

The synergy between Mesoporosil[®] and essential co-factors (Vitamin D3 + K2 + Calcium) opens a new era in bone health supplementation.



SILSTEO[®] - Ingredients

- **Silicium (Mesoporosil[®])**
A key structural element for bones and connective tissue.
- **Vitamin K₂**
Long Acting form - contributes to the maintenance of normal bone health.
- **Vitamin D₃**
Contributes to the maintenance of normal bone and muscle function. Also supports a reduced risk of falls associated with muscle weakness in adults aged 60 years and above.
- **Calcium**
For bone mineral maintenance

The Bio-Activated Silicium is orthosilicic acid (OSA) contained in Silsteo[®] has been evaluated by EFSA as a source of orthosilicic acid with a proven safety and tolerability profile (8)

Mesoporosil[®] - Triple A Technology

ACTIVATED:

The unique mesoporous 3D structure maximises the available surface area, enabling silicium to remain in its bioactive monomeric form (orthosilicic acid).

ABSORBED:

In vitro and in vivo studies (Ussing chamber assays) demonstrate enhanced intestinal permeability and superior solubility compared to conventional silicium sources.

ASSIMILATED:

Following absorption, silicium contributes to collagen synthesis and bone mineralisation, supporting integration into body structures and plasma elimination over time.

RECOMMENDED USE

Take 1 tablet daily with a glass of water. Do not exceed the recommended daily dose.

PRECAUTIONS

Not suitable for children up to 10 years of age.
Not recommended for individuals receiving coumarin-type anticoagulants.

STORAGE

Store below 25°C, in a dry place, protected from light.
Keep out of reach of children.

References:

1: Bissé E, Epting T, Beil A, Lindinger G, Lang H, Wieland H. Reference values for serum silicon in adults. *Anal Biochem.* 2005;337(1):130-5. 2: Jugdaohsingh R, Tucker KL, Qiao N, Cupples LA, Kiel DP, Powell JJ. Dietary silicon intake is positively associated with bone mineral density in men and premenopausal women of the Framingham Offspring cohort. *J Bone Miner Res.* 2004;19(2):297-307. 3: Arora M, Arora E. The promise of silicon: bone regeneration and increased bone density. *J Arthrosc Joint Surg.* 2017;4(3):103-5. 4: Nielsen, F.H. (2024). Evidence of the Benefits of Silicon for Human Health. In: de Mello Prado, R., Etesami, H., Srivastava, A.K. (eds) *Silicon Advances for Sustainable Agriculture and Human Health. Sustainable Plant Nutrition in a Changing World.* Springer, Cham. 5: Pritchard A, Nielsen BD. Silicon Supplementation for Bone Health: An Umbrella Review Attempting to Translate from Animals to Humans. *Nutrients.* 2024;16(3):339. 6: Reffitt DM, Ogston N, Jugdaohsingh R, Cheung HF, Evans BA, Thompson RP, Powell JJ, Hampson GN. Orthosilicic acid stimulates collagen type 1 synthesis and osteoblastic differentiation in human osteoblast-like cells in vitro. *Bone.* 2003;32(2):127-35. 7: Eytelia; data on file. 8: Younes M et al. Safety of orthosilicic acid-vanillin complex (OSA-VC) as a novel food ingredient to be used in food supplements as a source of silicon and bioavailability of silicon from the source. EFSA Panel on Food Additives and Nutrient Sources added to Food (ANS); EFSA J. 2018 Jan 5;16(1):e05086. doi: 10.2903/j.efsa.2018.5086. PMID: 32625656; PMCID: PMC7009440. 9: Luca Arpino et al. Nutraceutical Supplementation With a Combination of Bio-Activated Silicon, Vitamin D3 and Vitamin K2 in Patients With "Minor" Vertebral Fracture. *Pharmanutrition and functional foods.* Year VIII, No.2, June 2023

Eytelia srl
Rue de Liège 2
6180 Courcelles
Belgium

TRB Chemedica International SA
Route des Jeunes 33bis
1227 Carouge GE
Switzerland
Tel +41 (0)22 559 20 00



TRB CHEMEDICA HONG KONG LTD.
info@trbchemedica.com.hk
6796 8110

HK027804-SD2

SILSTEO[®]

Contains MESOPOROSIL[®]
Vitamin K₂+Vitamin D₃
+Calcium



THE HIDDEN ARCHITECT TO BONE HEALTH

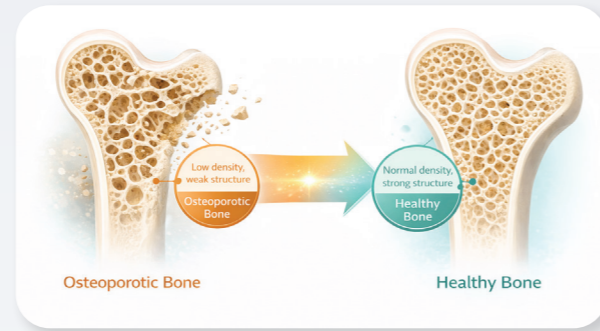
ACTIVATED • ABSORBED • ASSIMILATED

- ✓ MINIMUM DOSAGE
- ✓ EXCELLENT ASSIMILATION
- ✓ IMPROVE BONE DENSITY
- ✓ INCREASE BONE MINERALIZATION
- ✓ STIMULATE COLLAGEN I PRODUCTION



Bone Health & Mineral Relation

Bone health is a dynamic process involving continuous remodelling, coordinated activity between osteoblasts, osteoclasts, and the extracellular matrix. While calcium and vitamin D remain fundamental, increasing attention has been directed toward the role of trace elements—particularly silicon—in maintaining bone quality and structural integrity.



