

ELECTROCYN™ vetis



Antimicrobial wound
& skin care solution

**INFORMATION & GUIDE
BOOKLET**



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Wound cleansing and irrigation serves following purposes :



Choosing the right solution for wound care

The ideal solution for wound cleansing should be **antimicrobial and non-toxic to the healing tissues**. However, many commercially sold wound care solution has their limitations.

Minimal or zero antimicrobial effect : Solutions like isotonic saline is the least toxic to healing tissue but it has no antimicrobial effect. Surgical scrub agents should not be used because the detergent components are damaging to tissue.

Toxicity and bacterial resistance : Chemical based solution , eg; Chlorhexidine, has sustained residual activity against a broad spectrum of bacteria, and gram-negative bacteria may become resistant to chlorhexidine. Stronger solutions of chlorhexidine are toxic to healing tissue. Povidone-iodine is an effective antiseptic, however it has minimal residual activity and may be inactivated by purulent debris. Hydrogen peroxide is toxic to healthy tissue and should be avoided for irrigation or cleansing of wounds.

Nano-silver wound care solution is known to be cytotoxic to mammalian cell and causes skin conditions, argyria (skin turns blue or blue-grey). Various studies have shown that silver nano particles can induce toxic response including oral toxicity if accidentally ingested. Silver based products are also known to show strong inhibition of wound re-epithelialization which can delay wound healing.

New generation of **advanced wound care solution** are becoming a safer choice for veterinary practitioners and pet owners due to its **balance between efficacy and safety**.

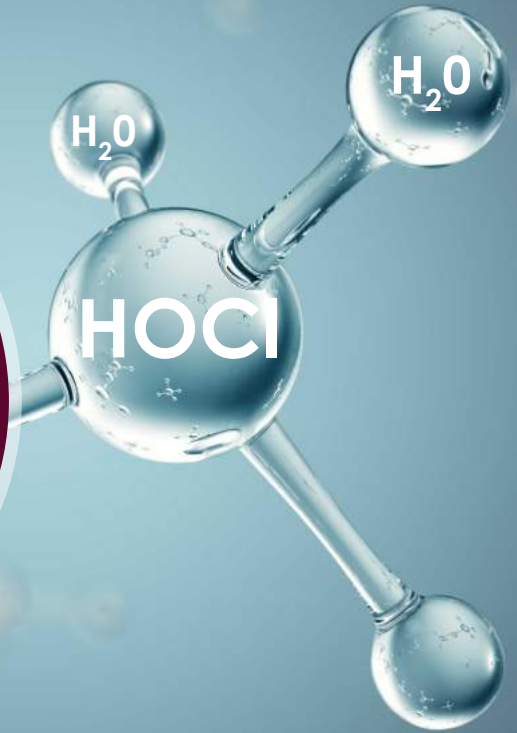


ELECTROCYN vetis - The Advanced wound care solution

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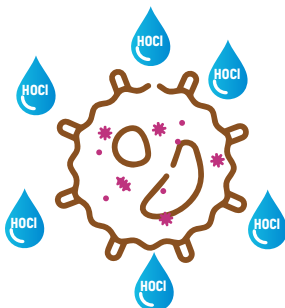
ELECTROCYN vetis is a new generation and safer alternative of wound care solution. Due to the nature of its **non-toxic ingredients**, the solution is non-irritating, non-sensitizing and biocompatible, while providing a **broad spectrum antimicrobial effect** to help effectively manage animal wounds and skin conditions.

The solution manufactured using a **proprietary pH stabilized electro-activated super-oxidized water**. The solution contains pH stabilized **hypochlorous acid (HOCl)** as the active substance which is similar antimicrobial substance **naturally found** in animal immune system.



Biocide in nature how ELECTROCYN vetis works?

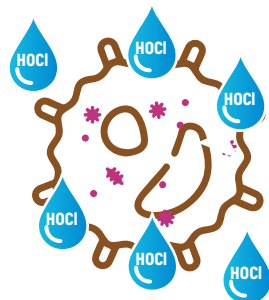
01



Hypochlorous acid is a weak acid that is naturally produced by animal white blood cells (neutrophils) and is an essential part of immune system.



02



Upon contact with microbes, neutrophils release a burst of bactericidal substance including its most powerful oxidizing agent, HOCl that disrupts cell wall of microbes. The HOCl in ELECTROCYN vetis, supports this biocidal process in similar way.



03



This leads to osmosis and microbial cell rupture known as osmotic shock. The invading microbial cells are deactivated and helps accelerate wound healing.

