

ONE GRAM DAILY OF OPTIMSM IS EFFECTIVE IN REDUCING VISUAL SIGNS OF SKIN AGING IN AS LITTLE AS 4 WEEKS!*

OptiMSM's effect on skin conditions was evaluated by:

INSTRUMENT ANALYSIS

23% experienced improved hydration

Skin elasticity improved by **20%**

EXPERT VISUAL GRADING

21% improvement in luminous and radiant skin.

Less facial wrinkles and skin texture improved by **24%**

SELF ASSESSMENT

81% of participants reported improvement in skin radiance and hydration

Improved skin texture noted by

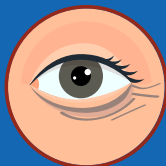
78%

63% reported better skin elasticity and firmness



IN ANOTHER STUDY USERS REPORTED A 38% REDUCTION IN TOTAL WRINKLES!

PARTICIPANTS USING OPTIMSM ALSO EXPERIENCED IMPROVEMENTS IN:



- Fine lines and wrinkles*
- Elasticity*
- Skin Firmness*



RESEARCH SUGGESTS OPTIMSM MODULATES KEY REGULATORS IN SEVERAL AREAS THAT AFFECT SKIN HEALTH AND APPEARANCE

- Inflammation
- Skin Barrier/ Protection
- Moisture

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THE EVIDENCE FOR OPTIMSM® SKIN HEALTH

MAINTAINING A HEALTHY APPEARANCE

Skin is a dynamic organ (rapid cell turnover) and requires a constant supply of nutrients to help maintain a healthy structure and function. If this supply is disrupted, it may lead to sagging, tired-looking skin or mottled pigmentation (dark spots). If supply is compromised for a long period, this can lead to premature aging and a weakening of the extracellular matrix (ECM). The process is accelerated by external factors such as direct sunlight, or pollution (for example).

ENSURING A STRONG EXTRACELLULAR MATRIX

The ECM is a fiber meshwork of collagen and elastin which keeps the skin looking healthy. If the ECM is weakened (a breakdown of collagen-rich connective tissue), then the skin becomes thinner and more susceptible to permanent damage (fine lines and wrinkles).

In contrast, nutrients that can increase skin membrane permeability, prevent collagen/proteoglycan breakdown and reduce inflammation on and under the surface of the skin can strengthen the ECM and improve the appearance of the skin in both the short and long-term.

THE ROLE OF OPTIMSM®

Methylsulfonylmethane (MSM) is an organic sulphur-containing compound with extensive research supporting its use. MSM's sulphur content is used by the body to maintain healthy skin, hair and nails.

Bergstrom Nutrition pioneered the use of MSM and continually invests in research for human health applications. Bergstrom Nutrition's trademarked OptiMSM® is the only MSM produced in the U.S. and the purest and only GRAS-designated MSM.

MSM, in the form of OptiMSM, has been shown to reduce fine lines and wrinkles, improve skin texture and elasticity, and provide overall support to the structural integrity of the skin. It may also help the skin, hair, and nails to regain and retain a more youthful appearance. There are three primary mechanisms that explain these benefits:

1. MSM is a source of sulphur which supports cross-linking of proteoglycans and collagen, as well as serving as a building block for keratin, the chief structural constituent of hair and nails. By maintaining healthy collagen, cross-linking, or "hardening" of the tissue is inhibited, allowing for healthy skin function.
2. OptiMSM improves antioxidant capacity and helps reduce inflammation (IL-6 and TNF-a), which is a cause of skin damage and degradation of the skin's structural matrixes.
3. MSM increases the barrier function of the ECM, which enables a greater exchange of water and nutrients in the dermis. Pre-clinical results from a gene marker study also suggest MSM can modify the genes (DSG3 and LCE3D) associated with barrier function.

THE SCIENTIFIC EVIDENCE

In a randomized 16-week, DB, PC, study, 23 women (35-59 yrs) consumed 3g of OptiMSM or placebo per day for 16 weeks. Expert grading, instrumental assessments, and self-assessments were measured at weeks 0, 8, & 16.

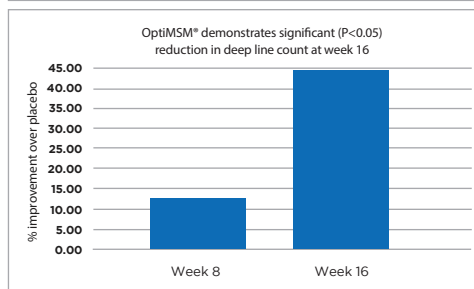
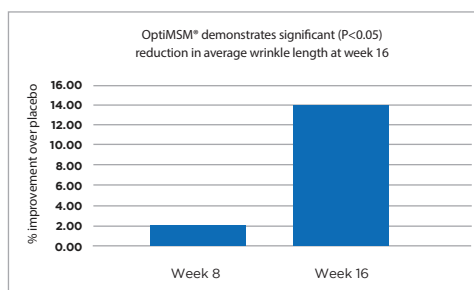
There was a reduction in number, size, and wrinkle severity for all assessments with an overall 34% reduction in wrinkles, and a 66% reduction in deep lines showed improvements deep within the skin.

