FREQUENTLY ASKED QUESTIONS

Q: WHAT MAKES OPTIMSM® DIFFERENT FROM OTHER MSM AVAILABLE? IS IT MADE IN THE USA?

OptiMSM® is the purest and only GRAS-designated MSM (methylsulfonylmethane). Bergstrom Nutrition uses a proprietary multi-stage distillation process, and every batch is third-party tested, ensuring optimal purity, quality, and consistency. 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.

OptiMSM® is made exclusively in the USA and manufactured in a single purpose cGMP-certified, ISO-registered facility to help provide essential transparency and traceability.

Kosher and Halal certified, non-GMO, gluten-free, allergen-free, non-shellfish-derived, and vegan, our OptiMSM® backed by extensive toxicology data.

Q: IS OPTIMSM® NATURAL? IS THERE A NATURAL SOURCE OF MSM?

MSM is a naturally occurring substance found in the human body and many foods. The highest concentration of MSM in nature is in mammal milk, but these sources contain MSM in parts per million. Therefore, you cannot extract, isolate or grow the compound.

Commercially available MSM does not come from wood, plants or fossil fuels. You can't squeeze MSM from a tree, extract it from plants or remove it from petroleum or other fossil fuels. A chemical reaction is required to make MSM.

All commercially available MSM is synthetic and created through a chemical reaction of DMSO and hydrogen peroxide. Since all commercial MSM produced comes from DMSO, and all commercial DMSO is produced synthetically, the origin of the DMSO is insignificant.

DMSO is produced using several starting materials: methanol and hydrogen sulfide, or methanol and carbon disulfide. Whichever starting materials used, chemical reactions are required to produce DMSO.

There is a misconception that one supply of MSM is more natural than another. All MSM produced for commercial use utilizes the same raw materials—but there is a difference, and that boils down to the purification process, testing levels, specifications and quality of the manufacturing.

Bergstrom Nutrition's focus on purity sets OptiMSM® apart. Bergstrom Nutrition pioneered the distillation process of MSM ensuring the highest levels of purity and safety. Chemical engineers and other experts recognize the multi-stage distillation process used to purify OptiMSM® as the superior method on the market. The end product is biomimetic, which means the same as that found in nature.

Every batch of OptiMSM® is third-party tested, ensuring optimal purity, quality, and consistency. In contrast to OptiMSM®, other commercially available MSM uses crystallization to isolate the MSM molecule.

Q: WHAT ARE THE DIFFERENCES IN MSM PURIFICATION?

Commercial MSM is produced from a chemical reaction between dimethyl sulfoxide (DMSO) and hydrogen peroxide (H_2O_2). In the reaction, the hydrogen peroxide provides an available atom of oxygen to the DMSO, forming MSM, which is also called $DMSO_2$, and water ($DMSO + H_2O_2 = DMSO_2 + H_2O$).

After the reaction is complete, the MSM must be separated from the water and other reaction by-products. Separation is commonly done utilizing one of two differing processes; either crystallization or distillation. Chemical engineers recognize distillation as the superior separation method for MSM purification and if properly performed will consistently yield a product of 99.9% purity.[1]

Crystallization separates the MSM from the water (parent solvent) by decreasing the solubility of the MSM by cooling the solution. During crystal formation, occlusions (small pockets or imperfections) form within the crystal that can entrap impurities present within the reaction mixture.[2,3,4] These impurities can come from additional water added during the reaction phase, side reactions, the reactants themselves, or the catalyst which usually contains a strong mineral acid. It is pertinent to remember that one of the primary reactants is DMSO (dimethylsulfoxide). DMSO is a very strong industrial solvent, one of the few that can dissolve most epoxies. A technical bulletin from a major DMSO manufacturer states "DMSO, one of the strongest organic solvents, has been used commercially for over forty years. It is an effective solvent for a wide array of organic materials, including many polymers. DMSO also dissolves many inorganic salts, particularly transition metal nitrates, cyanides, and dichromates."[5]

Distillation uses boiling point differentials to separate the MSM from the water and other impurities. Distillation is usually performed using either multiple distillation columns or multiple distillation steps within a single column. Ultimately the purified MSM is vaporized and distilled overhead resulting in an extremely pure final product. Distillation is energy intensive and a more expensive separation technique, but it ensures a product that is virtually contamination-free regardless of the level of impurities in the reaction mixture.[1] U.S. based Bergstrom Nutritiion® producers of OptiMSM® are the only MSM producers using distillation for purification.

