



## Product Description

# Coralsol



### APPLICATIONS

The general application of this ingredient focuses on disorders of the locomotor system:

- Rheumatism
- Osteoporosis
- Arthritis
- Osteoarthritis
- Muscular fatigue
- Ossification problems

### COMPOSITION

Coral sand powder has a fine dark-white appearance without taste or smell, which can be used for the manufacture of all kinds of nutritional products.

There are two very natural varieties but with a different composition in Ca and Mg.

#### CCP 44 (Calcium Coral Powder)

Calcium = 34,0 %  
Magnesium = 1,5 %

#### SMP 44 (Sango Mineral Powder) 2:1

Calcium = 20,0 %  
Magnesium = 10,0 %

### CORAL CALCIUM FROM UNDERSEA ORIGIN

Coral sand is the main precursor material used to make marine coral calcium supplements around the world.

Live coral secretes an exoskeleton consisting both of carbonate-rich minerals and other minerals derived from the tepid seawater surrounding coralline islands as Okinawa Island in Japan.

In Okinawa, the company Marine Bio collects coral sand from the depth waters of the seas that surround the Island. Harvesting is made following Japanese regulations that ensures live coral safety. This ocean sediment originates in part from debris that falls from coral reefs and the coral sand obtained under the sea is not contaminated with heavy metals or organic pollutants.

Living reefs are not disturbed during collection of the undersea sand, and Okinawa's Prefecture ensures this as evidence that no damage to the ecology during the collection of the material is caused.

Marine Bio possesses the necessary certifications and permissions to guarantee that the different presentations of coral calcium that it supplies complies with the legal and safety requirements.

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**VERY IMPORTANT:** To use the trademark and/or logo of the ingredient, **it is mandatory to sign a co-branding agreement**, as well as send the packaging design and the marketing material to be approved by the owner of the brand. The improper or unauthorized use of the brand or the non-compliance of the contract will conduct to the corresponding legal actions.

## MARINE CORAL PROPERTIES

Coral calcium is a holistic mineral supplement and the term "coral calcium" does not define all the potential biological actions of this supplement.

Coral calcium is composed principally of calcium carbonate, which is present in percentages ranging from 20% to 34% in coral "sediments" collected under the sea. Coral sand also contains from 1% to 10% of magnesium in the form of carbonate.

It is noteworthy that as many as 70 minerals and trace elements are present in coral calcium despite some of them in parts per million, but our body needs these trace elements in such as small quantities.

Overall, the health benefits of coral calcium are largely attributed to its abundant content of minerals that usually are deficient in Western diets. Coral calcium works using biochemical mechanisms like a cell salt therapy. Furthermore, both the trace minerals and macroelements present in coral calcium are "naturally chelated", making minerals present in the coral powder better absorbed from the body than other mineral forms.

The following properties made marine coral calcium a mineral compound of highest quality:

### 1. CORAL CALCIUM POROUSNESS

The surface of coral is porous, which is beneficial because it increases the surface area per gram, leading to a higher rate of absorption. These pores are kept under water. For this reason, the bioavailability of coral calcium is better than other forms of mineral calcium.

### 2. CONSTANT MINERAL RATE

Marine coral is not exposed to the effects of acid rain as land minerals are. When it rains, the acidic water takes minerals away from the land. The rate of mineral loss is different depending on the mineral since certain minerals dissolve and run off quicker than

others run. Magnesium is one of the minerals that run off faster. Because of the loss of magnesium, land mineral salts can vary the content in magnesium, which in turn unbalances the percentage respect to calcium.

In this sense, the absence of affectation by acid rain makes that coral calcium has a constant calcium:magnesium rate.

### 3. MARINE CORAL DISPERSES WELL BECAUSE OF ITS DENSITY PER GRAM

Land mineral salts are melted by acidic water and pressured by land mass making a harder material. As result of this, land mineral salts have higher density per gram respect to marine coral. Hard material is not easy to digest and absorb.

The indication of hardness of the material is quantified in mohs units. The greater the number of material, the harder and more difficult to digest for the body.

Marine calcium coral (CCP and SMP) has 3.5 mohs, whereas land calcic salts have 5.0 mohs.

## SCIENTIFIC STUDIES OF MARINE CORAL CALCIUM

Experiments carried out with SMP coral calcium have shown that the absorption of calcium present in this form is greater than other calcium sources such as calcium caseinate, hydroxyapatite or inorganic mineral calcium carbonate.

Studies in animal models (1) and in humans (2) show that SMP coral calcium has an absorption about 70% after oral ingestion. The second form with better absorption is for calcium from hydroxyapatite (bone) and in minor percentage calcium carbonate present in milk with 56% absorption.

In a study conducted at the Kagawa Nutrition University of Japan, a group of participants consumed fortified milk with a calcium source

based on SMP, which has a natural balanced proportion 2:1 of calcium and magnesium. Thanks to this proportion, the treatment provided 600 mg of calcium and 300 mg of magnesium. The results showed that this natural source of calcium and magnesium produced improvements in bone mineral density (3). The greatest increases in bone density were noted in subjects who received a milk regimen supplemented with coral calcium along with a strength and walking training program.

## CONCLUSIONS

In the market, coral calcium can be used together with other minerals to enrich foods and food supplements. However, the properties of coral calcium should be considered separately, since coral calcium is a balanced combination of macro, micro and trace elements that act in a holistic manner.

There is real evidence about the effectiveness of marine coral calcium when used in food supplements, as well as in beverages and other forms.

Only marine coral calcium collected without harming coral reefs, and free of heavy metals and organic pollutants, should be used in supplements.

## RECOMMENDED DOSE

The European Recommended Daily Allowance for calcium is 800 mg and 375 mg for magnesium.

The amount of calcium and magnesium to supply giving marine coral calcium will depend on the coral calcium form. Although Ca content is lower in the SMP-44, 20% calcium respect to 34% calcium in CCP-44, the 2:1 ratio for Ca:Mg makes SMP-44 useful in the treatment of bone disorders such as osteoporosis.

## REFERENCES

- (1) Suzuki K, Uehara M, Masuyama R and Gotou S. *Calcium utilization from natural coral calcium - A coral preparation with a calcium-magnesium content ratio of 2:1. Abstracts of papers presented at the 44th Japanese Society for Nutritional Betterment, Fukuoka, Japan, 1997.* p 145.
- (2) Ishitani K., Itakura E. Goto S. and Eashi T. *Calcium absorption from the ingestion of coral-derived calcium by humans.* J. Nutr. Sci. Vitaminol., 45:509-517, 1999
- (3) Wellness Publishing, Newark, NJ, 2003, p 74, *Abstract presented at the 52nd Japanese Society of Nutrition and Food Science by the Futaba Nutrition School of the Kagawa Nutrition University in Japan, April, 1998.*