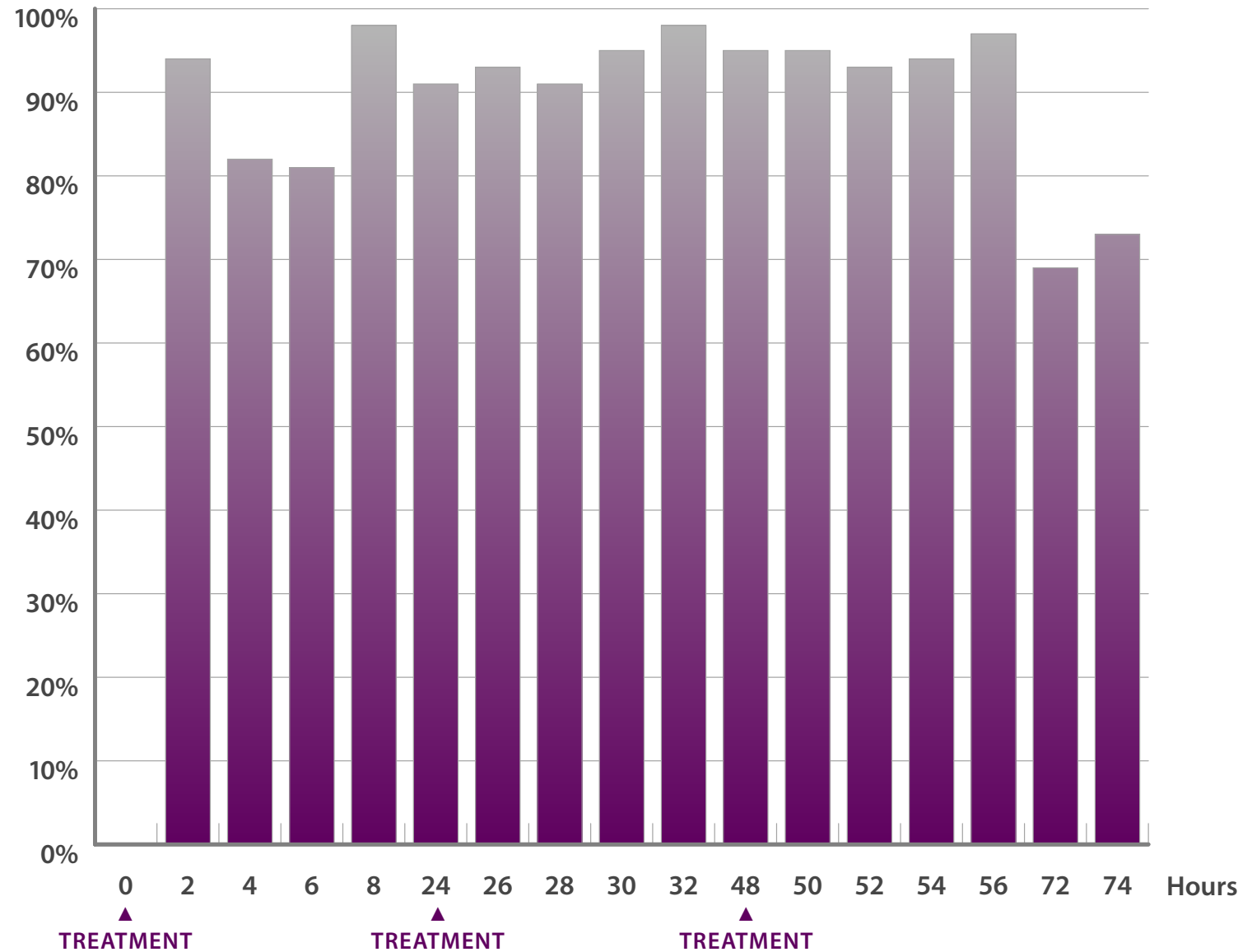
Horse

- protection against flies and mosquitoes for up to **24 hours** (including horse flies, face flies, and stable flies)
- protection for **4 hours** against ticks (including *Ixodes ricinus*)

