

## **GSGF 904 – Gelified Skin Growth Factor 904**

### ***VETERINUS DERMA GEL*<sup>®</sup>**

#### **General Data & References**

##### **Veterinary Data**

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##### **Introduction**

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##### **Name of the drug :**

*Veterinus Derma Gel*<sup>®</sup> GSGF 904, skin growth factor hydrogel for animals.

##### **Description :**

Anti-microbial, saline-based, pH balanced gel providing a moist wound environment - a protective barrier effect - promoting debridement - enhancing a rapid and healthy healing process.

Devoid of cytogenotoxicity, mutagenicity and sensitising/ irritancy effect on epithelial cells.

**Indications (\*) :**

*Veterinus Derma Gel*<sup>®</sup> is used for the treatment of wounds and for the regeneration of epithelial trauma, e.g.

- Post-surgical incisions
- Pressure ulcers
- Bedsores
- Cuts
- Abrasions
- Skin irritations
- First and second degree burns
- Insect and plant stings
- Prevention of proud flesh
- Lack of hair discoloration on re-growth
- Provides a moisture regulator protective barrier against bacterial attack & insect invasion.

(\*) see below for further details.

**Contra-indications :**

None known.

**Side-effects :**

None known.

**Use during gestation :**

*Veterinus Derma Gel*<sup>®</sup> is safe to use.

**Interaction with other drugs :**

None known

**Over-dosage & Licking :**

None known & non toxic

**Withdrawal period :**

Zero

**Storage :**

In a cool dark place away from heat, sunlight, frost and toxic radiation.

**Formula ingredients :**

Titr. Polysaccharides (Pyrus Sorbus extr.); Hydrocotyle Asiatica (titr. extr.); Calendula Officinalis (titr. extr.); Salvia Officinalis extr.; Thymus Vulgaris extr.; Origanum Majorana extr.; Lavandula Officinalis extr.; Propylene Glycol; Hydrogenated Castor Oil; Sodium Bicarbonate; Glycerine; Alcohol; Aqua Purificata; Carbomer.

**Key Words :**

rapid & healthy epithelialisation - increase in wound contraction rate - pH balanced- rapid absorption - protective barrier effect - insect repellent - bactericidal - anti-inflammatory - non-mutagenic - lack of discoloration on hair re-growth - saline-based, isotonic hydrogel.

**Presentation**

A clear, viscous hydrogel manufactured in vacuum condition which protects the wound bed from foreign contaminants, and enhances the environment essential to thorough wound healing. Non-cytotoxic and non-sensitising, *Veterinus Derma Gel*<sup>®</sup> hydrates the wound bed with a non-drying hydrogel polymer and humectant combination. The formula maintains its integrity over time without drying out or changing colour.

*Veterinus Derma Gel*<sup>®</sup> is a gel that forms a uniform porous barrier of protection, because it stays where it is applied. It adheres so well to the wound bed that it will not run off the treated surface. Therefore, bandaging is not necessary.

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**1.00 GENERAL OBSERVATIONS**

**1.01 tested in vitro on different cell types, the titrated extracts proved the following main properties :**

- type I and III collagen synthesis
- collagen maturation
- increase in wound contraction rate
- wound healing

- stimulation of the epithelialisation phases
- proliferation and migration of epithelial cells
- anti-inflammatory
- bactericidal

### **1.02 Rapid & healthy epithelialisation - increase in wound contraction rate**

*Veterinus Derma Gel*<sup>®</sup> has remarkable properties which accelerate the epithelialisation process, increasing wound contraction rate, without skin proliferation or proud flesh.

### **1.03 pH balanced and absorption**

Due to its specific pH balanced isotonic saline base (deneutralised), *Veterinus Derma Gel*<sup>®</sup> is rapidly and fully absorbed by the wound thus accelerating the epithelialisation process, whereas traditional greasy creams and ointments are more slowly and partially absorbed leaving unabsorbed residues on the surface. These ointment and cream residues oxidise with the body temperature, promoting irritation of epithelial cells, infection, and interfering with the healing process.

### **1.04 Protective barrier effect**

*Veterinus Derma Gel*<sup>®</sup> has a protective barrier effect which guarantees that the wound has correct percentage of moisture needed for effective healing, reducing the risk of skin proliferation or proud flesh (e.g. epithelialisation process may stop or be altered if a wound is too dry. If a wound is too moist, there may be irritation and skin proliferation or proud flesh - as a result of excessive suppuration).

### **1.05 Insect repellent properties**

Several in vivo field tests have shown insect repellent properties while using *Veterinus Derma Gel*<sup>®</sup>. According to the literature, a blend of molecules contained in the formula are involved in this particular process. This insect repellent activity is however linked to skin absorption process (between 40 min. and 120 min).

### **1.06 Bactericidal**

The *Veterinus Derma Gel*<sup>®</sup> synergistic bactericidal complex reduces the risk of bacterial attack without interfering with the different phases of the epithelialisation process, as *Veterinus Derma Gel*<sup>®</sup> remains non-mutagenic

(lack of cytogenotoxicity).

