

# MSM 1000 mg Caplets



## Product Summary:

A natural alternative for relief from osteoarthritis pain. MSM (Methyl-sulfonyl-methane) provides sulfur, a vital building block of joints, cartilage, skin, hair, nails and methyl groups, which support many vital biochemical processes in the body including energy. MSM has anti-inflammatory activity, useful in pain relief from osteoarthritis.

## Properties/Uses:

The claim as approved by the *Natural Health Products Directorate* (NHPD): Helps relieve pain from inflamed and osteoarthritic joints. Helps support joint health.



MUSCULAR  
& SKELETAL





## Pharmacology:

Osteoarthritis, a degenerative joint disease, is the most common form of arthritis. It is characterized by the breakdown of the joint's cartilage, a smooth substance between the bones. Due to the cartilage breakdown, the joint lining becomes inflamed. This inflammation causes stiffness, pain and loss of functionality.

MSM (Methyl-sulfonyl-methane) is a natural and safe nutritional supplement that is achieving skyrocketing notoriety because of the many types of pain and inflammatory conditions it is able to address successfully. It is found in most plant foods and in meats, as well as in the body. MSM is the major source of sulfur in the body. It is the sulfur source for the amino acids cysteine and methionine. Sulfur is an especially important element for joint tissue, where it functions in stabilizing the connective tissue matrix of cartilage, tendons and ligaments.

MSM delivers chronic pain relief thanks to its anti-inflammatory action and its ability to block the perception of pain. Its performance is comparable to the standard array of analgesia; however, MSM does not work as fast as traditional drug analgesia, and is decidedly not for the quick fix. For many chronic sufferers who seek deliverance from drug toxicity, the mere one to three week waiting period is insignificant.

In the 1930s, it was demonstrated that individuals with arthritis were deficient in sulfur. Additionally, it was noted that restoring sulfur levels was beneficial. Since then, it has been suggested that MSM may have anti-inflammatory activity and free radical scavenging activity.<sup>1</sup>

From its earliest inception, MSM has repeatedly provided significant reduction or elimination of suffering due to unrelenting pain and/or inflammatory conditions. It has become associated with restored ability to function normally again, for many who were unable to work or maintain their home without excruciating pain. A recent study of men and women with osteoarthritis of the knee showed that MSM is effective at decreasing pain and physical function impairment.<sup>2</sup> Clinical experience involving thousands of cases has demonstrated that MSM provides relief in about 70 percent of patients with pain.<sup>3</sup> Given that osteoarthritis affects 1 in 10 Canadians, this suggests a huge role for MSM if it were to be recommended by physicians as an addition to their regular treatment of pain.<sup>4</sup> MSM certainly fits the growing demand of patients seeking alternative remedies that do not cause adverse side effects.

MSM is able to block pain impulses without toxic harm to the body associated with traditional and narcotic analgesic drugs. MSM's is thought to block the non-myelinated nerve fibers, referred to as the C-fibers. It is along the C-fiber network of nerves that deep aching pain is conducted. MSM has proved itself in significant pain control in approximately 70 percent of cases, with minor to no benefit in the balance of cases. There is also some indication that the pain controlling benefit partly stems from blocking the perception of pain in the brain, but without affecting cognitive or driving ability as seen with heavy narcotic use. Pain is also thought to be reduced in part by the anti-inflammatory action of MSM. It also blocks muscle spasms that can be a significant factor in neck and scalp related headaches, or the pain of neck whiplash or lower back spinal pain.





MSM is recognized as a safe and virtually side-effect-free remedy for addressing painful and inflamed conditions, including osteoarthritis, rheumatoid arthritis, juvenile rheumatoid arthritis, chronic back pain, chronic headache (less likely to help migraine suffering *per se*), muscle pain, fibromyalgia, tendinitis, bursitis, carpal tunnel syndrome, TMJ, post-traumatic pain and inflammation, lupus, scleroderma, and interstitial cystitis.

MSM is also being studied for allergic rhinitis. Researchers suspect that MSM might have anti-inflammatory activities.<sup>5</sup>





## Manufactured product information:

**Manufacturer:**

WN Pharmaceuticals® Ltd.

**Size/UPC:**

160's ..... 7 77747 10343 0

**NPN:**

80001844

**Expiry Date:**

36 months from date of manufacture

**Active Ingredient:**

Each caplet contains:

MSM (Methylsulfonmethane) ..... 1000 mg

**Non-Medicinal Ingredients (in descending order):**

Microcrystalline cellulose, silica, magnesium stearate.

**Appearance:**

White to off white caplet.

**Packaging:**

300 cc white round bottle with safety seal under a 45 mm white induction sealed cap with vented interior seal and a label applied to the bottle. Lot number and expiry date are printed on the label applied to the exterior of the bottle.

**Storage:**

Store in a cool, dry place.





## Dose:

According to the NHPD, the daily-recommended adult dose for MSM is 1500-6000 mg. Use for a minimum of four weeks to see beneficial effects.<sup>6</sup>

## Directions:

**(Adults):** 1 tablet 2–3 times daily with meals or as directed by a physician. Avoid taking at bed time. Use for a minimum of 4 weeks to see beneficial effects.