Human

- protection for up to **8 hours** against domestic and tropical mosquitoes
- protection for up to **5 hours** against biting flies (including horse flies)
- protection for up to **4 hours** against ticks

Protection level of Centaura compared to an untreated control group



Efficacy

Efficacy of Centaura against flies and mosquitoes

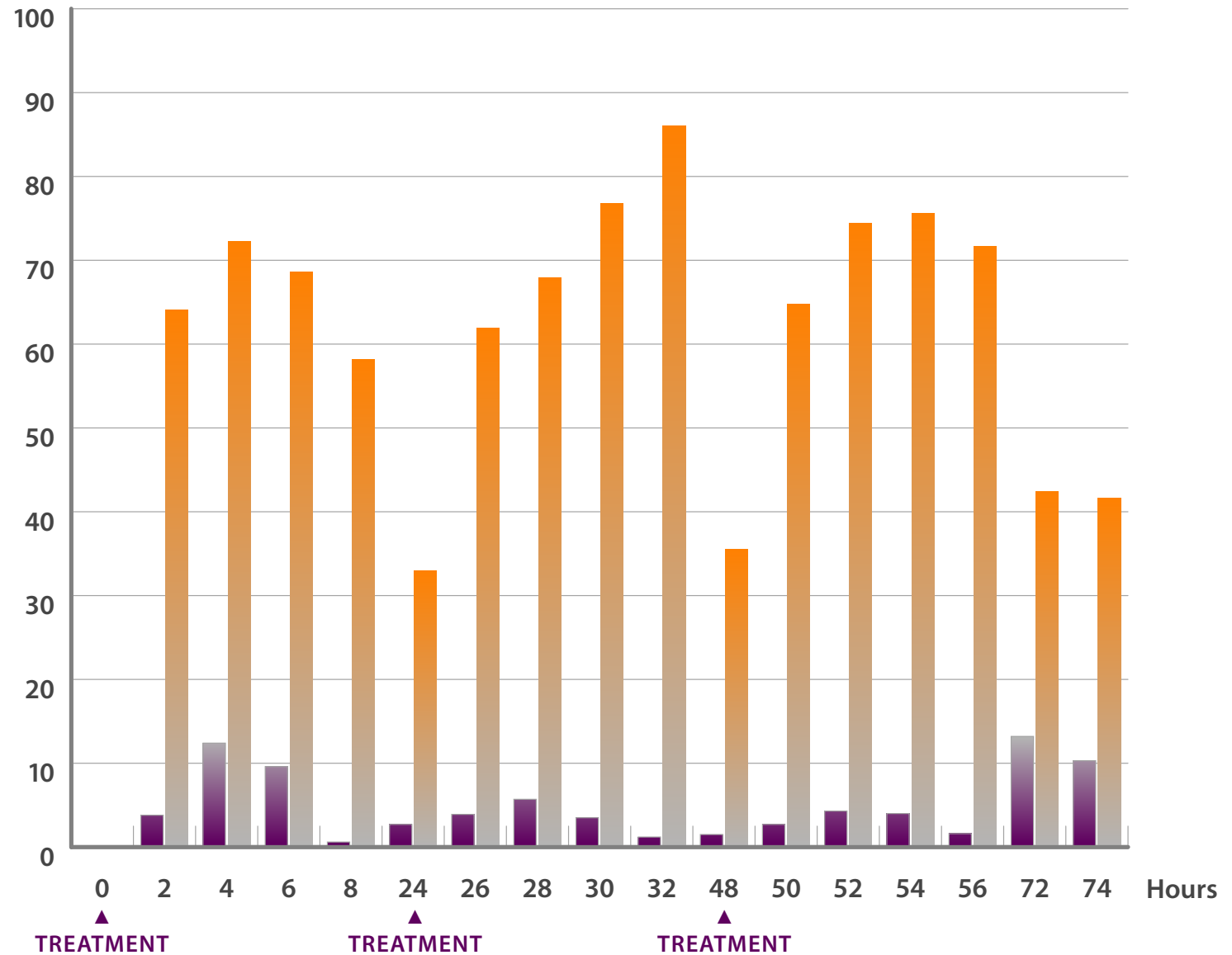
The efficacy of Centaura, compared to an untreated control group, when applied to horses in a pasture (central California, USA) that are exposed to an endemic population of biting flies.

