When applied topically, Zinc has also been shown to have antimicrobial properties; for example, Zinc Topically administered, it has beneficial effects on the healing of wounds, regardless of the systemic Post-surgical healing.

Wounds, lacerations, abrasions, etc

Composition:

<table>
<thead>
<tr>
<th>Component</th>
<th>Zn-Spray</th>
<th>Zn-Gel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc Gluconate</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>L-lysine</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Taurine</td>
<td>0.5%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Carboxymethyl Cellulose</td>
<td>0.5%</td>
<td>csp*</td>
</tr>
</tbody>
</table>

*Until obtain viscosity of 800-1,400 cPs.

Properties and Mechanism of Action:

- **CUTANIA® Zn-Spray and CUTANIA® Zn-Gel** are two highly safe aqueous, neutral pH, non-irritating dermatological solutions with calming, antiseptic and healing action, for the care and management of wounds and localized dermatitis in dogs, cats, exotic animals and horses. The complex comprises Zinc Gluconate, Lysine and Taurine, providing highly bioavailable Zinc to the deepest layers of the epidermis creating an environment conducive to natural healing. Zinc has antipruritic, healing, antimicrobial and anti-inflammatory action. Lysine and Taurine form a complex that stabilises the Zinc ion improving its bioavailability. Carboxymethyl Cellulose is mucoadhesive and gives the product longer contact time with the surface of the skin.

- **Zinc** is an essential factor in more than 300 enzymatic reactions, many of which are involved in regeneration of the extracellular matrix, healing processes, repair of connective tissue, inflammation and cellular growth.

  Topically administered, it has beneficial effects on the healing of wounds, regardless of the systemic Zinc levels of the proband (M.S. Agren, 1990). In a study in people, topical Zinc Oxide accelerated the healing of diabetic ulcers on legs (H.E. Stromberg, 1984). In pigs and mice, the topical application of Zinc Oxide improved the reepithelialization of partial and full thickness wounds, and was as effective as streptokinase-streptodornase in the elimination of necrotic tissue from pressure sores (M.S. Agren et H.E. Stromberg, 1985; M.S. Agren et col, 1999; M. Kietzman, 1999). Embedded in an occlusive dressing, Zinc reduces the typical inflammatory reaction from granulation tissue formation (L. Wetter et col, 1986); Zinc also reduces the expression of certain inflammatory mediators by keratinocytes exposed to nickel, an allergen responsible for some cases of contact dermatitis (I. Sainte-Marie et col, 1998). When applied topically, Zinc has also been shown to have antimicrobial properties; for example, Zinc Gluconate lozenges reduce the duration of cold symptoms and their efficacy increases the longer the lozenge remains in the mouth (B.H. Mc Elroy et S.P. Miller, 2002; R.B. Turner et W.E. Cetnarowski, 2000; S. Marshall, 1998). Furthermore, an in vitro study showed that the Herpes simplex virus was inactivated after treatment with Zinc Gluconate (M. Arens et S. Travis, 2000). There are various theories that explain the antibacterial action of Zinc: like Tris-EDTA and Silver Sulfadiazine, Zinc exerts a chelating action on cells (T.J. Mc Carthy et col, 1992); it has also been suggested that Zinc joins the membranes of microorganisms, delaying cellular division (L.L. Radke et col, 1994); finally, it has been proved that Gram+ bacteria are more susceptible to Zinc than Gram- bacteria, probably due to the different proteic structure of their cellular walls (Södeberg et al).

- **Taurine** has a chelating action on sulphur compounds that produce odour.

Indications:

General:

- Wounds, lacerations, abrasions, etc
- Post-surgical healing.

Features

Calming action – Alleviates pruritus and discomfort

Stimulates healing of injured skin and restores its natural microenvironment

Proven antiseptic activity, particularly against Gram+

Promotes follicular regeneration

Restores the skin’s barrier effect

Deodorising action

pH neutral – Non-irritating

Does not contain antibiotics or corticoids – Does not build resistance, produce dermal or systemic side effects

Dogs, cats, exotic animals and horses

Aqueous, colourless solution – Does not stain surfaces or fabrics in the home

Low dosage – Lower daily cost

Available exclusively through veterinarians
CUTANIA® Zn-Spray
CUTANIA® Zn-Gel
Highly Safe Calming, Antiseptic and Healing Dermatological Solution, for Dogs, Cats, Exotic Animals and Horses

- Sun, thermal, chemical and radiological burns.
- As an antipruritic adjuvant to therapy with antibiotics or topical or oral steroids; or in chronic skin disorders in which it is necessary to reduce their use.
- Dermatological processes that produce alopecia, hypotrichosis and/or slow hair growth.

Dogs and cats:
- Atopy and other skin disorders that occur with pruritus.
- Skin fold dermatitis (lips, face, trunk, vulva, tail, etc.).
- Pododermatitis.
- Wet eczema.
- Lick granulomas.
- Feline acne.
- Pad injuries...

Exotic animals:
- Dermatitis.
- Pododermatitis.
- Feather pecking or plucking.
- Burns (lamps)...

Horses:
- Summer dermatitis.
- Saddle and bridle rash, etc.
- Sun burn...

Directions of Use:
1. Clean and dry the skin to be treated.
2. Spray (Zn-Spray) or apply (Zn-Gel) a fine layer over the affected skin twice a day. The affected areas can be bandaged or left exposed, and should be re-evaluated every 7-10 days.

Safety: CUTANIA® Zn-Spray and CUTANIA® Zn-Gel are very safe products in dogs, cats, exotic animals and horses. They are pH neutral, non-irritating and do not sting making them suitable for use on severely irritated or ulcerated skin. They do not contain antibiotics or corticoids so do not build resistance, nor do they carry any risk of dermal or systemic side effects, even when used for prolonged periods. They do not interfere with allergy tests.

Warnings: Keep container tightly closed, in a cool, dry place, protected from direct sunlight and out of the reach of children and animals.

Presentation:
- CUTANIA® Zn-Spray: 59 ml and 118 ml.
- CUTANIA® Zn-Gel: 59 ml.

Bibliography:
When applied topically, Zinc has also been shown to have antimicrobial properties; for example, Zinc Topically administered, it has beneficial effects on the healing of wounds, regardless of the systemic

Composition:

- Taurine 0.5%
- Zinc Oxide

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Zinc Oxide improved the reepithelialization of partial and full thickness wounds, and was as effective as cellular growth.

Carboxymethyl Cellulose is mucoadhesive and gives the product longer contact time with the surface of the skin.

2% Zinc citrate and 0.3% Triclosan on bacterial viability and plaque growth in vivo. Adams SE, Theobald AJ, Jones NM, Brading MG, Cox TF, Mendez A, Chesters DM, Gillam DG, Hall C, Holt J. The

Bibliography:

- Roldán S, Winkle EG, Herrera D, Sanz M, Van Winkelhoff AJ. The effects of a new mouthrinse containing chlorhexidine, cetylpyridinium chloride and zinc lactate on the microflora of oral halitosis patients: a dual-centre, double-blind...
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CUTANIA® Zn-Gel

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