## Caution:

The caution as approved by the *Natural Health Products Directorate* (NHPD): KEEP OUT OF THE REACH OF CHILDREN. Consult a physician prior to use if you are pregnant or breastfeeding. Consult a physician if symptoms worsen. Some people may experience mild gastrointestinal bloating, constipation or indigestion. STORE AT ROOM TEMPERATURE IN A DARK, DRY PLACE. DO NOT USE IF SEAL UNDER CAP IS BROKEN OR MISSING.

## Deficiency Symptoms:

N/A

## Drug Interactions/Contraindications:

MSM use is contraindicated with pharmaceutical blood thinners or those using high or frequent doses of ASA or NSAID's unless prescribed by a physician.

It is known that MSM will give false positive test results for elevated liver enzymes in liver function tests. Discontinuation of MSM should precede all liver testing by at least one week, with resumption following tests. Otherwise, MSM has been found to present no interference in blood chemistry tests.

MSM has the potential for reducing platelet aggregation.

Because MSM has the potential to raise one's energy level, it is not recommended at bedtime.

DMSO has been found to counteract platelet aggregation. MSM as a derivative has not been so studied but there is indication that it also will present a blood thinning effect. Those using coumadin or other blood thinning medication, including other natural blood thinning products like high doses of garlic, salmon oil, grape seed extract, and high doses of vitamin E, may be at risk of bleeding problems if using high doses of MSM.



## Toxicity/Adverse Reactions:

MSM has had a successful history of helping people without significant adverse effects. However, it is not yet fully known what might be the long-term effects in people using very large doses.

MSM is described as having an LD50 that is one-seventh of that associated with common table salt as demonstrated in laboratory animals. The overwhelming majority of people who have taken MSM have experienced no adverse effects. It has been taken in doses greater than two grams for years without adverse effects.

Taking too large a dose at one time can cause GI irritation with diarrhea and cramping, as well as minor headaches.<sup>6</sup> This is resolved usually by dividing the daily dose or reducing the daily dose.

Skin rashes have been reported with DMSO and therefore may be seen with MSM since it is a derivative of DMSO.





## Allergen Content/Ingredient Sensitivity:

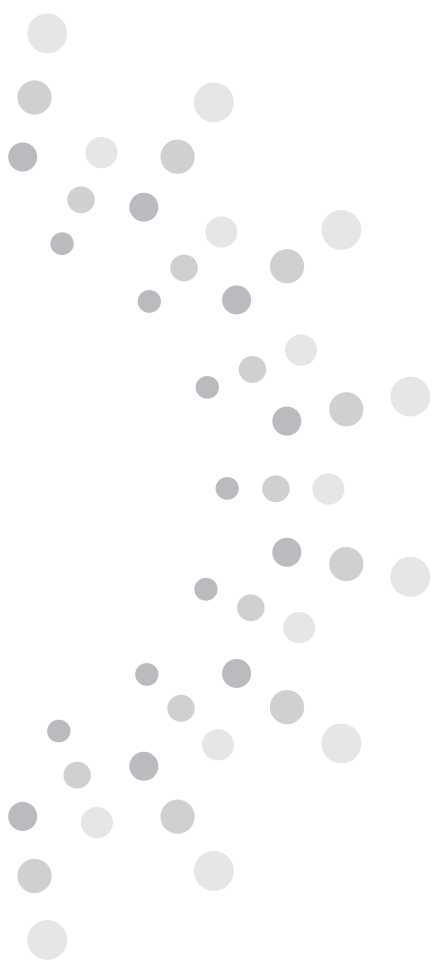
NO	YES
Artificial Color	
Artificial Flavor	
Artificial Sweeteners	
Corn Products	
Egg Products	
Fish	
Gluten	
Hydrolyzed Plant Protein	
Lecithin	
Milk Products	
Peanuts	
Preservatives	
Sesame Products	
Shellfish	
Soy Products	
Starch/Modified Starch	
Sulphites	
Tartrazine	
Tree Nuts	
Wheat Products	
Yeast	

**ACCEPTABLE FOR THE FOLLOWING DIETARY RESTRICTION:**

Free of animal products

**NOT ACCEPTABLE FOR THE FOLLOWING DIETARY RESTRICTION:**

Kosher





### References:

1. Murray, M. The Pill Book Guide to Natural Medicines, Bantam Books, Toronto, ON, 2002.
2. Kim LS, Axelrod LJ, Howard P, Buratovich N, Waters RF. Efficacy of methylsulfonylmethane (MSM) in osteoarthritis pain of the knee: a pilot clinical trial. *Osteoarthritis Cartilage* 2006;14:286-294.
3. Pizzorno, JE Jr. and MT Murray, eds. *Textbook of Natural Medicine*. 2<sup>nd</sup> ed. 1999. Harcourt Publishers.
4. The Arthritis Society [[www.arthritis.ca](http://www.arthritis.ca)]
5. Health Canada, MSM Monograph, Accessed March 2012 [Available from: <http://www.hc-sc.gc.ca>]
6. Natural Medicine Comprehensive Database (NMCD), MSM Monograph, Accessed March 2012 [Available from: <http://www.naturaldatabase.com/>]

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