William A. Donahue, Jr., & Olaf Hansen,
Oral presentation ISEP 2009, Toulouse

● TREATED WITH 20% ICARIDIN SPRAY ● UNTREATED CONTROL

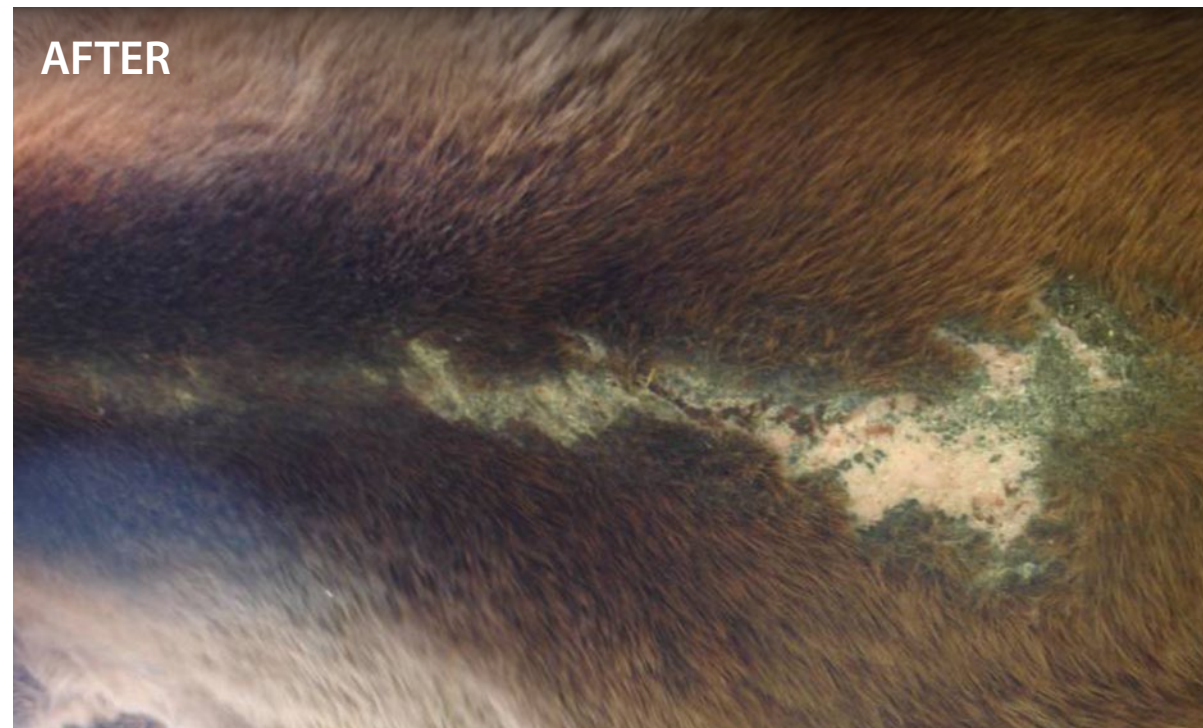
Efficacy

The graph shows the average number of flies and mosquitoes after applications of 20% Saltidin for three consecutive days, compared to an untreated control group.



Centaura – before & after

These before and after images show the effectiveness of **Centaura** when applied to pastured horses exposed to an endemic population of biting and nuisance flies (central California, USA). The repellent kept irritating insects away, so this horse's skin lesions were able to heal better and faster.



