

EMD
Electronics



ADE TO
EMPOWER

RONACARE® ECTOIN
RONACARE® ECTOIN IQ

The Electronics business of Merck KGaA,
Darmstadt, Germany operates as EMD
Electronics in the U.S. and Canada.

Rona®

NATURE'S SECRET FOR SKIN PROTECTION

RONACARE® ECTOIN RONACARE® ECTOIN IQ

RonaCare® Ectoin active ingredient is proven to protect skin from environmental stress: ambient light (including blue light and infrared radiation), temperature, dehydration, chemical irritants and pollution. It protects and enriches your skin's natural moisture. Furthermore, it smoothes wrinkles and creates a wide range of feelings and emotions – confidence, attractiveness, esteem. People of all ages (from millenials to seniors) are positively affected by the product's attractive properties.

ORIGIN AND EFFECT

Ectoine is found in **halophilic bacteria and ensures the bacteria's survival in some of the world's most extreme environments:** salt lakes, seawater, and saline deserts. EMD is offering this powerful molecule as an active cosmetic ingredient produced via biotechnological fermentation – RonaCare® Ectoin is **a natural and multifunctional, cell-protecting substance**, which naturally activates the skin's ability to:

- » speed up its **defense system**
- » protect it from high amounts of ambient light and **reduce damage induced by light, visible and infrared light**
- » **hydrate and encase moisture** in a stable hydration shell to prevent skin dryness
- » **state it simply**, provide skin cells with their own protective shell, safeguarding them from harmful external influences

RONACARE® ECTOIN IQ

For two decades, EMD Performace Materials Corp. has invested time and money into discovering new benefits of RonaCare® Ectoin active substance. We've now developed the next generation of this ingredient to satisfy modern demands for clean beauty - RonaCare® Ectoin IQ, with improved quality.

KEY BENEFITS

EMPOWERING SKIN PROTECTION

RonaCare® Ectoin – “the cell protection factor for skin” – is safe for a wide variety of cosmetic applications like:

- » **Anti-pollution protection** (*in vitro, ex vivo*) – detox your skin from daily pollution
- » **Soothing sensation properties** for skin under urban dust stress (*in vitro, in vivo*)

- » **Minimizes light induced DNA damage*** in skin cell immanent organelles – mitochondria (*in vitro*)
- » **Immune system protection*** - Protection of Langerhans cells under UV (*in vivo*)
- » **Cell membrane protection** against surfactants – supports stress minimization for skin (*in vitro*)
- » **Slow down of skin aging** – wrinkle reduction and skin smoothing properties plus skin stress counteraction (*in vivo*)
- » **Water reservoir** – built up within the skin – for long-term hydration (*in vivo*)
- » **Supports balance** and maintenance of skin barrier circumstances (*in vivo*)
- » Proven **well-being impact** on skin (*in vivo*)

EXCEPTIONAL SUPPORT AND - QUALITY CONTROL MADE BY EMD

- » **Global product availability** – with high quality, established products and scientific know-how - experienced and reliable
- » **Application patent protected** with several aspects – especially for lightening of skin pores or for the reduction of the number of yellow or dark colored skin pores in human skin.

* The mechanism of action *in vitro/ex vivo/in vivo* does not necessarily represent the mechanism of action in the finished product





FEATURES AT A GLANCE

- » **SUSTAINABLE**
- » **100% NOC***
- » **GMO free**
- » **NATRUE certified**
- » **COSMOS approved**
- » **HALAL certified**
- » **QUASI-DRUG additive approval**
- » **INCI listed in CHINA**
- » **APPLICATION PATENT protected**

FURTHER PROPERTIES AND FACTS

Protein protection at the cellular level*

Quickens the formation of several heat-shock proteins, which protect the skin's essential proteins, reducing the risk of protein carbonylation when under stress from high heat or radiation (blue light)

Minimizes light damage

Reduces damage to cells caused by light

Locks in moisture

The natural power of ectoine's water-binding capacity ensures that the water molecules are captured and kept as a reservoir on and within the skin – right now and over the long term.