Expert grading showed significant improvements for crow's feet, tone, smoothness, elasticity, and firmness. These findings were affirmed by results from Clarity™ Pro digital analysis, with significant improvements in crow's feet and total wrinkle count, length, severity, and depth. **Vapometer results saw barrier function of 100% of MSM subjects improved. Positive self-assessments affirmed that the results were noticeable to subjects.**

A recently published follow-up study of 63 women (35-59 yrs) subjects consumed either 1g or 3g of OptiMSM per day. Similar measurements displayed significant improvements in wrinkles, firmness, elasticity, radiance, and hydration were observed at both doses and across all three measures, showing **efficacy at 1g/day** and confirming the results of the first study.

The follow-up study also measured hair and nail outcomes. The results showed benefits for shine, volume, and overall health of hair, plus shine, strength, and overall health of nails, giving evidence to MSM's use for overall beauty benefits.

And a separate study showed the benefits of an MSM, I-Carnosine, and HA combination for skin wrinkles, hydration, and elasticity, showing that MSM works in concert with other ingredients.

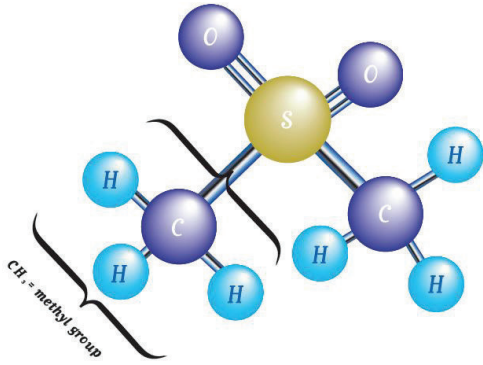


*These statements have not been evaluated by the Food and Drug Administration. Please note that sulphur is not included in the approved European positive list for vitamins and minerals that can be added into foods.

All information on this paper pertaining to health claims as defined in regulation EC 1924/2006 is only for business to business use and should not be communicated in any way to consumers. This product is not intended to diagnose, treat, cure or prevent any disease.



THE WORLD'S PUREST MSM



What is OptiMSM®?

OptiMSM is a trademark form of methylsulfonylmethane. Both consumers and formulators highly value this branded ingredient for its consistent purity, quality, and physical characteristics. These are achieved through a precise manufacturing process that allows OptiMSM to meet the most stringent product specifications and customer expectations.

Methylsulfonylmethane often abbreviated as MSM, is composed of 34% elemental sulphur, 26% carbon, 6% hydrogen and 34% oxygen. This molecule occurs naturally in trace amounts in vegetation and animals.

All commercially available MSM is created through a chemical reaction that replicates the earth's natural sulphur cycle. If done correctly, this reaction yields a MSM molecule that is identical to the MSM molecule found in nature. DMSO and hydrogen peroxide are the raw ingredients of the reaction. The byproduct is water.

How Does OptiMSM® work?

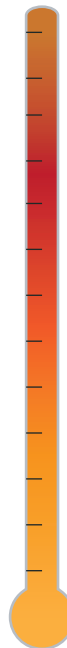
OptiMSM improves health through a few different pathways. First, MSM is a proven bioavailable source of sulphur, which is important for several functions including support of connective tissue, skin health, detoxification, immunity, and metabolism. MSM also addresses inflammation caused by stress, strenuous activity, or toxins found in the daily environment. Lastly, MSM protects the body from oxidative damage by increasing the body's natural antioxidant capacity so that it can neutralize damaging free radicals. The decrease in inflammation and oxidative stress protects joints, helps the body recover from strenuous activity, boosts immunity, and helps users stay mobile, live and age well.

FOR ADDITIONAL INFORMATION ON OPTIMSM®

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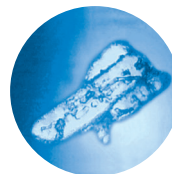
OptiMSM is purified through a proprietary multi-stage distillation process. This process removes impurities by utilizing unique boiling points to completely isolate the MSM molecules. The result delivers extremely high purity every time. Distillation also creates a product with very low moisture content, reducing the risk of microbial contamination and product degradation.

Through DISTILLATION impurities are eliminated from OptiMSM®



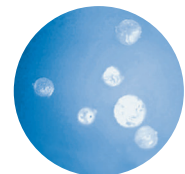
BOILING POINT	
Lead	1740 °C (3164 °F)
Cadmium	765 °C (1409 °F)
Arsenic	613 °C (1135 °F)
Mercury	357 °C (674 °F)
MSM	248 °C (478 °F)
Phenol	182 °C (360 °F)
Heptane	143 °C (290 °F)
Benzene	80 °C (176 °F)

In contrast to OptiMSM, other commercially available MSM uses crystallization to isolate the MSM molecule. As this crystallized material cools, occlusions can develop that trap contaminants within the MSM and lead to material that may contain heavy metals, residual water, and other impurities.



CRYSTALLIZED MSM

Magnified crystallized MSM shows occlusions that may contain water and impurities.



DISTILLED OptiMSM

Magnified U.S. distilled OptiMSM



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