William A. Donahue, Jr., & Olaf Hansen, Oral presentation ISEP 2009, Toulouse

Proven safety

To evaluate the safety of Centaura's active ingredient, **Saltidin**, a comprehensive test programme was carried out in collaboration with the EPA (Environmental Protection Agency) in the US.

The studies showed that Saltidin had no negative side effects and concluded that it:

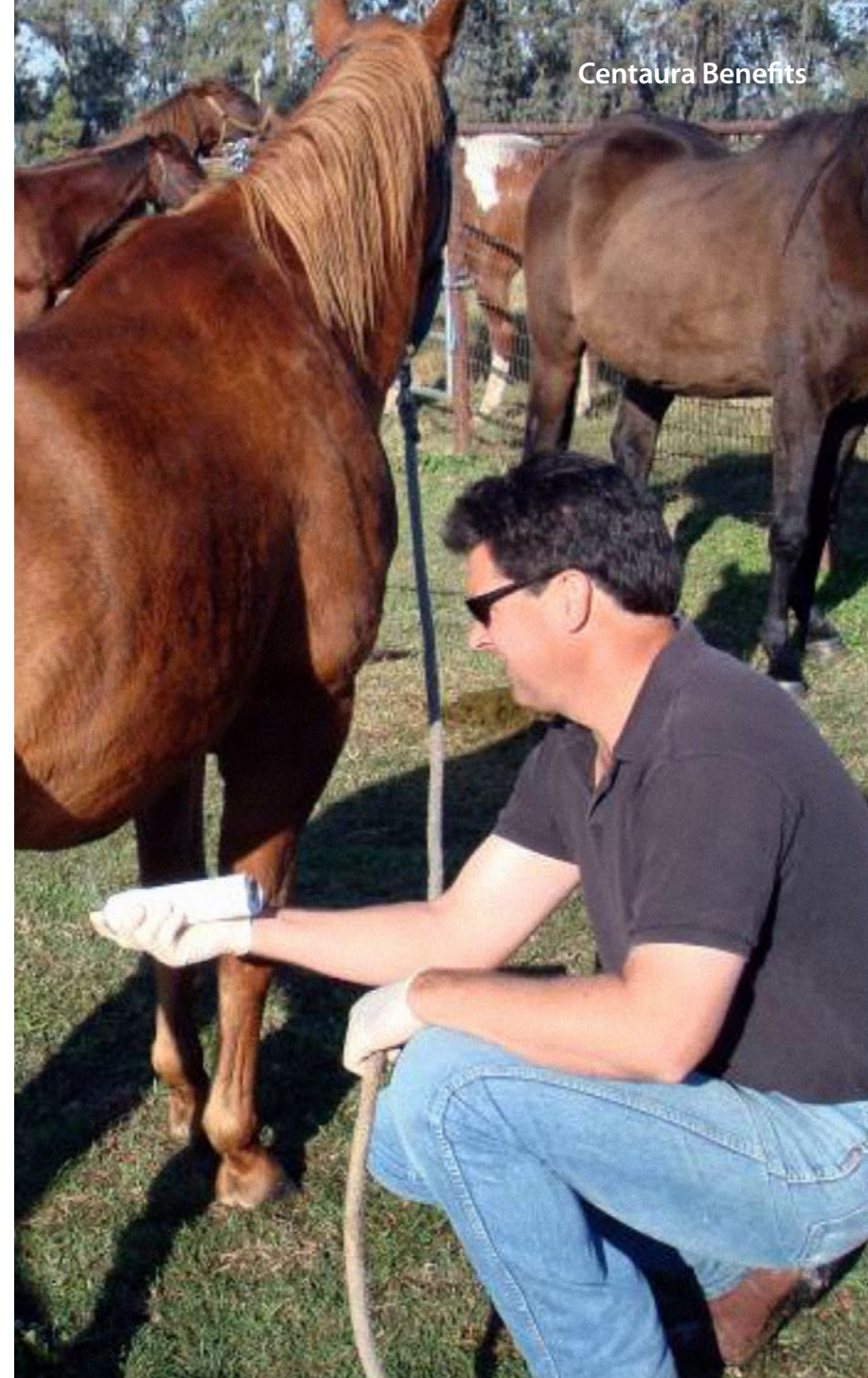
- is safe when used as indicated
- is extremely gentle to the skin and not sticky
- does not irritate the skin
- has a minimal rate of absorption
- is suitable for children over the age of 2

