

NATURAL HEALTH PRODUCT

MSM

This monograph is intended to serve as a guide to industry for the preparation of Product Licence Applications (PLAs) and labels for natural health product market authorization. It is not intended to be a comprehensive review of the medicinal ingredient.

Notes

- ▶ Text in parentheses is additional optional information which can be included on the PLA and product label at the applicant's discretion.
- ▶ The solidus (/) indicates that the terms and/or statements are synonymous. Either term or statement may be selected by the applicant.

Date

December 30, 2022

Proper name(s), Common name(s), Source information

Table 1. Proper Name(s), Common name(s), Source information

Proper name(s)	Common name(s)	Source information	
		Source ingredient(s)	Preparation(s)
▶ Dimethyl sulfone	▶ Methylsulfonylmethane	Dimethyl sulfone	Synthetic
▶ Methylsulfonylmethane	▶ MSM		
▶ Sulfonylbis methane			

References: Proper names: ChemIDplus 2018, O'Neil et al. 2006; Common names: ChemIDplus 2018, O'Neil et al. 2006; Source information: Zajac et al. 2003, Gennaro 2000.

Route of administration

Oral

Dosage form(s)

This monograph excludes foods or food-like dosage forms as indicated in the Compendium of Monographs Guidance Document.

Acceptable dosage forms for oral use are indicated in the dosage form drop-down list of the web-based Product Licence Application form for Compendial applications



Use(s) or Purpose(s)

Helps to relieve (joint) pain associated with osteoarthritis (of the knee) (Kim et al. 2005; Usha and Naidu 2004).

Dose(s)

Subpopulation(s)

Adults 18 years and older

Quantity(ies)

1,500 – 6,000 milligrams of MSM, per day; Not to exceed 2,000 milligrams per single dose (Kim et al. 2005; Usha and Naidu 2004)

Direction(s) for use

Products providing 1,500 mg or more of MSM, per day

- ▶ Take with food (Kim et al. 2005).
- ▶ Avoid taking at bedtime (Kim et al. 2005).

Duration(s) of use

Use for at least 1 month to see beneficial effects (Kim et al. 2005; Usha and Naidu 2004).

Risk information

Caution(s) and warning(s)

- ▶ Consult a health care practitioner/health care provider/health care professional/doctor/physician if symptoms worsen.
- ▶ Consult a health care practitioner/health care provider/health care professional/doctor/physician prior to use if you are pregnant or breastfeeding.

Contraindication(s)

No statement required.



Known adverse reaction(s)

Some people may experience gastrointestinal discomfort/disturbances (Kim et al. 2005).

Non-medicinal ingredients

Must be chosen from the current Natural Health Product Ingredient Database (NHPID) and must meet the limitations outlined in the database.

Storage conditions

Must be established in accordance with the requirements described in the *Natural Health Products Regulations* (NHPR).

Specifications

- ▶ The finished product specifications must be established in accordance with the requirements described in the Natural and Non-prescription Health Products Directorate (NNHPD) Quality of Natural Health Products Guide.
- ▶ The medicinal ingredient must comply with the requirements outlined in the NHPID.

References cited

ChemIDplus 2018: Methylsulfonylmethane. [online]. [Accessed 2018 September 28]. Available from: <https://chem.nlm.nih.gov/chemidplus/name/methylsulfonylmethane>

Kim LS, Axelrod LJ, Howard P, Buratovich N, Waters RF. 2006. Efficacy of methylsulfonylmethane (MSM) in osteoarthritis pain of the knee: a pilot clinical trial. *Osteoarthritis Cartilage* 14:286-294.

O'Neil MJ, Smith A, Heckelman PE, Budavari S, editors. 2001. *The Merck Index: An Encyclopedia of Chemicals, Drugs, and Biologicals*, 13th edition. Whitehouse Station (NJ): Merck & Co., Inc.

Usha PR, Naidu MUR. 2004. Randomised, double-blind, parallel, placebo-controlled study of oral glucosamine, methylsulfonylmethane and their combination in osteoarthritis. *Clinical Drug Investigation* 24(6):353-363.



References reviewed

Altman R, Brandt K, Hochberg M, Moskowitz R, Bellamy N, Bloch DA, Buckwalter J, Dougados M, Ehrlich G, Lequesne M, Lohmander S, Murphy WA Jr, Rosario-Jansen T, Schwartz B, Trippel S. 1996. Design and conduct of clinical trials in patients with osteoarthritis: recommendations from a task force of the Osteoarthritis Research Society; Results from a workshop. *Osteoarthritis Cartilage* 4(4):217-43.

Horvath K, Noker PE, Somfai-Relle S, Glávits R, Financsek I, Schauss AG. 2002. Toxicity of methylsulfonylmethane in rats. *Food and Chemical Toxicology* 40:1459-1462.

Lin A, Nguy CH, Shic F, Ross BD. 2001. Accumulation of methylsulfonylmethane in the human brain: identification by multinuclear magnetic resonance spectroscopy. *Toxicology Letters* 123:169-177.

Magnuson BA, Appleton J, Ames GB. 2007. Pharmacokinetics and Distribution of [³⁵S]Methylsulfonylmethane Following Oral Administration to Rats. *Journal of Agriculture and Food Chemistry* 55:1033-1038.

Marieb E. 1992. *Human Anatomy and Physiology*, 2nd edition. Redwood City (CA): The Benjamin/Cummings Publishing Company, Inc.