These two separation processes will both yield MSM that is equally bio-available. Many people take relatively high dosages, some reportedly as high as 6-15 grams per day. The highest level of purity is essential to ensure the end user can achieve desired therapeutic results without having to worry about potential health issues from trace impurities.

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*These statements have not been evaluated by the Food and Drug Administration.

FREQUENTLY ASKED QUESTIONS

Q: WHY IS MSM REFERRED TO AND SOMETIMES MARKETED AS ORGANIC SULFUR?

MSM is sometimes referred to as "Organic Sulfur" because it is a carbon-containing molecule. Carbon-containing molecules are organic substances by definition.

However, this is not to be confused with food items, botanical or herbal supplements marketed as Certified Organic (a very rigorous process), Organic, 100% Organic, or Made with Organic Ingredients. In these cases, Organic is a labeling term that indicates a food or agricultural product is produced through approved methods. MSM is not and cannot be produced in a manner to be certified as Organic.

Q: WHAT DO YOU MEAN BY BIOMIMETIC?

Biomimetic refers to human-made processes, substances, devices or systems that imitate nature. Or another way to say it is that the term refers to a compound that mimics a biological material in structure or function.

Q: HOW DOES OPTIMSM WORK?

OptiMSM improves health through a few different pathways. First, MSM is a proven bioavailable source of sulfur. Sulfur 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.

Q: WHAT ARE OXIDATIVE STRESS AND INFLAMMATION? AND HOW ARE THEY RELATED?

Oxidative stress is an imbalance caused when oxidative damage becomes too great for the body to remove or repair effectively. Oxidative damage occurs when free radicals, usually reactive oxygen or nitrogen species (RONS), come into contact with parts of the cell like proteins, lipids, or DNA. The damaged cell parts are then unable to function normally. Oxidative stress can be caused by excessive exercise, poor diet, toxins, UV light, and many other factors. It is a normal process used for cell signaling, normal cell death, and for killing infectious pathogens. However, when levels become too high, it causes lasting damage to cells and tissues. The body has innate processes for neutralizing oxidation, but it can still be problematic if too much is created or the body isn't properly supported to address oxidative levels effectively. Inflammation is a response to some provocation that causes increased blood flow, increased capillary permeability, and most importantly white blood cells (or leukocytes) response. Characteristics of inflammation are redness, heat, swelling, and pain. Inflammation is how the body responds to infections, foreign substances, or tissue damage. It is a natural process that helps protect the body. However, when inflammation becomes too extreme in one area it can cause localized damage, or when subtle, chronic inflammation is not addressed it can create harmful pathologies.

Inflammation and oxidative stress are closely related and are in many ways two sides of the same coin. They are inextricably linked because each can be induced by the other. Inflammatory cells release a number of RONS at the site of inflammation, as a way of killing pathogens or signaling for further inflammation. Conversely, RONS induce intracellular signaling cascades that induce inflammatory responses. The complicated feedback loop between oxidation and inflammation needs balance to be effective without creating harm.

Q: HOW LONG DO I NEED TO TAKE IT BEFORE IT STARTS WORKING?

Human studies have shown that MSM enters the blood very quickly and will start working within 30-45 minutes. Most people will begin to notice the effects of MSM within two weeks of supplementation, but individual results may vary and are dependent on dosage and formulation.

Q: HOW MUCH OPTIMSM® DO YOU RECOMMEND TO TAKE?

For maintenance of skin, hair, and nails, joint support or exercise recovery, 1-3 grams daily. For reparative or acute needs, 3-6 grams daily.