The studies also looked at the effect **Saltidin** has on various materials, such as leather, natural fibres, plastics, synthetic fabrics and coatings and sealing compounds. The results showed that **Saltidin** — in contrast to other insect repellents — has no adverse effect on any of these materials.

Centaura Benefits

Centaura benefits vets

- Centaura is the only product on the market containing 20 percent of the active ingredient **Saltidin** (icaridin), the WHO's repellent of choice for malaria prevention
- tested on a wide variety of insects in a range of climates, **Centaura** is proven to offer immediate, long-lasting effectiveness in any situation
- with its innovative **Airosol**[®] air-propellant system, **Centaura** is easy to apply even when the can is upside down — so you can protect all those hard to reach places
- **Centaura's** gentle formula won't harm or stain your clothing or gear
- **Centaura** is a **Boehringer Ingelheim** product



Centaura benefits horses

Centaura helps protect and care for your horse by:

- keeping dangerous and irritating insects away
- preventing itching, allergies and diseases from insect bites
- enabling thorough veterinary examinations free from annoying insects
- preventing skin irritation with a comfortable formula



Centaura benefits users

A safe and reliable repellent, Centaura:

- is gentle enough for sensitive skin, and is suitable for children over the age of two
- helps keep your horse calm — and you safe — by eliminating the stress of irritating insects
- is recommended by vets — who use it themselves to keep insects at bay while they examine large animals outdoors
- is easy to apply — even when the can is upside down
- smells good and feels comfortable on your skin thanks to its non-sticky, non-greasy formula
- works great on both humans and horses



Centaura benefits the environment

Centaura is the right choice for the environment because:

- it uses an innovative, non-polluting air propellant system instead of traditional aerosol
- it's a repellent, so it keeps bugs away without the toxicity of insecticides. And because it doesn't kill insects, they don't become immune or resistant to the product



Applying Centaura

When to use Centaura

Use Centaura on your horse and yourself before riding, competitions, leading to pasture, vaulting, carriage rides or veterinary examinations.

Please note: In Europe the high season for biting insects is between spring and late summer. Therefore Centaura is a seasonal product and will be used between April and October.



How to use Centaura

On a horse

Spray **Centaura** directly onto areas that need immediate insect protection. After the treatment, the animal's coat should be damp.

To apply to the head, simply spray **Centaura** onto your hands and then rub the product into the horse's hair for long-lasting protection.

Please note: **Centaura** is safe for all kinds of horse tack, including textiles and leather equipment, so you don't have to worry about staining or damaging your gear during application.



Applying Centaura on yourself

On yourself

Spray **Centaura** evenly onto exposed skin to get reliable, immediate and long-lasting insect protection.

To apply **Centaura** to your face, simply spray some on your hands and then rub gently onto your face.

Please note: **Centaura** is safe for clothing and leather, so you don't have to worry about staining or damaging your gear during application.



Packaging & Pricing

Centauro – product & packaging

- Centauro is sold in a 250ml Aerosol[®] can
- each box of Centauro contains 12 x 250ml Aerosol cans
- the cans are printed in German and French-speaking countries
- the cans are affixed with labels in all other markets



Centaura's innovative Airosol[®] spray

Airosol is a unique, environmentally friendly spray system that uses air, rather than flammable or hazardous propellants. Not only does it keep harmful substances from our atmosphere, it's also **safe** to transport and store.