Promotes a sense of well-being

Proven impact on skin and within skin care products; appealing to all five senses, it works on an emotional level to give consumers the personal satisfaction they are looking for.

PROTECTION OF LANGERHANS CELLS*

**RonaCare® Ectoin protects
effectively against the
reduction of Langerhans cells
in UV-irradiated human skin**

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*100% Natural Origin Content in accordance with ISO 16128



RonaCare®
Ectoin strengthens
the skin against
oxidative stress

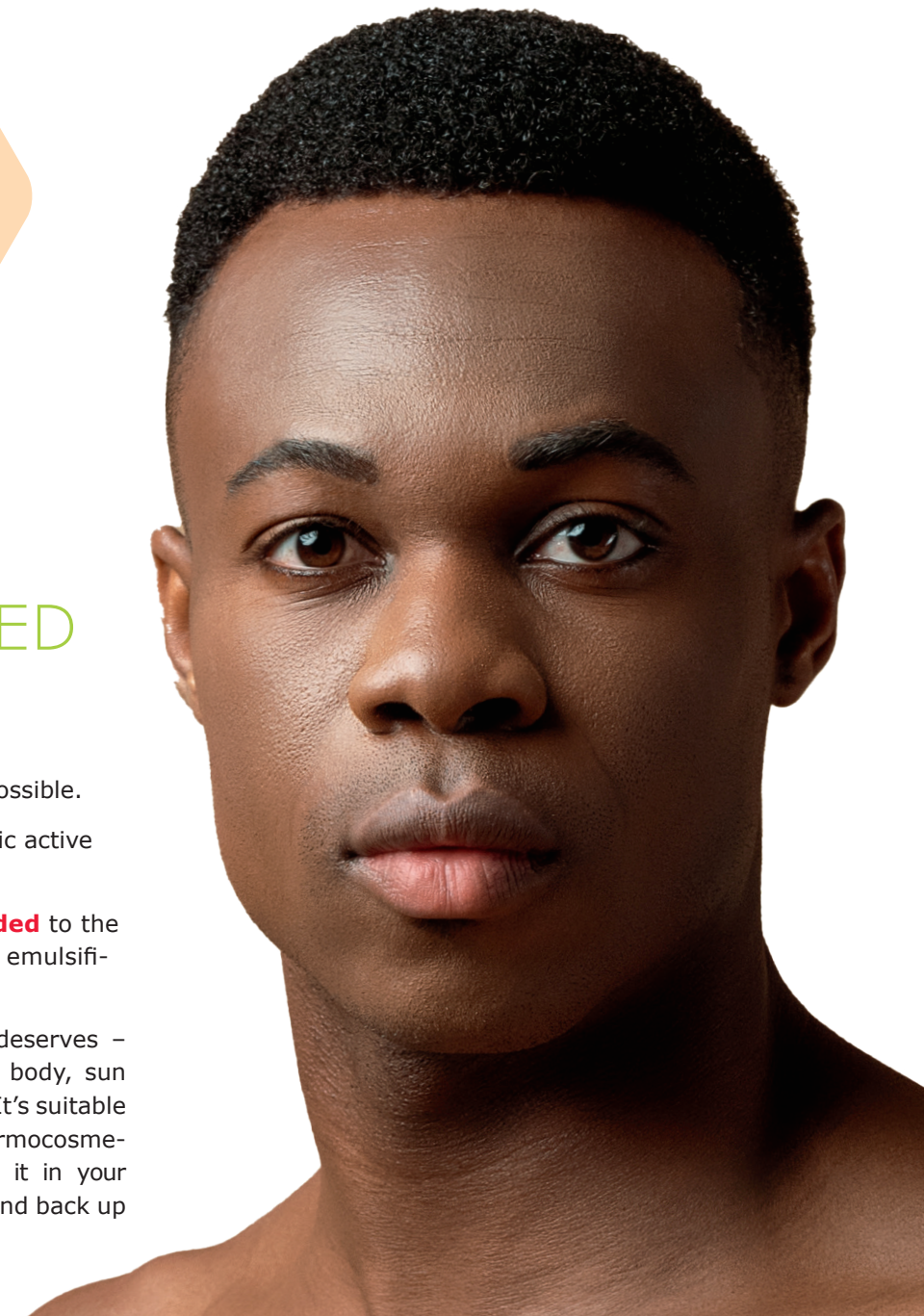
FORMULATION GUIDELINES AND SUGGESTED APPLICATIONS