Q: WHAT IS THE DIFFERENCE BETWEEN MSM AND GLUCOSAMINE? CHONDROITIN? WHY ARE THESE INGREDIENTS COMBINED?

Glucosamine and Chondroitin are much larger, more complex molecules. MSM is a small, simple molecule that is essentially carbon-based organic sulfur.

Glucosamine and Chondroitin are components, or building blocks, of normal cartilage. Glucosamine is a substance found naturally in the fluid that surrounds your joints; Chondroitin is found in the cartilage around your joints. Both substances play a role in keeping your joints cushioned and lubricated. MSM is a sulfur compound and may offer anti-inflammatory benefits.

The synergistic action of MSM with Glucosamine and Chondroitin has been demonstrated in human clinical trials. MSM may help mitigate inflammation and enhance cell permeability allowing the body to make better use of these two important joint supporting compounds.

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FREQUENTLY ASKED QUESTIONS

Q: WHAT DOES PARTICLE SIZE HAVE TO DO WITH FLOWABILITY?

For MSM the smaller the particle, the greater the tendency to clump and therefore, negatively impact flowability.

Q: DOES OPTIMSM® CONTAIN SILICON DIOXIDE?

Not all OptiMSM® contains silicon dioxide. Our OptiMSM® Flake does not contain any silicon dioxide. When sold to our commercial customers as a raw ingredient, some SKUs include small amounts of silicon dioxide as an inactive ingredient to help prevent clumping. Also, some of our customers may add silicon dioxide and other excipients to their finished consumer products.

Silicon dioxide is "generally recognized as safe" or GRAS by the U.S. Food and Drug Administration. The European Food Safety Authority has also found silicon dioxide to be safe for food supplement purposes.

There have been some misconceptions about silicon dioxide suggesting it blocks the absorption of nutrients. Silicon dioxide is not absorbed in the intestinal tract. When consumed, silicon dioxide is non-toxic and effective in maintaining supplement quality.

A preliminary study found that OptiMSM® containing 0.5% silicon dioxide had a bioavailability of 100 percent. This demonstrated absorption was not inhibited by including silicon dioxide.

Q: DOES OPTIMSM® DISSOLVE IN LIQUID?

Dependent on the liquid and the amount of OptiMSM® you are trying to dissolve, MSM will dissolve in water to a concentration of about 15-17% by weight at room temperature.

Q: IS IT SAFE TO TAKE MSM IF YOU HAVE AN ALLERGY TO SULFA DRUGS?

Yes. There have been no verifiable cases of an allergic reaction to MSM including through pathways similar to sulfa drugs. Although both contain sulfur, that is where their similarities end. Sulfa drugs contain a chemical group called sulfonamide, which generally are the cause of allergic reactions as they metabolize, and specific side chains are released. The allergy-causing compounds bear no resemblance structurally or functionally to MSM.

Q: IS IT SAFE TO TAKE MSM IF YOU ARE CURRENTLY TAKING PRESCRIBED DRUGS?

Whenever you receive a prescription medication, always consult your physician about any supplements you are taking. There are no known interactions between MSM and drugs (including sulfa drugs), each work through different mechanisms within the body.

Q: THE PRICE OF OPTIMSM® IS HIGHER THAN MSM MANUFACTURED IN CHINA. WHY?

OptiMSM® is manufactured and packaged in the USA where property, utilities, labor and regulatory costs are significantly higher compared to overseas. Bergstrom Nutrition purifies OptiMSM® using a proprietary multi-stage distillation process which demands more energy plus we send every batch to a third-party for testing. Bergstrom Nutrition® is also the only MSM producer who invests in research and safety studies to support the overall MSM market

Q: WHAT IS INFORMED-CHOICE?

Informed-Choice is a global quality assurance program for sports nutrition products, suppliers to the sports nutrition industry, and supplement manufacturing facilities. The program certifies that every batch of a supplement product and/or raw material that bears the Informed-Choice logo has been tested for banned substances by LGC's world-class sports anti-doping laboratory.

The Informed-Choice designation is another testament to Bergstrom Nutrition's continued commitment to the quality, consistency, and safety of OptiMSM®.

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