

- Supports the wound healing processes
  - Reduces the risk of reinfection and biofilm formation
  - No pain or side effects
  - A purely natural product with a complex structure
- For modern and multifunctional wound treatment



Examples of wound developments before and after the application of ActiMaris® products.



skin  
mucous membrane  
wounds

Simple and natural wound healing based on bio-physical principles.

## Guide Wound cleaning with ActiMaris®



simple medical solutions designed by nature

Does ActiMaris® contain elemental chlorine?  
Not! Using a special procedure, the active substances are stably embedded in ActiMaris® complex. Sodium hypochlorite (NaOCl) dissociates into Na<sup>+</sup> and oxychlorite (OCl<sup>-</sup>) and NaCl + O<sub>2</sub>, which all combined have an antimicrobial effect. Owing to the alkaline pH value in ActiMaris® (8.5 – 9.5), elemental chlorine cannot be created, as it is only formed at a pH value ≤ 2.0. Free chlorine in the sodium hypochlorite anion has a slightly halogenated and salty odour.

How can the advantages of ActiMaris® be explained?  
These benefits can be attributed to the optimal interaction of ionised seawater, hyperosmolarity, the ROS cocktail, REDOX potential, electrical conductivity and the alkaline pH value.

### FAQs

Thanks to the ionised seawater with electrical conductivity, a depth effect is achieved. Acts as a natural preservative and reduces germs.

Sea salt

Supports the alkaline cell environment and modulation of all phases of the wound healing processes.

Basic pH

The products are extremely well tolerated. NaOCl (sodium hypochlorite) and sea salt act as natural preservatives. This was confirmed by the results of the conservation test after opening.

ActiMaris® ingredients are all of natural origin and not synthetically-chemically produced. Only on a purely bio-physical basis.

100% natural

The Reactive Oxygen Species have antimicrobial properties and are part of the cellular REDOX system.

ROS

Is there a risk that ActiMaris® may dry out the wound due to the elevated salt content?  
ROS substances in the ActiMaris® complex always tend to react with other substances. Because of the alkaline pH value and hypertonic sea salt solution, the release occurs slowly.

### Product profile – ActiMaris®

In ActiMaris® products, the cleaning power and antimicrobial effect as well as the decongestant properties can be attributed to both the individual ingredients and the interaction of all ingredients together. The ionised sea water, the reactive oxygen species (ROS), the alkaline pH value and hyperosmolarity all contribute to the bio-physical cleaning and decontamination process, as well as to the eradication of biofilm. Thanks to the very small particle size and small water clusters in the solution, ActiMaris® products demonstrate excellent bio-availability.

An excellent biocompatibility index, meaning the relation between the irreversible antimicrobial effect (on prokaryotes) and reversible light (sensitive) and moderate (forte) cytotoxicity (on eukaryotic cells), was found in in-vitro efficacy studies.

#### Development and manufacturing

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natural medical solutions

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You can find more information (FAQ) at [www.ActiMaris.com](http://www.ActiMaris.com).

Why ActiMaris® does not burn the wound despite containing NaCl?  
The electrolytes contained in ActiMaris® in the form of a hypertonic solution (especially NaCl) reduce the tension/swelling in the tissue (and thus improve perf-wound circulation and tissue oxygenation), thereby also reducing the pressure and irritation on the mechanoreceptors in the skin. Strontium in seawater (strontium chloride) reduces the hypersensitivity of the nociceptors, which decreases or blocks the sensation of burning and pain.

Does ActiMaris® contain any sensitising substances?  
No side effects have been observed with the use of ActiMaris® products. ActiMaris® products are also suitable for sensitive/irritated skin and mucous membranes. They are painless and are generally well tolerated, even by allergy sufferers.

Why ActiMaris® products can be used 3 months after opening?  
ActiMaris® is produced without any artificial preservatives, which guarantees that the products are extremely well tolerated. NaOCl (sodium hypochlorite) and sea salt act as natural preservatives. This was confirmed by the results of the conservation test after opening.

Is there a risk that ActiMaris® may dry out the wound due to the elevated salt content?  
ROS substances in the ActiMaris® complex always tend to react with other substances. Because of the alkaline pH value and hypertonic sea salt solution, the release occurs slowly.

Are the reactive oxygen species (ROS) in ActiMaris® depleted all at once when it comes into contact with wound exudate?  
The hypertonic salt concentration in ActiMaris® creates an osmotic effect that is responsible for the decongestant properties of ActiMaris®. This is a temporary stimulus reaction whereby ActiMaris® binds the excess moisture (per-wound oedema) to the skin without drying out the wound, and at the same time improves peripheral circulation. Sea salt has hygroscopic properties.