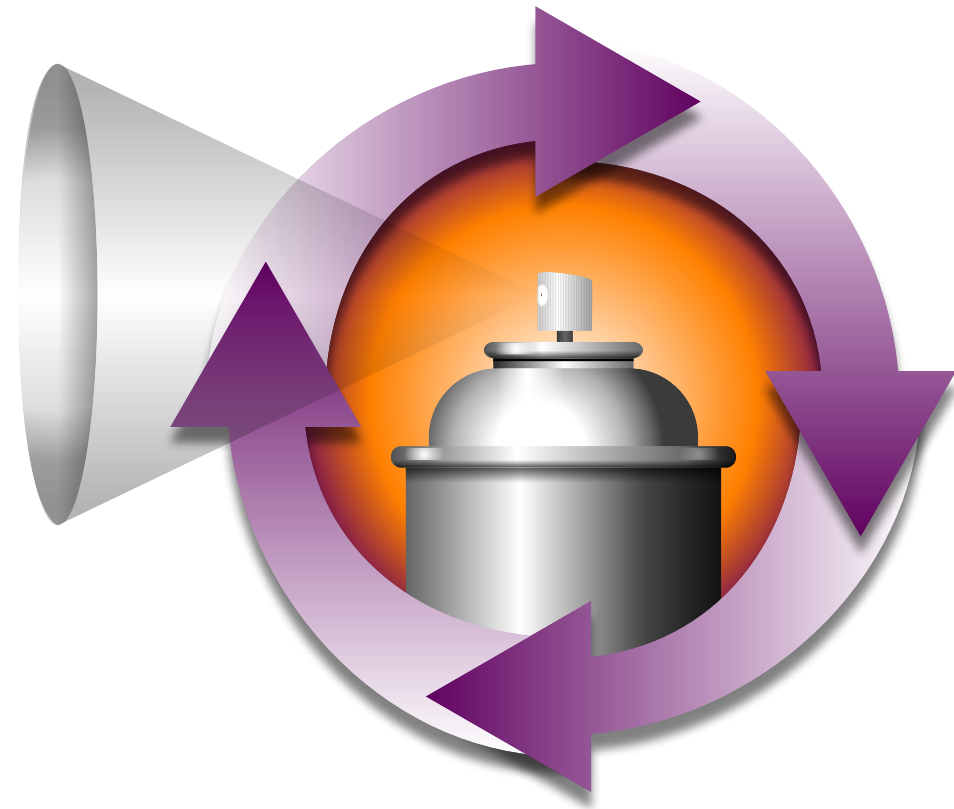
Centaura is not mixed with propellant, so you get nothing but our product. Our innovative Airosol spray can design means you can spray Centaura in **any position** — even if the can is held upside down — and you are able to empty the can of every last drop. You get **maximum value** — and you get to protect all those **hard-to-reach** places.



The Airosol[®] advantage!

The Airosol technical advantages:

- an innovative, environmentally friendly air-propellant system
- you get **pure product** — Centauro is not mixed with propellant
- no propellant means **Centauro** isn't cold, so it's **comfortable** on the skin
- **value for money** — you can empty 99+ percent of each can's contents
- protect hard-to-reach places with **360° continuous spraying**



Centauro – pricing

Minimum ex BI price for veterinarians:

- 250ml Airosol can = €12
- 12 x 250ml Airosol cans = €144

Recommended price for end users:

- 250ml Airosol can = €21

Note: one 250ml Airosol can lasts for six to ten horses or treatments



Repellents & Insecticides on the Market

Saltidin (icaridin)

Saltidin is registered as a repellent.

- **chemical name:** 1-methylpropyl-2-(2-hydroxyethyl)-1-piperidine carboxylate
- **use:** on human skin and on a horse's coat
- **mode of action:** not yet fully understood, but the theory is that the product's scent disrupts the mechanism that attracts insects to human and animal skin
- **for use on:** approved for use on humans and horses
- **harmful for:** no tests have shown **Centaura** to be harmful for animals or humans
- **sold:** OTC (for humans) and from vets

Special note: **Centaura** is the only product on the market registered for horses and humans that contains 20 percent of the active ingredient **Saltidin** (icaridin), the WHO's repellent of choice for malaria prevention.

