

MSM (Natural Sulfur) **(Methylsulfonylmethane)** *with Vitamin C*

MSM, a naturally occurring, simple sulfur compound, has gained well-deserved recognition in recent years as being extremely important in all of the body's healthy functioning. Taken as a nutritional supplement, it comes with high recommendation as a natural remedy for pain, but that is only one aspect of its many health-giving benefits. You will find many products now containing MSM, both for internal and external use.

Sulfur is a mineral found in rather high concentrations in our body tissues. About half of the body's total sulfur content is concentrated in the muscles, while the other half is found in the brain, bones, hair, skin, and nails. Sulfur comprises 0.25 percent of our body weight. Sulfur has a vital relationship with protein, since sulfur is found in the amino acids methionine, cystine, and cysteine. These sulfur-bearing amino acids are considered the essential building blocks of protein. The amino acid methionine is absolutely essential to health. This means it must be supplied by live food, or the food supplement MSM. Lack of proper protein in our diet implies a lack of vital organic sulphur necessary to good health. Proteins contain sulfur, while carbohydrates and fats do not.

MSM is short for methylsulfonylmethane, an important and beneficial derivative of DMSO. Technically, MSM is more accurately designated as DMSO₂ (dimethyl sulfone). DMSO has been well-known for years in the treatment of various ailments and diseases. It was determined that it was the MSM part of DMSO that produces the health benefits and alleviation from pain suffering. Furthermore, MSM provides its benefits without the nuisance side effects found with DMSO.

It is estimated that the human body uses up 1/2 teaspoon of MSM each day. That amount of MSM needs to be replaced every day! MSM is a natural form of organic sulfur found in all living organisms, and is present in low concentrations in our body fluids and tissues. It is found in a variety of fresh foods, including fruits, vegetables, meat, fish, and milk. However, unless your diet is composed primarily of raw foods, it is unlikely that you are receiving enough MSM, for when we process our foods with heat or drying, we lose most of the MSM that is vital to our well-being.

Sulfur from MSM goes into making the sulfur-containing amino acids that then go into building proteins. MSM also helps provide the flexible bond between proteins. When a cell dies, a new cell takes its place. But, without the needed amount of MSM, the new cell becomes rigid. When tissues lose their flexibility, problems can develop, commonly resulting in aches and pains. MSM brings elasticity back into tissues and joints, thereby alleviating our aches and pains. MSM is important, for example, in the synovial fluid that lubricates our joints, therefore in keeping them healthy and improving articular mobility. MSM also plays an important role in tissue breathing, the process whereby oxygen and other substances are used to build cells and release energy. Specifically, the biochemical role of MSM as a sulfur donor is part of the Krebs cycle of the energy-yielding processes in cellular mitochondria.

MSM has many other roles. It is necessary for collagen synthesis. Collagen is an insoluble fibrous protein found in vertebrates as the dominant component of connective tissue, cartilage, and bones. MSM therefore helps build and strengthen all connective and structural tissues. MSM also helps our bodies maximally utilize the vitamins that we eat. It operates as a synthesizer and activator with the B vitamin thiamine, vitamin C, biotin, and pantothenic acid,

which are needed for metabolism and healthy nerves. MSM helps to maintain overall body balance between acidity and alkalinity, and works importantly with the liver to secrete bile. MSM detoxifies the body by taking foreign proteins out of the bloodstream, and also helps to increase blood circulation. Another most important health role of MSM is in carbohydrate metabolism, which is crucial for hypoglycemics and diabetics. Sulfur is a significant component of insulin, the protein hormone secreted by the pancreas that is essential to the metabolism of carbohydrates.

It is with pain relief where MSM has especially gained its reputation. Aspirin shuts off the nerves recording pain, but damaged tissues go unrepaired. MSM relieves pain, not by masking it or shutting it out, but by actually helping damaged tissues to heal. MSM is an anti-inflammatory, allowing water to flow freely through cell walls, while taking toxins out and letting nutrients in. MSM is therefore good for relieving joint swelling. It has been used for repetitive stress injuries, such as carpal tunnel syndrome, tendinitis, and bursitis. It also permits muscles to heal, and prevents them from becoming sore after exertion. If you play sports and normally get sore muscles the next day, take MSM before playing and you should notice a difference. If taken after play, soreness should go away faster. It helps alleviate muscle spasms. Many do feel a greater sense of well-being after taking MSM because of its effectiveness on alleviating all of the body's minor aches and pains. A whole range of ailments have been treated successfully with MSM, including osteoarthritis, rheumatoid arthritis, scleroderma, lupus, interstitial cystitis, fibromyalgia, myasthenia gravis, and various respiratory conditions and allergies. Those with lung ailments can actually experience better lung functioning.

MSM is a free radical scavenger and detoxifier, so allergies to foods and pollens should clear up. MSM also prevents overreaction to medicines, so it does not work against any other medications. MSM controls acidity in the stomach, so it can help in controlling ulcers. MSM is also an anti-parasitical, as it coats the intestinal tract so that parasites lose the ability to hang on. They can then be flushed away. Colon problems are thus prevented. It is also good against yeast infections. It has also been found helpful to those with chronic constipation, so it finds good use in nursing homes.

MSM has one side effect. Fingernails and hair will grow faster and become stronger. This is because MSM goes into making the keratin protein of our hair and nails. Many topical lotions and skin care products now contain MSM because of its ability to soften and hydrate the skin. Besides helping to keep skin healthy and supple, the healing properties of MSM also help to lessen the pain of burns and to clear up scar tissue. It helps reduce UV damage in sunburn. Skin, hair, and nails are all kept healthy with MSM, as sulfur has been referred to as nature's "beauty mineral."

It is recommended that vitamin C be taken with MSM as they work hand-in-hand with collagen synthesis and are needed conjointly for the healthy maintenance of all the body's cell membranes.

MSM is no more toxic than water. It can never hurt anyone. If you take more than you need, the extra MSM becomes inert and just passes through your system.

Special thanks to Stanley Jacob and Jeremy Appleton, authors of *MSM The Definitive Guide*, for much of the information in this profile.

In 120 Vegicap bottle • 800 mg caps, containing 100 mg Vitamin C.