### ActiMaris® sensitive – Wound irrigation solution

Article no.	Contents	Pieces / packaging	Pieces / box
30 300	300 ml	1	30
31 000	1'000 ml	1	10

### ActiMaris® forte – Wound irrigation solution

Article no.	Contents	Pieces / packaging	Pieces / box
30 350	300 ml	1	30
31 050	1'000 ml	1	10

### ActiMaris® Wound gel

Article no.	Contents	Pieces / packaging	Pieces / box
30 220	20 g	1	70
30 250	50 g	1	50

All ingredients in ActiMaris® complex are based on on natural and bio-physical parameters.

- Alkaline ionised seawater
- &
- Electrical conductivity
- &
- Reactive Oxygen Species (ROS)
- &
- REDOX potential

Type of wound / wound condition	ActiMaris® key objectives	Example	ActiMaris® product	Product image	Application instructions
Dry, fibrin-coated wounds, wounds with weak exudation, venous leg ulcers	<ul style="list-style-type: none"> <li>Wound cleaning</li> <li>Soften the wound bed</li> <li>Humidification</li> <li>Reduces odours</li> <li>Anti-inflammatory effect</li> </ul>		<b>ActiMaris® Wound gel</b> Hypertonic, alkaline wound gel made of energised seawater, ROS substances (active oxygen and sodium hypochlorite), REDOX potential and hyperosmolarity.		<ul style="list-style-type: none"> <li>Clean the wound with <b>ActiMaris® Sensitive Wound irrigation solution</b></li> <li>Apply a thick layer of <b>ActiMaris® Wound gel</b> on or in the wound and cover with porous wound dressing</li> <li>For short-term application (quick effect &lt; 1 min. / 5 – 6 log<sub>10</sub>)</li> <li>Suitable for repeated use</li> </ul>
Critically colonised or infected wounds*; DFU	<ul style="list-style-type: none"> <li>Wound cleaning</li> <li>Control wound odours</li> <li>Soften the wound bed</li> <li>Fights infection</li> <li>Biofilm resolution</li> <li>Supports the wound healing process</li> </ul>		<b>ActiMaris® Forte Wound irrigation solution</b> Hypertonic, alkaline sea salt solution with active oxygen and sodium hypochlorite electrical conductivity with the support of endogenous “direct current” (injury current)		<ul style="list-style-type: none"> <li>Clean the wound with <b>ActiMaris® Sensitive Wound irrigation solution</b> to remove coatings (bioburden)</li> <li>Initial cleaning with <b>ActiMaris® Forte Wound irrigation solution</b>: Apply compresses soaked with <b>ActiMaris® Forte Wound irrigation solution</b> for 5 – 10 minutes (quick effect &lt; 1 Min. / 5 – 6 log<sub>10</sub>)</li> <li><b>ActiMaris® Sensitive Wound irrigation solution</b> can be used for rinsing and after the condition of the wound has improved</li> </ul>
Post-operative wounds, risk of SSI	<ul style="list-style-type: none"> <li>Wound cleaning</li> <li>Soften the wound bed</li> <li>Reduces odours</li> <li>Restoration of a physiological wound environment</li> <li>Anti-inflammatory effect</li> </ul>		<b>ActiMaris® Sensitive Wound irrigation solution</b> Slightly hypertonic (1.2 %), alkaline sea salt solution with 0.95 % NaCl and 0.25 % other sea salts, low ROS concentration in combination with the <b>ActiMaris® Wound gel</b> .		<p>Possible to apply <b>ActiMaris® Sensitive Wound irrigation solution</b> in the form of the classic moist/dry phase:</p> <ul style="list-style-type: none"> <li>Stable wound environment, inflammatory reaction without microbial abnormality: 10 – 15 minutes exposure time</li> <li>In case of wound edge maceration/irritation, thick fibrin coatings, foul smelling wounds contaminated with germs, observe longer exposure times – if necessary, use <b>ActiMaris® Forte Wound irrigation solution</b> or <b>ActiMaris® Wound gel</b></li> <li>For short-term and repeated use</li> </ul>
Acute wounds; following abscess incision involving the wound cavity	<ul style="list-style-type: none"> <li>Wound cleaning</li> <li>Reduction of the peri-wound oedemas</li> <li>Combination with wound fillers as well as ActiMaris® wound gel</li> </ul>		<b>ActiMaris® Wound gel</b> Hypertonic, alkaline wound gel made of energised seawater, ROS substances (active oxygen and sodium hypochlorite), REDOX potential and hyperosmolarity.		<ul style="list-style-type: none"> <li>Clean the wound with <b>ActiMaris® Sensitive Wound irrigation solution</b></li> <li>Apply <b>ActiMaris® Wound gel</b> into the wound, fill up with alginate / hydrofibre and cover with wound dressing or: Soak alginate / hydrofibre with <b>ActiMaris® Sensitive Wound irrigation solution</b> and use it to fill the wound cavity, cover with porous wound dressing</li> <li>For long- and short-term use</li> <li>no cartilage or bone cytotoxicity</li> </ul>
Dry second-degree burn wounds	<ul style="list-style-type: none"> <li>Wound cleaning</li> <li>Rehydration of the wound tissue</li> <li>Stimulates cell migration</li> <li>Anti-inflammatory effect</li> </ul>		<b>ActiMaris® Sensitive Wound irrigation solution</b> Slightly hypertonic (1.2 %), alkaline sea salt solution with 0.95 % NaCl and 0.25 % other sea salts, low ROS concentration in combination with the <b>ActiMaris® Wound gel</b> .		<ul style="list-style-type: none"> <li>Clean the wound with <b>ActiMaris® Sensitive Wound irrigation solution</b>: 10 – 15 minutes exposure time if the wound environment is stable and the wound bed is clean</li> <li>If rehydration is necessary, apply <b>ActiMaris® Wound gel</b> to the wound and cover with porous wound dressing</li> <li>For short-term and repeated use</li> </ul>

