Joint-Tissu&MSM

Formule with Devil's Claw

Code: FE0248 – 60 vegetable capsules

As the body ages, it loses its ability to synthesize glucosamine sulfate from food, and therefore also loses the elasticity of connective tissue little by little. This has a negative effect on the state of our blood vessels, skin and cartilage. The formula in **Joint-Tissu&MSM** provides joints with the necessary substances for alleviating states of inflammation and pain and keeping them in good shape.

Ingredients: Methylsulfonylmethane (MSM), glucosamine sulfate (from **shellfish**, crab or shrimp exoskeleton), **shark** cartilage, devil's claw secondary tuber extract (*Harpagophytum procumbens*), anticaking agent: magnesium salts of fatty acids, vegetable capsule (glacing agent: hydroxypropylmethylcellulose; humectant: purified water).

Nutritional information:	**3 capsules (3 081 mg)**	**6 capsules (6 162 mg)**
Glucosamine sulfate (sodium-free)	900 mg	1 800 mg
MSM (methylsulfonylmethane)	900 mg	1 800 mg
Shark cartilage	750 mg	1 500 mg
Devil's claw (10% harpagosides)	75 mg	150 mg

May contain traces of shellfish

Size and format:
60 vegetable capsules

Recommended daily dose:

1–2 capsules three times daily with food. Avoid taking at bedtime.

Do not exceed the stated recommended daily dose.

Indications and uses:
Different studies have shown that the ingredients in **JointTissu & MSM** can be of help for the following:
Protection and repair of cartilage, connective tissue, bone, skin and arteries, and reduction in joint inflammation, swelling, stiffness and pain. It provides elasticity and flexibility to joints. It can alleviate conditions such as rheumatoid arthritis, osteoarthritis, chronic inflammatory polyarthritis, and back pain from spondylosis and osteoarthritis. Very useful for sports injuries.

Cautions:
Should not be taken by pregnant or breast-feeding women, by children or by adolescents. Consult a health-care practitioner before use if you are treated with medication (thalidomide or other antiangiogenic agents) or if you have a special medical condition (diabetes, coronary or liver disease).

MSM (Methylsulfonylmethane): MSM is a sulphur-rich compound. Sulphur is naturally present in connective tissue, and is very important for its health. Extensive clinical experience shows that MSM is a good analgesic. The analgesic effect of methylsulfonylmethane is due to its blocking the transmission of pain impulses throughout nerve fibres so that the pain signal doesn't reach the brain.

MSM increases the permeability of cell walls, facilitating the exchange of nutrients and promoting their depuration, thereby impeding an accumulation of toxins and favouring the breakdown of fibrin, which often causes pain [1-4].

GLUCOSAMINE SULFATE: The amino acid glucosamine is a fundamental substance of connective tissue in the skin, nails, bones, cartilage, tendons, ligaments and arteries. Glucosamine intervenes in the formation of glycosaminoglycans (GAGs) that repair and regenerate damaged connective tissue.

In the joints, GAGs protect cartilage from damage, stimulate the synthesis of new tissue and support the formation of synovial fluid which contains nutrients and agents that protect the joints from certain enzymes that can destroy cartilage. If the synovial fluid, which is normally viscous, becomes too liquid, cartilage and joints become rough and brittle, and the protective collagen becomes fragile and prone to inflammation. This causes swelling, inflammation and stiffness in the joints, which usually occurs in osteoarthritis and rheumatoid arthritis.

Daily intake of glucosamine helps maintain appropriate synovial fluid consistency and helps repair damaged connective tissue in the joints and spine naturally. The formation of new connective tissue provides pain relief [5,6].

SHARK CARTILAGE: **Shark cartilage** is rich in important glycosaminoglycans and is very helpful for joint inflammation and improving flexibility, but also as protection against atherosclerosis. The significant proportion of calcium (12%) and mucopolysaccharides (18%) in skeletal shark cartilage makes for its protective function in the joints [7-9].

HARPAGOPHYTUM PROCUMBENS: Thanks to its anti-inflammatory and analgesic effect, **harpagophytum, or devil's claw**, and its main active principles have shown good results in treating discomfort such as rheumatic pain and arthritis as well as degenerative diseases of the motor apparatus, such as gout or sciatica. The improvement in rheumatic discomfort (less swelling and pain and more flexibility in the joints) is explained by its positive effect on overall metabolism, especially uric acid metabolism [10].

References:
1) Kim Y, et al. The anti-inflammatory effects of methylsulfonylmethane on lipopolysaccharide-induced inflammatory responses in murine macrophages. *Biological and Pharmaceutical Bulletin*. 2009; 32(4): 651-656.
2) Nakhostin-Roohi B, et al. Effect of chronic supplementation with methylsulfonylmethane on oxidative stress following acute exercise in untrained ealthy men. *Journal of Pharmacy and Pharmacology*. 2011; 63(10): 1290-1294.
3) Usha PR and Naidu M. Randomised, Double-Blind, Parallel, Placebo-Controlled Study of Oral Glucosamine, Methylsulfonylmethane and their Combination in Osteoarthritis. *Clinical drug investigation.* 2004; 24(6): 353–363.
4) Kim LS, et al. Efficacy of methylsulfonylmethane (MSM) in osteoarthritis pain of the knee: a pilot clinical trial. *Osteoarthritis and Cartilage.* 2006; 14(3):286-294.
5) McAlindon TE, et al. Glucosamine and chondroitin for treatment of osteoarthritis: a systematic quality assessment and meta-analysis. *JAMA*. 2000; 283(11): 1469-1475.
6) Reginster JY, et al. Long-term progression of glucosamine sulphate on osteoarthritis progression: a randomised, placebo-controlled clinical trial. *The Lancet.* 2001; 357(9252): 251-256.
7) Volpi N. El condroitín sulfato en el tratamiento de la artrosis. *Curr. Med. Chem. - Anti-Inflammatory & Anti-allergy Agents.* 2005; 4: 221-234.
8) Sim JS, et al. Evaluation of chondroitin sulfate in shark cartilage powder as a dietary supplement: Raw materials and finished products. *Food Chemistry*. 2007; 101(2) :532-539.
9) Garnjanagoonchom W, et al. Determination of chondroitin sulfate from different sources of cartilage. *Chemical Engineering and Processing: Process Intensification.* 2007; 46(5): 465-471.
10) Crespo Gil ME and Navarro Moll MC. La raíz de harpagofito en el tratamiento de afecciones reumáticas. *Revista de Fitoterapia* 2012; 12(1): 5-14.