

PERFORMANCE ENHANCERS FACTS AND BOTTOM LINE

USE OF DMSO

What is it?

DMSO or dimethyl sulfoxide is a colorless slightly oily fluid that is derived from trees as a by-product of the production of paper. Its crystalline derivative, MSM (methyl sulfonyl methane) shares almost the same properties, as DMSO except it does not produce the garlic-like breath and body odor so commonly seen with DMSO use. MSM is also known as dimethyl sulfone, crystalline DMSO, DMSO₂ or Vibrant Life.

WHAT IS DMSO USED FOR?

DMSO is primarily used as an industrial solvent for things such as paint thinners. It is definitely not an essential nutrient and is not required for the functioning of a healthy body. Health Canada has approved the use of DMSO only for the symptomatic relief of chronic genitourinary problems such as cystitis, interstitial cystitis, radiation cystitis, trigonitis and prostatitis. DMSO is also approved for use as a preservative for bone marrow and stem cells that are being held for future transplantation. Despite a lack of supporting scientific evidence, the list of unapproved uses for DMSO has grown to include such things as: osteoarthritis, tendonitis, bursitis, synovitis, mental illnesses, Down's Syndrome, emphysema, cancer, scleroderma, Raynaud's phenomenon, rheumatoid arthritis, Alzheimer's disease, peripheral neuropathies, spinal cord injuries, brain trauma, strains, sprains, bruises, burns, wounds, etc. In highly active populations such as athletes and military personnel, DMSO is especially popular as a treatment for musculoskeletal injuries. While DMSO may help to reduce the pain associated with some musculoskeletal injuries, it has not been shown to be of any anti-inflammatory benefit. Unfortunately rather than resting or seeking medical treatment for these injuries, people using DMSO are often able to mask their discomfort and so continue training causing even greater damage to their bodies.

WHAT EVIDENCE IS THERE THAT DMSO WORKS?

There is very little scientifically valid research to show that DMSO is helpful for any medical condition including its approved medical uses. The United States Food and Drug Administration conducted testing on DMSO in the early 1960's and stopped after discovering that the use of this product was causing serious eye problems in their test animals. Since then well-controlled clinical trials have not been conducted on this product to determine if there are potential side effects from its long term use or if there are potentially harmful drug interactions. A double blind placebo controlled study conducted in Germany and published in 1995, did show that 25% DMSO gel applied topically to arthritic joints did reduce pain during both rest and activity. However, it should be carefully noted that these results could not be reproduced in the United States.

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HOW IS IT SUPPOSED TO WORK?

It is important to note that DMSO won't cure any medical condition. At the very best DMSO may help reduce the symptoms produced by a medical condition. In inflammatory conditions such as arthritis, DMSO is thought to work as a counter irritant that temporarily reduces the patient's perception of pain. Its exact mechanism of action remains poorly understood.

WHAT SIDE EFFECTS HAVE BEEN REPORTED WITH DMSO USE?

DMSO use has been associated with the following potential side effects: skin rash, erythema, itchiness, scaly skin, skin thickening, hives, blistering, skin pain, nausea, diarrhea, headache, garlic-like taste in mouth, garlic-like breath, garlic-like body odor, transient hemolysis, dizziness, sedation, kidney injury, light sensitivity, color vision disturbance, corneal opacities in animals and birth defects in animals. This list does not include the potentially life threatening side effects that could occur from using industrial grade DMSO that is contaminated with toxic substances such as pesticides. Since DMSO has not been subjected to long-term clinical evaluation, we are uncertain what the potential consequences are from its long-term use.

HOW CAN DMSO BE TAKEN?

DMSO can be taken orally, topically, intravenously, intramuscularly and intervesically (injected into the bladder).

WHAT ARE THE MAJOR CONCERNS WITH DMSO USE?]

There are a number of significant concerns with regard to DMSO use:

1. DMSO has not undergone the rigorous clinical testing that is required to establish if and how it may be safely used; if there are any health consequences from its prolonged use and how it interacts with other medications. We also do not know how it may affect children, the elderly, people with specific medical problems and woman who are pregnant or breast feeding. Without this basic research, it is uncertain if DMSO's potential benefits out weight the potential harm it may cause.
2. DMSO is an excellent solvent and as such is very rapidly absorbed across the skin. As a solvent it is also able to dissolve a wide spectrum of compounds and carry them across the skin and deposit them into the body. This would include such things as the insect repellent you apply to your skin. This can have potentially serious consequences if the dissolved compounds happened to be highly toxic substances such a pesticides.
3. DMSO is made in three different grades – industrial, veterinary and medical. Medical grade DMSO is the highest quality and should be free of all contaminants. Industrial grade DMSO is not intended for human use and may contain many contaminants – some of which could cause serious side effects in

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people. The companies that produce industrial grade DMSO often use the same equipment to produce toxic substances such as pesticides and so contamination is inevitable. Unfortunately, much of the DMSO sold on the black market is industrial grade and could cause serious short and long-term problems in its users.

4. Manufacturers can use the solvent properties of DMSO to carry other medications across your skin. Some of these substances include such things as anti-inflammatories and corticosteroids. Some manufacturers may not list these substances on the DMSO container hoping that the therapeutic effect they create will be attributed exclusively to the DMSO and so boost product sales. People who are allergic to these “Hidden” substances could experience serious reactions.

THE BOTTOM LINE!

DMSO is a product that has not undergone the rigorous scientific testing required to ensure that it actually works for certain medical conditions and that it is safe for short and long-term use by patients. In Canada, DMSO is currently only approved for a few very select chronic genitourinary conditions and is only available through prescription. Individuals who obtain DMSO from sources other than their pharmacy cannot be certain of the quality of the product they are using and it may contain additional medications or contaminants that could cause serious side effects. Despite the above, many Canadians continue to place themselves at potential risk by using DMSO for a wide variety of medical conditions, even though there is little or no scientific evidence that DMSO is effective in treating these conditions.

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