### **1.07 Non-Mutagenic and Hair re-growth**

Moreover, the hair grows back to its original colour, even when there has been extensive loss of cutaneous tissue or when the wounds are deep. This unusual feature could be explained by the fact that - when applied as recommended - *Veterinus Derma GeL*<sup>®</sup> is devoid of mutagenicity (cytogenotoxicity) and does not alter or denature the epithelial cells. So cutaneous injuries are covered by cells which are genetically and completely identical to the cells that were initially available.

Tested on strains originating from the Laboratory of Professor B. AMES, Biochem. Dpt., California University, USA, it has been observed through this particular study (\*) that - with or without metabolic activation when compared versus negative controls - there is no cytogenotoxic effect.

(\*) *Study performed according OECD Guideline 471 « Genetic Toxicology - Reverse Mutation Assay », ANOVA and DUNNETT tests.*

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## **2.00 SPECIAL OBSERVATIONS**

When *Veterinus Derma GeL*<sup>®</sup> was in vivo tested on animals (field tests), the healing process was accelerated considerably due to the following properties :

- pH balanced
- lack of irritating and sensitising effects
- cell viability
- gradual elimination of dead tissues
- lack of cytogenotoxicity (non-mutagenic)
- prevention of inflammation
- bactericidal
- stimulation of the cell multiplication process
- increase in wound contraction rate
- protective barrier effect and isolation of the wound
- lack of side-effects

### **2.01 «in vitro» Evaluation of the activity**

In a parallel direction, *Veterinus Derma GeL*<sup>®</sup> has been subject to extensive research performed on an «in vitro» 3-dimensional skin model to evaluate : cell viability (MTT test), quantification of Tumor Necrosis Factor alpha (TNF alpha), Interleukin 1 alpha (IL-1alpha), Interleukin 10 (IL-10), Interleukin 8

(IL-8), Interleukin 12 (IL-12), Prostaglandin E2 (PGE2). ***Cfr. scientific ref. 6.00***

## **2.02 Applications**

*Veterinus Derma GeL*<sup>®</sup> must be applied to the wound as soon as possible in order to prevent infection and, above all, the destruction or alteration of the available surface cells. The quality of the available cells is very important as this hydrogel enhances the cell multiplication process (the fresher the wound, the faster the healing).

*Veterinus Derma GeL*<sup>®</sup> is also recommended for wounds which have been unsuccessfully treated with other conventional products. In some cases, it is advisable to scrape the proud flesh from the wound before applying *Veterinus Derma GeL*<sup>®</sup> in order to obtain a base of good epithelial cells for an optimum result.

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## **3.00 DIRECTIONS FOR USE**

### **3.01 Cleansing**

Cleanse the wound or the affected area daily with warm water or a saline solution only, to prevent cell irritation.

### **3.02 Application**

Apply a thick layer of *Veterinus Derma GeL*<sup>®</sup> to the wound two or three times a day, as needed. It is also recommended to extend the application around the edge of the affected area, so as to prevent proud flesh.

### **3.03 Caution**

When skin has been severely damaged with extensive loss of cutaneous tissues - where possible - apply *Veterinus Derma GeL*<sup>®</sup> two or three times a day using a non-adhesive dressing and a bandage.

Bandaging should be kept on for about 24 hours to encourage the healing process. Afterwards, leave the surface uncovered as the *Veterinus Derma GeL*<sup>®</sup> provides a porous protective barrier.

It is not advisable, however, to maintain bandaging for longer as it might increase the local temperature and encourage suppurative or runny wounds for lack of air and, in certain cases, proud flesh or skin proliferation.

### **3.04 Important**

The use of an aggressive disinfectant which might irritate, alter or damage the quality of the available cells is however not recommended.

It is inadvisable to use disinfectants or antiseptics (even mild solutions) for cleansing a wound as they will cause irritation, thus delaying, altering or stopping the healing process.

The local application of antibiotic preparations, sprays and powders is also to be avoided as they will cause infection by irritating or destroying normal bacterial flora (\*).

(\*) Rose R.J., Hodgson D.R. - Manual of Equine Practice - Dermatology, Skin Wounds, 1993, p. 340-341.

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### **4.00 LIST OF INJURIES TO BE TREATED WITH *Veterinus Derma Gel*<sup>®</sup>**

- all kinds of cuts
- scratches
- wounds (including barbed wire)
- scabs
- bedsores
- pressure sores
- cutaneous ulcers
- post-surgical wounds (on suture points)
- first and second degree burns
- over-reaches
- insect and plant stings
- friction sores (from saddle, boots, girth, bits,... )
- eyelid wounds
- cracked heels (\*)

(\*) as the majority of cracked heels often occur in wet and muddy conditions, it is recommended - during exercise or training - to apply pure vaseline in order to ensure an effective water barrier.

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### **5.00 WARNING**

There are certain cases of abnormal cell proliferation where it is not advisable to use GSGF 904:

- on cracked heels, when fungal attack is suspected
- on warts
- on ringworm
- ...

There are specific treatments for these conditions.

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