



## *Glucosamine Sulfate*

When ingested, glucosamine sulfate is fully ionized in the stomach by the relatively strong concentration of hydrochloric acid (pH 1 - 3) naturally present. Glucosamine is an amino acid sugar found in the shells of shrimp and lobster. It is necessary for the construction of connective tissue. The body synthesizes glucosamine via an enzymatic combination of glucose and glutamine. Glutamine is a nonessential amino acid useful for intestinal health and recovery.

Glucosamine Sulfate is a component of glucosamine-glycons (mucopolysaccharides) and glycoproteins. These are integral parts of cell membranes, extracellular membranes and interstitial tissues that connect cells together. This is one reason why Glucosamine supplements are used to combat arthritis and related diseases. Glucosamine is used as a precursor and stimulant of proteoglycan synthesis. It is also helpful in inhibiting the degradation of proteoglycans and to help rebuild damaged cartilage. It is shown to possess anti-inflammatory properties. Glucosamine is produced in the body to make cartilage in the joints. As one gets older, the ability to produce glucosamine becomes more difficult, thus cartilage starts to break down. That is when stiffness and pain in the joints, "arthritis", sets in. By taking supplemental glucosamine, your body is able to stimulate cartilage repair, thus helping alleviate arthritic conditions.

Glucosamine's effects can take up to a couple weeks before noticeable differences are experienced, but those with arthritis have called it a wonder drug because their pain and stiffness subsides remarkably. Best of all, glucosamine has no real side effects, and one really can not overdose from taking too much of it. Some people may experience mild upset stomachs from glucosamine. Glucosamine can not be found in food sources. That is why taking supplements made from chitin, the processed shells of shrimp, crabs and lobster, is imperative for receiving necessary dosages of glucosamine.