One in three U.S. adults are concerned about their joint health, as evidenced by the growth of the U.S. joint health supplement market (NMI Research). Currently the market for joint health supplements represents $1.6 billion in sales and continues to show growth (NBJ VolXV No. 11/12).

Consumers concerned about their mobility prefer to use nutritional supplements rather than prescription medication to stop the progression of issues they are managing (NMI Research). Methylsulfonylmethane (MSM) is recognized as a leading ingredient in this category—but not all MSM is created equal.

U.S.-made Opti MSM is a premium form of trademarked MSM that is GRAS-designated and supported by U.S. clinical published research. Opti MSM is manufactured in a GMP-compliant, ISO 9001:2008 registered and FSSC22000 certified MSM production facility. Introduced in 1989, it has been a leading ingredient for joint health products and the choice of quality brand manufacturers.

About Bergstrom Nutrition


For information on Bergstrom Nutrition call 1.888.733.5676 or visit bergstromnutrition.com.

These statements have not been evaluated by the Food & Drug Administration. This product is not intended to diagnose, treat, cure or prevent disease.

**Opti MSM**

**The World’s Most Trusted MSM**

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**Opti MSM**

**Physiochemical Specification**

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volatile purity</td>
<td>&gt; 99.8%</td>
</tr>
<tr>
<td>Melt point</td>
<td>109.5°C ± 1.0°C</td>
</tr>
<tr>
<td>Water Content</td>
<td>&lt; 0.1%</td>
</tr>
<tr>
<td>DMSO Content</td>
<td>&lt; 0.05%</td>
</tr>
<tr>
<td>Aerobic Plate Count</td>
<td>&lt; 10 cfu/g</td>
</tr>
<tr>
<td>Yeast/Mold</td>
<td>&lt; 10 cfu/g</td>
</tr>
<tr>
<td>Enterobacteria</td>
<td>Absent</td>
</tr>
<tr>
<td>Escherichia coli</td>
<td>Absent</td>
</tr>
<tr>
<td>Salmonella</td>
<td>Absent</td>
</tr>
<tr>
<td>Staphylococcus aureus</td>
<td>Absent</td>
</tr>
<tr>
<td>Aluminum</td>
<td>&lt; 1.0 ppm</td>
</tr>
<tr>
<td>Arsenic</td>
<td>&lt; 0.01 ppm</td>
</tr>
<tr>
<td>Cadmium</td>
<td>&lt; 0.005 ppm</td>
</tr>
<tr>
<td>Mercury</td>
<td>&lt; 0.001 ppm</td>
</tr>
<tr>
<td>Lead</td>
<td>&lt; 0.01 ppm</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>248°C</td>
</tr>
<tr>
<td>Flash Point</td>
<td>143°C</td>
</tr>
</tbody>
</table>

**Technical Data**

- Boiling Point: 248°C
- Flash Point: 143°C
- Volatile purity: > 99.8%
- Melt point: 109.5°C ± 1.0°C
- Water Content: < 0.1%
- DMSO Content: < 0.05%
- Aerobic Plate Count: < 10 cfu/g
- Yeast/Mold: < 10 cfu/g
- Enterobacteria: Absent
- Escherichia coli: Absent
- Salmonella: Absent
- Staphylococcus aureus: Absent
- Aluminum: < 1.0 ppm
- Arsenic: < 0.01 ppm
- Cadmium: < 0.005 ppm
- Mercury: < 0.001 ppm
- Lead: < 0.01 ppm
- MSM is 34.06% elemental sulfur, 25.52% carbon, 6.42% hydrogen and 34% oxygen.

**About Bergstrom Nutrition**


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A Commitment to Quality
Unmatched, consistent quality is our goal. That’s why OptiMSM is produced in the only single-purpose MSM production facility in North America.

Manufacturing Excellence
- Only MSM to have GRAS-designation, receiving a letter of non-objection from the FDA
- GMP compliant facility
- ISO 9001:2008 Quality Management System
- FSSC22000 Certified for Food Safety

Unmatched Purity
- OptiMSM is distilled for optimal purity, not crystallized
- Proprietary four stage distillation process removes heavy metals and other contaminants
- Single-purpose, closed system plant design eliminates the possibility of cross contamination
- Real-time process control technology monitors every facet of production resulting in consistent product
- Each batch is third-party tested and exceeds USDA MSM monograph standards for dietary supplements

Nutritional Safety
- Kosher and Halal certified
- Non-GMO
- Gluten and allergen free
- Non-shellfish derived
- Vegan

Superior Customer Service
We are a customer-focused organization dedicated to continuous improvement, uncompromising quality and service that is second to none. Our dedication to taking care of our customers means we make sure OptiMSM is delivered on time with no back orders, and then flows correctly through your equipment and is supported at every level of your sales process. We’re here for our customers, from start to finish.