Use level: about 0.2-2.0%, or higher possible.

No incompatibility with other cosmetic active substances has been reported.

RonaCare® Ectoin **can be directly added** to the aqueous phase of an emulsion prior to emulsification.

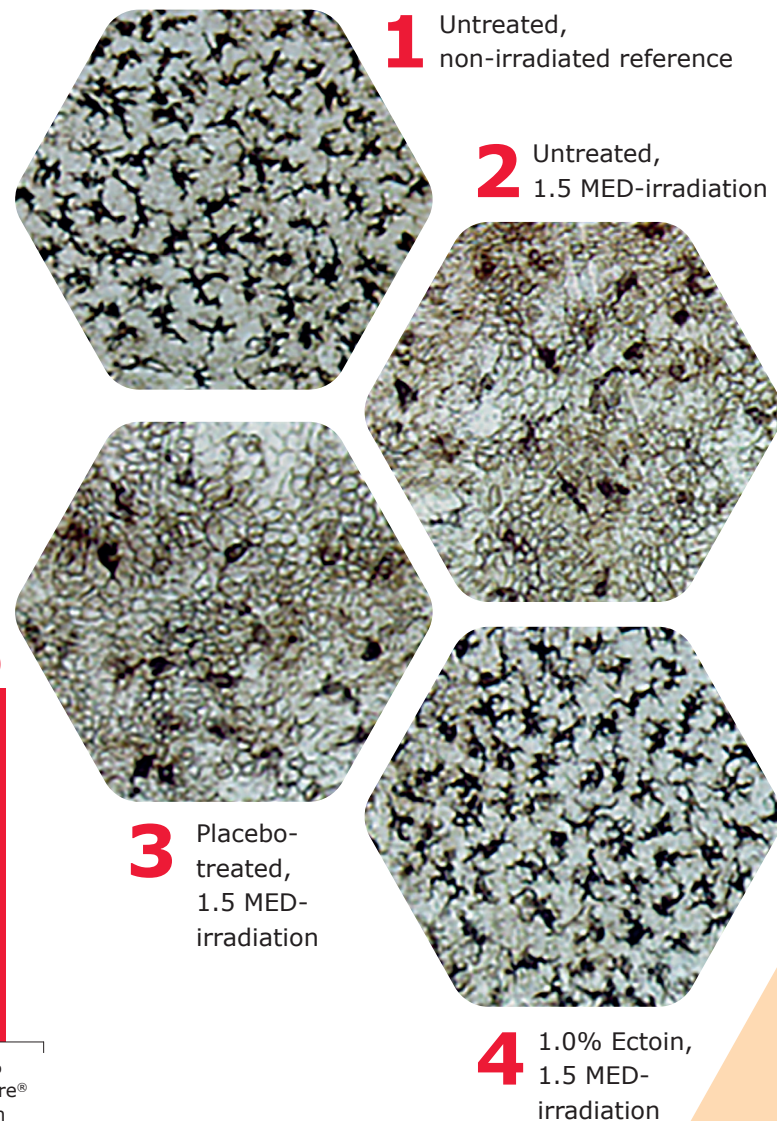
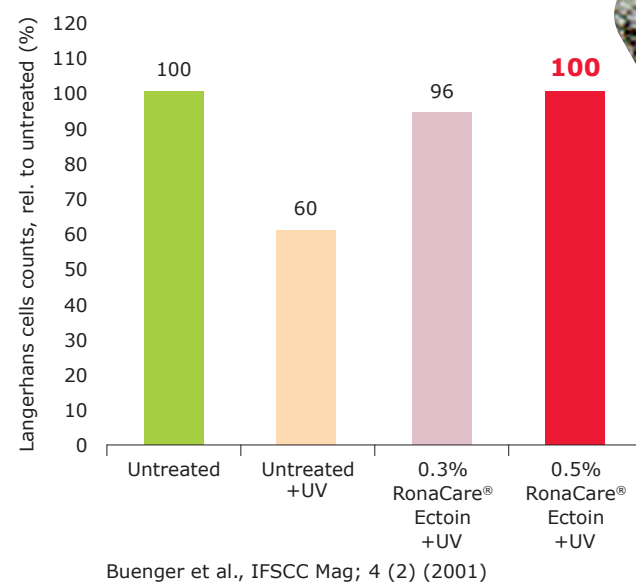
RonaCare® Ectoin gives skin what it deserves – natural protection every day for face, body, sun care, hair care and medicinal products. It's suitable for all skin types (even sensitive skin, dermocosmetics), so it's great for all ages. Use it in your formulations to enrich product quality and back up benefits highlighted on the packaging.