### As a general rule:

The duration and frequency of application of the ActiMaris® products should be adapted to the individual wound conditions and should be carried out until all deposits, necroses and bioburden can be easily removed and the wound is visually clean. Depending on the wound condition, a dressing change can be carried out every 2 to 3 days for non-infected wounds, according to indications and phases.

### Properties and advantages

ActiMaris® products are well tolerated and are based on natural and biophysical principles of pure hypertonic seawater and active oxygen (ROS substances). These products effectively cleanse wounds, dissolve biofilms, reduce inflammation, help to reduce swelling and ensure active, fast and long-lasting odour reduction. As a result, they sustainably increase the patients' quality of life. Since the sea salts, trace elements and minerals contained in ActiMaris® are present in their natural, physiological complex ratios (as in blood serum), the wound and cell environment as well as wound metabolism are positively influenced. ActiMaris® is available as Sensitive Wound Irrigation Solution, Forte Wound Irrigation Solution and as a wound gel and is also suitable for sensitive, irritated and inflamed skin and mucous membranes. As far as can be determined, ActiMaris® complex is the only wound cleansing agent on the wound market with two power levels and it is available in solution and gel form in timely two releasing modus. Thanks to its pH range, it is possible to modulate the molecular dynamics in the wound. This is very important because the chemical and enzymatic reactions as well as the electron transport chain (energy production/ATP) in the cell and in the tissue are pH dependent.

ActiMaris® Sensitive wound irrigation solution (300 ml/1'000 ml) is used to clean, irrigate, moisten and decontaminate wounds and can be used to dissolve wound deposits and adhesive dressings as well as for the intra-operative cleansing and irrigation of wounds, also in NPWT. The Sensitive wound irrigation solution is suitable for

short-term and long-term use. Its application is painless and is also well tolerated by allergy sufferers and patients with sensitive skin. ActiMaris® Forte wound irrigation solution (300 ml/1'000 ml) is especially suitable for the initial cleansing of severely fibrinous or pus-filled, infected or extremely foul-smelling wounds. The higher NaCl and NaOCl content of the ActiMaris® Forte wound irrigation solution guarantees a thorough cleansing action in the above-mentioned wound situations. After the condition of the wound has improved, we recommend the use of ActiMaris® Sensitive wound irrigation solution for continued cleansing of the wound. ActiMaris® wound gel (20 g/50 g) is indicated for cleaning severely fibrinous or pus-filled, infected or foul-smelling wounds, for dissolving biofilms and for filling deep defect wounds. ActiMaris® wound gel can be used to rehydrate wounds that are too dry and to treat irritation and inflammation of the skin and mucous membranes. ActiMaris® wound gel is particularly well tolerated and suitable for short-term and repeated use, depending on the condition of the wound.

\*Critical colonisation (5 – 6 log<sub>10</sub>), the so-called “critical pathogenic point”, refers to active germ multiplication where the metabolism of the microorganisms causes wound healing to become stagnant. There is a risk of chronic inflammation and infection with biofilm formation (in about 80% and more cases in chronic wounds), which greatly weakens the local immune defence and the effect of antimicrobial agents.



# ActiMaris®

 Natural Health Care

### Development and manufacturing

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