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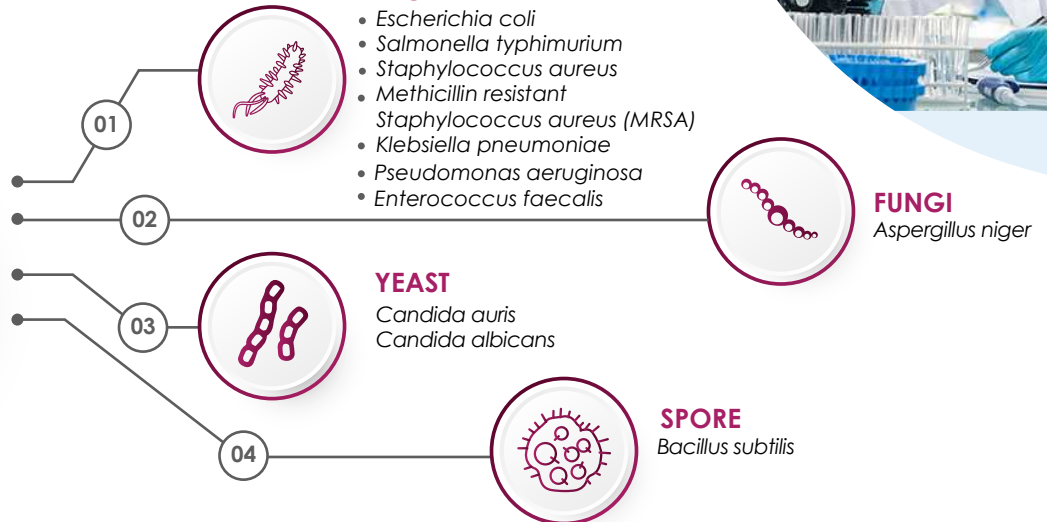
ELECTROCYN vetis
Wound / Skin Care

ELECTROCYN vetis has **broad spectrum antimicrobial effect** and shown to be effective against wide range of microbes including microbes that commonly found among animals. Time kill study conducted in an independent lab shows that ELECTROCYN vetis able to kill bacteria, fungi and yeast with efficacy up to **99.99% within 1 minute of contact time**. The test complies as per international test method **ASTM E2315** (Standard Guide for Assessment of Antimicrobial activity using Time-Kill Procedure)





Exposure Time (min)
1 min

Percentage Reduction
99.9%



Common type of microbes and how it affects your pet/animals?

Category	Microorganisms	Health conditions related to the microbes
 Bacteria	<i>Escherichia coli</i>	Vomiting, dehydration, depression, lethargy, diarrhoea, bluish gums, nostrils, ears, lips, and anus, septicaemia, organ failure
	<i>Salmonella typhimurium</i>	Subcutaneous infection at surgical site, dehydration, weight loss, diarrhoea, fever
	<i>Staphylococcus aureus</i>	Staphylococcosis (circle/pimpled-shaped lesions on the skin, excessive itching or biting of inflamed skin, fever, loss of appetite, pain)
	<i>Pseudomonas aeruginosa</i>	Skin and ear (otitis) infections, respiratory and urinary tract infection.
	<i>Bacillus subtilis</i> (Spores)	Wound and gangrenous infections. Eye infections, respiratory tract infections, central nervous systems (CNS) infections, bacteraemia, septicaemia, endocarditis.
	MRSA	Skin, wound or surgical site infections, otitis, or urinary tract infections.
	<i>Enterococcus faecalis</i>	Wound infections, Urinary tract infections (UTI), neonatal septicaemia, bacteraemia, endocarditis
 Yeast and Fungi	<i>Candida albicans</i>	Skin inflammation - itching, redness, musty odor, scales, crusty, thickened skin, hyperpigmentation, ear infections.
	<i>Aspergillus niger</i>	Aspergillosis - fungal infections in dogs. Nasal aspergillosis (nasal passage and sinuses)



ELECTROCYN, has been tested for dermal toxicity, skin sensitization, skin irritation oral toxicity and inhalation toxicity as per ISO 10993. The results shows that the solution does not elicits skin irritation/sensitization and found to be non-toxic even if inhaled. The solution is safe even when animal licks the solution on skin or accidentally ingested.



ACUTE INHALATION TOXICITY
(OECD-403)

No related clinical signs of toxicity and mortality observed on test subjects. Electrocyne is classified as relatively low acute toxicity.



SKIN SENSITIZATION
(ISO 10993-10)

No gross pathological changes observed. Electrocyne is found to be non-sensitizer to the skin



SKIN IRRITATION
(ISO 10993-10)

No evidence of irritation when applied topically on test subjects. Electrocyne is classified as "negligible irritant".



ACUTE DERMAL TOXICITY
(OECD-402)

No clinical signs of toxicity and mortality, skin reactions, and gross pathological changes were observed.



ACUTE OCULAR IRRITATION
(ISO 10993-10)






No gross pathological changes and concluded as non irritant to eyes



ACUTE ORAL TOXICITY
(OECD-423)

No clinical signs of toxicity were observed. Electrocyne is classified as non-toxic through oral route.