The Healthful Benefits of OptiMSM
OptiMSM is a biomimetic source of MSM, identical to that found in nature, comprised of sulfur and methyl groups displaying a variety of health-promoting benefits.

Joint Health - Several pre-clinical and clinical studies support the efficacy of MSM in supporting joint health and range of motion. Research shows that MSM reduces inflammatory markers that damage cartilage as we age, protecting its integrity.


Seasonal Immune Health - MSM may support a healthy immune response to allergens, based on an open-label clinical study and animal studies.


Liver Support - MSM may support liver health and metabolism, based upon an animal study showing elevated liver glutathione after MSM supplementation. Glutathione is a sulfur-rich antioxidant involved in detoxification.


Dosage Ranges
OptiMSM is extremely safe. Extensive toxicology data shows that it can be taken in high doses for a long period of time. Supplementation recommendations are between 1-3 grams taken twice daily.

A Pharmacokinetic Dose-Respone Evaluation of MSM in Healthy Male Volunteers. G. Ainge; W. Schuette; A. Fichten; V. Ho, R. Yarains; G. Davis; A. Alkem, T. Finkve, A. Acosta; P. Freid, J. Rosenthal, 2002; Mari Research Associates

Research
Bergstrom Nutrition invests in research to advance our understanding of MSM, prove safety and efficacy, and aid regulatory registration. Abstract summaries of our research are shared through our website, www.bergstromnutrition.com and our sponsored educational website, www.msmguide.com.

Purity like no other MSM
Bergstrom Nutrition’s focus on purity sets OptiMSM apart. Bergstrom Nutrition pioneered the distillation process of MSM to ensure the highest levels of purity and safety. Today, the distillation we use for purification is still recognized by chemical engineers and other experts as the most superior method on the market.

While MSM is created in nature through the earth’s sulfur cycle and found in small quantities in vegetation, animals and the human body, all commercial MSM must be manufactured because the amount found in nature is too small to be extracted.

Distillation Method
Bergstrom Nutrition’s proprietary four-stage distillation process uses heat to separate impurities and by-products of manufacturing based on their unique boiling points. MSM’s boiling point of 478° F (248° C) allows pure MSM to be isolated from solution. In addition to being a very pure product, distilled OptiMSM has a low moisture content, which reduces the risk of microbial contamination and product degradation.

Crystallization Method
Unlike Bergstrom’s distillation method, MSM purified by crystallization can develop occlusions in the crystals as they form that entrap contaminants present in the solution, resulting in decreased purity.

Rigorous Analytical Testing Verifies Consistent Identity and Purity
Bergstrom Nutrition mandates tight specifications for OptiMSM and analytical methods that are more stringent than other MSM on the market resulting in increased purity and safety:

- DMSO, central to the manufacturing of MSM is a powerful solvent and a pharmaceutical agent which has been shown to cause degradation of capsules, active ingredients and organoleptic properties. OptiMSM reports the lowest levels of DMSO at <0.05%.
- OptiMSM is third-party tested to ensure its heavy metal content is at least 100 times less than guaranteed by USP standard. This supports Proposition 65 compliance in products containing OptiMSM.
- Microbial standards for OptiMSM are set to USP pharmaceutical standards which are more rigorous than those for dietary supplements and support the Global Food Safety Initiative.

Freedom from volatile environmental toxins
Purity by HRGC > 99.9% - A highly specific quantitative method for determining the volatile purity of MSM and provides the best assurance of freedom from DMSO and other volatile environmental toxins.

Freedom from non-volatile impurities
Melting Point 109.5°C ± 1.0°C - Extremely pure compounds have a distinct melt point. OptiMSM’s definitive melting point assures freedom from non-volatile impurities.

Low microbial growth risk
Water Content < 0.1% - Water content by Karl Fischer Titrination is preferred for MSM. Other methods such as less on drying and using a moisture balance can give erroneous results, as some of the MSM may be driven off by the heat, giving higher results than actual. Increased water content is associated with the potential for microbial growth and can impact the shelf life of finished products.

Pharmaceutical: water content