IMMUNE SYSTEM PROTECTION*

The immune system protection evaluation was conducted within an *in vivo* study (2 weeks of treatment on inner forearm). After the UV-exposure (1.5 MED), suction blisters were created and a final **histological proof of Langerhans cells** after ATPase staining was done. The images indicate the protective benefits of RonaCare® Ectoin.

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WHY EMD COSMETICS?

When you choose RonaCare® Ectoin or RonaCare® Ectoin IQ, not only do you get these tremendous products, but you also gain access to the resources of the world's oldest chemical and pharmaceutical company. We have been selling RonaCare® Ectoin in the cosmetic market since 2000 and we are proud of the fact that we offer reliable quality and support that you can count on. EMD offers unparalleled global expertise and resources to its clients. This expertise ranges from international regulatory and legal support to a wide-reaching distribution network and consulting services for clients anywhere in the world.

ORDERING INFORMATION

NAME	INCI	PACKAGE SIZE	ITEM NO.:
RonaCare® Ectoin	Ectoin	100g, 1kg, 5kg, 50g sample	130200
RonaCare® Ectoin IQ	Ectoin	1kg, 5kg, 50g sample	132400

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For more information, please contact: rona@emdgroup.com

NATURE'S SECRET FOR SKIN PROTECTION

RONACARE® ECTOIN RONACARE® ECTOIN IQ

Products are warranted to meet the specifications set forth on their label/packaging and/or certificate of analysis at the time of shipment or for the expressly stated duration. EMD Performance Materials Corp. provides information and advice on application technologies and relevant regulations based upon its current knowledge and opinion. EMD PERFORMANCE MATERIALS CORP. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE REGARDING OUR PRODUCTS, THEIR APPLICATION OR ANY INFORMATION PROVIDED IN CONNECTION THEREWITH. EMD Performance Materials Corp. shall not in any event be liable for incidental, consequential, indirect, exemplary or special damages of any kind resulting from any use or failure of the products. Customer is responsible for and must independently determine the suitability of our products for its intended use and processes. The foregoing information and suggestions are also provided without warranty of non-infringement as to intellectual property rights of third parties and shall not be construed as any inducement to infringe the rights of third parties. Customer shall be responsible for obtaining any applicable third party intellectual property licenses. All sales are subject to our complete Terms and Conditions of Sale. Prices are subject to change without notice. EMD Performance Materials Corp. reserves the right to discontinue products without prior notice.

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