Effects of Si related to bone health

Studies show that serum silicon (Si) levels decline with age, particularly in women, correlating with reduced bone mineral density and increased connective tissue fragility (2,3). Silicon supports collagen synthesis and bone matrix formation, making serum silicon deficiency a contributing factor to age-related osteoporosis and joint deformities (4).

With age, Silicon levels naturally decline, leading to a progressive loss of collagen quality and bone density.

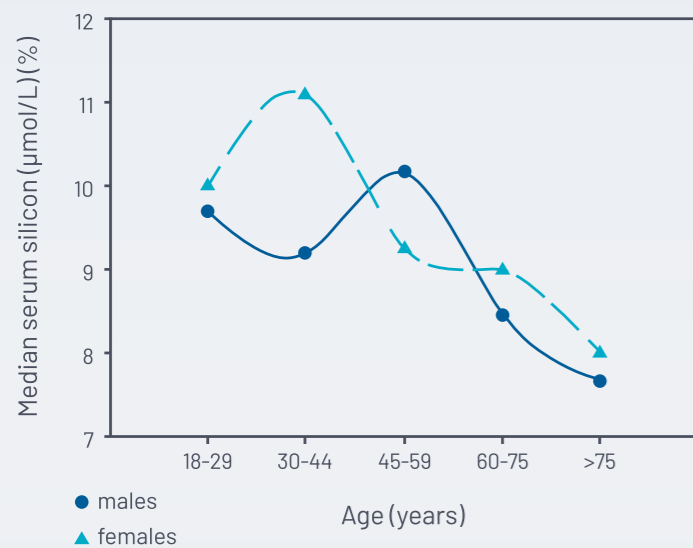


Figure 1: Course of the median silicon concentration in serum of healthy subjects grouped according to age and sex.(1)

- +Si** ↑ Bone density and strength
- Si** ↓ Bone mineralization
- +Si** ↓ Serum Mg⁺ and retention
- +Si** ↑ Osteoblastogenesis and osteoblast activity
- +Si** ↑ Hydroxyproline content (collagen) in skin

Figure 2: Effects of Silicon related to bone health.(5)

Orthosilicic acid (OSA) stimulates collagen type 1 and promote the development of bone-forming cells.⁶



Mesoporosil®: The Hidden architect of bone health



: Activated • Absorbed • Assimilated



Figure 3: Human Mean absorption percentage of Silicon (in different forms) after 2 hours using an Ussing chamber.

Figure 4: Quantity of Silicon, Mesoporosil (ng/mL), dissolved over time in water.

Figure 5: Plasma concentration of silicon, Mesoporosil (ng/mL) over time.

- 1.1 A unique 3D mesoporous structure maximises the available surface area to activate the silicon and preserve Silicon in its active monomeric form (OSA)(Figure 3).
- 2.1 Confirmed through in vitro and in vivo studies (Ussing chamber assays), Mesoporosil® demonstrates rapid intestinal permeability and superior solubility compared to standard silica sources that has limited intestinal absorption (Figure 4).
- 3.1 Once absorbed, it participates directly in collagen cross-linking and bone mineralisation, ensuring efficient integration into the body's structural matrix and a related elimination over time in the plasma (Figure 5).

IN-VIVO CLINICAL TEST RESULTS

SILSTEO®, combining Bio-Activated Silicon (Mesoporosil®) with vitamin D₃, vitamin K₂, and calcium, supports physiological bone healing and post-traumatic remodeling - including resolution of bone oedema on magnetic resonance imaging - while reactivating mineralisation pathways to enhance bone density, optimise collagen architecture, and preserve functional mobility.



Figure 6. BONE HEALING: A significant rate of bone fracture healing was observed on MRI imaging, with **complete resolution of edema at two months** in the Silsteo® group.

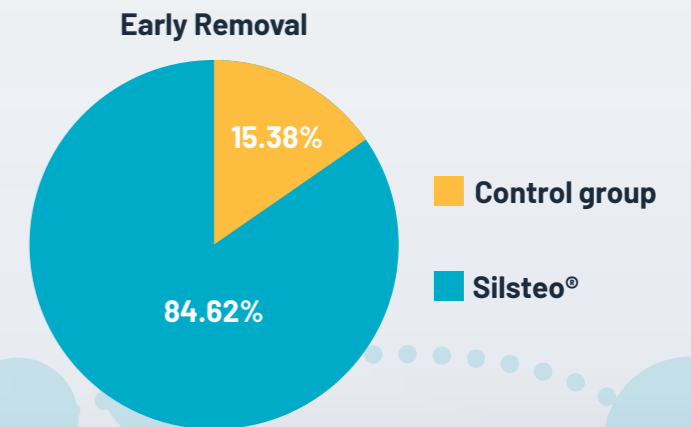


Figure 7

Figure 7. All patients with minor vertebral fracture (such as cervical spine, thoracolumbar spine) that required orthosis for stabilization were evaluated at 2 months with high-field spinal MRI (1.5 Tesla) with STIR sequences. Early removal of the orthosis was possible in 84.62% of the SILSTEO®+ group compared to 15,38% of the control group (9).