Saltidin (icaridin) products

Products containing Saltidin:

- Centauro[®]
- Autan[®]



Permethrin

Products that contain Permethrin are classified as insecticides.

- **chemical name:** 3-Phenoxybenzyl(1RS)-cis, trans-3-(2.2-dichlorovinyl)-2.2-dimethylcyclopropanecarboxylate
- **use:** on skin and textiles such as clothing, nets and tents
- **mode of action:** contact or ingestion. Permethrin functions as a neurotoxin, affecting neuron membranes by prolonging sodium channel activation and also acts as a mild repellent
- **for use on:** humans, most mammals and birds
- **harmful for:** cats, honeybees, fish, and aquatic invertebrates
- **sold as an insecticide:** available from veterinarians and as a repellent: OTC

Special note: Permethrin is a member of the pyrethroid family of synthetic chemicals, and it affects the neuron membranes of insects by prolonging sodium channel activation. It is likely to be carcinogenic to humans (US EPA).

Permethrin is registered as insecticide in most countries. As an insecticide, it is only available from a vet and can only claim effectiveness against insects such as lice. However, in some countries, permethrin products can be sold OTC when they claim only the repellent property of the active ingredient.

Permethrin products

Products registered for horses:

- Wellcare Emulsion[®], SP/Intervet
(emulsion, Permethrin 10.5mg)
- Flymax[®], Audevard (spray, Permethrin 0.6%)

Products registered for cattle and sheep, off-label use for horses:

- Auriplak[®], Virbac (Permethrin 1.2g)
- Butox[®], SP/Intervet (Deltamethrin 7.5mg)

Diethyltoluamid DEET

DEET is registered as a repellent.

- **chemical name:** N,N-diethyl-m-toluamide and other isomers; a member of the N,N-dialkylamide family of chemicals
 - **use:** on human skin to repel insects
 - **mode of action:** not yet fully understood, but the theory is that the product's scent disrupts the mechanism that attracts insects to human and animal skin
 - **for use on:** humans. No products for animals on the market contain DEET, and there are currently no studies on DEET's efficacy for horses
 - **harmful for:** plastics. DEET is a plasticiser and can damage certain rubber, plastic, vinyl, or elastic materials such as contact lenses, glasses frames and lenses, watch crystals, combs, painted and varnished surfaces, and certain synthetic or treated fabrics
 - **sold:** OTC
- Special note:** DEET is used as a benchmark to test the efficacy of new repellents. In tests, icaridin was as good as or superior compared to DEET in terms of its efficacy and cosmetic properties.

DEET products

Products containing DEET:

- AUTAN[®] Family Care Soft Spray

IR 3535

IR 3535 is registered as a repellent.

- **chemical name:** 3-[N-Butyl-N-acetyl]-aminopropionic acid, ethyl ester
- **use:** on human skin to repel mosquitoes, deer ticks, body lice, and biting flies
- **mode of action:** not yet fully understood, but the theory is that the product's scent disrupts the mechanism that attracts insects to human and animal skin
- **for use on:** humans

- **harmful for:** can irritate human eyes, no data for horses
- **sold:** OTC

Special note: In tests, the duration of efficaciousness and required dose were found to be inferior to DEET. There are no test results for this chemical.

IR 3535 products

Products containing IR 3535:

- IR 3535 is available OTC
- Bremsenbremse[®], Zedan (Loesdau) spray for horses
- IR 35/10, Schopf Hygiene Spray

Compare with Centaura

The Centaura advantage

- Centaura is safe for horses, humans, the environment and your equipment
- Centaura's efficacy has been demonstrated in GLP studies in both horses and humans — and it's proven to be more effective than DEET
- Centaura is registered for use on horses and humans
- Centaura is easy to use thanks to the innovative Airosol spray can





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Centaura®

insect repellent for horse and rider

www.centaura.de