Comparison with other chemical-based wound/skin cleanser*

Wound cleanser ingredient	SKIN IRRITANT? 	SAFE ON NOSE, EYES, MOUTH? 	TOXIC IF INGESTED? 	ANTIMICROBIAL RESISTANCE? 	SENSITIZER / ALLERGIC REACTION? 
Iodine	YES	NO	YES	NO	YES
Chlorhexidine	YES	NO	YES	YES	YES
Benzalkonium chloride	YES	NO	YES	YES	YES
Hydrogen peroxide	YES	NO	YES	YES	NO
Silver nanoparticle	NO	NO	YES	YES	YES
Hypochlorous acid (ELECTROCYN vetis)	NO	YES	NO	NO	NO

*Information above is compiled from credible clinical and veterinary journals and safety data sheet (SDS) of wound cleanser products sold commercially.



Wound care

- Acute and chronic wounds cleansing
- Acute and chronic wound irrigation
- Abrasions and abscesses
- Minor lacerations and cuts
- 1st and 2nd degree burns
- Post-surgical wounds
- Skin ulcerations
- Reduce wound odour

Dermatological care

- Skin rashes
- Allergy sites
- Urine or fecal contact skin irritations
- Feather picking related skin irritations
- Hot spots

Safe to be used for regular general hygiene maintenance



Directions for Use

01



Remove excess hair from wound area

02



Clip if necessary

03



Spray adequately on the affected area **to saturate the area**, removing any foreign debris or contaminants. **Do not dilute** ELECTROCYN vetis as the solution is produced at safe and effective **ready-to-use (RTU)** concentrations.



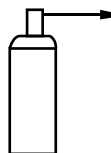
If **wound dressing** is required, a suitable dressing (eg; gauze) can be saturated with ELECTROCYN vetis as each dressing change to aid debridement. (take care not to macerate surrounding skin)

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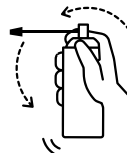


Repeat **3-4 times** a day or at each dressing change (NO rinsing is necessary)

For application into nose, mouth and ears



Use the Deep-Reach Nozzle mist spray version to assist spraying into canal or hard to reach areas



Tilt the nozzle to its side to determine the angle for spraying



Spray several pumps as required directly into the affected area



Q: Does hypochlorous acid or any of the ELECTROCYN vetis ingredients can cause allergic reaction or side effects to my pet/animal?

A: Hypochlorous acid does not cause any side effects or allergic reaction in animals as it has been dermatologically tested for skin sensitization and skin irritations. Hypochlorous acid (HOCl) is similar substance found in human and animal immune system hence its biocompatible with cells. The other components such as purified water (99.9%) and electro activated salt are perfectly safe. There are no known contraindications by using ELECTROCYN vetis

Q: Is it safe to spray ELECTROCYN vetis around nose, mouth, ears and eye?

A: Yes, it is safe to spray around pet/animal's nose, mouth, ears and even eyes as its pH neutral, water based, non-toxic and non-irritant. Its free from any harmful chemicals or alcohol.

Q: What if my pet/animal licks the area that has been sprayed with ELECTROCYN vetis?

A: There is no harm if it licks the sprayed area. ELECTROCYN has been tested for biocompatibility. The solution is water based and non-toxic. Its free from any harmful chemicals or alcohol.

Q: Can I use ELECTROCYN vetis for routine general hygiene of my pet/animals?

A : Yes, ELECTROCYN vetis is as safe as water and it does not cause any bacterial resistance (unlike other antimicrobial substance). Using ELECTROCYN vetis regularly helps to maintain hygiene and helps to reduce risk of infection and odor.

Q: Can I spray ELECTROCYN vetis onto the kennel , pet bedding, or litter tray to sanitize the area?

A: Yes, you certainly can! ELECTROCYN vetis has unique feature to reduce odor and at the same time able to decontaminate the area from harmful germs. It can be used routinely to help maintain good hygiene of pets/-animals.

Q: How is ELECTROCYN vetis as compared to other chemical based wound cleanser or skin care solution?

A: Most of the wound cleanser or skin care solution sold are chemical based, which has certain level of toxicity and side effect on cells including damage to normal cells. If accidentally ingested or in contact with sensitive organs such as mouth, eyes, or nose, the chemical based solution may cause irritation and systemic toxicity. Many of these chemical ingredients are also known to cause antimicrobial resistance.

Product Range



ELECTROCYN vetis 500 ml

Sprayer type : Trigger spray
Volume : 500 ml (17 oz)
Ref : EV5400W



ELECTROCYN vetis 250 ml

Sprayer type : Trigger spray
Volume : 250 ml (8.5 oz)
Ref : EV4400W



ELECTROCYN vetis 100 ml

Sprayer type : Deep-Reach nozzle
Volume : 100 ml (3.4 oz)
Ref : EV3310W



ELECTROCYN vetis 100 ml

Sprayer type : Mist spray
Volume : 100 ml (3.4 oz)
Ref : EV3300W

BROAD SPECTRUM ANTIMICROBIAL

ELECTROCYN™

vetis

WOUND / SKIN CARE

BIOCOMPATIBILITY TESTED

ANTIMICROBIAL EFFICACY TESTED



10993
BIOLOGICAL EVALUATION OF
MEDICAL DEVICES



ASTM INTERNATIONAL



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