What are the functions of phosphate?

Phosphate is one of the natural components of almost all foods and is widely used in food processing as an important food ingredient and functional additive. It is a salt of phosphoric acid and is essential in inorganic chemistry, biochemistry and biogeochemistry.

Phosphates used in food processing are usually sodium, calcium, potassium salts, and iron and zinc salts as nutritional supplements. More than thirty varieties of food-grade phosphates are in common use, and sodium phosphate is the primary type of food phosphate consumed. With the development of food processing technology, the consumption of potassium phosphate salt is also increasing year by year.

Because of its importance to living organisms, phosphate is highly collected ecologically. Therefore, it is often a limiting reagent in the environment, while its availability determines the rate of biological growth.

The addition of large amounts of phosphate to a phosphate-deficient or microbial environment can have significant ecological effects. For example, the rise of one organism can cause other organisms to die, and the decrease in the number of certain organisms can lead to a lack of resources such as oxygen. Under the problem of pollution, phosphate is the main component of total dissolved solids.

So What are the functions of phosphate?

Phosphate is a widely used food additive in the food industry. In addition to its application in food, it also has applications in the agriculture and chemical industries.

Phosphate is used as a binding agent in refractory materials, phosphoric acid, and alkali metal or alkaline earth metal oxides. Their hydroxides reacted to make most of the bonding agent for the gas hardening bond is, without heating at room temperature, can be condensed and hardened effect. The bonding agent used as refractory acid has strong bonding strength in the medium and low-temperature range before producing ceramic bonding and is widely used as a bonding agent for indefinite refractory materials and non-fired refractory materials.

Caution:

After the phosphate castable is stirred and molded without adding a coagulant, it can be heated and baked for two hours in a natural environment, and then the mold can be removed. After forming with a coagulant, it can be cured in the natural environment above 10?. When the temperature is higher than 20?, the mold can be removed in 3-5 hours. Otherwise, the resting time will be extended to 5 hours before the mold can be removed. The curing time is three days, and contact with water is strictly prohibited.

Phosphate castables can be stored indoors or in the open air after natural maintenance, and the long white hairs on the surface of the castables will disappear after heating, which does not affect the use.

Of course, in the use of phosphate must pay attention to safety. Do you know what harm it does to the human body?

Phosphates are compounds with multivalent anions with high ionic strength at lower concentrations. Phosphate additives can improve the taste and freshness of food. However, too much phosphorus intake by the body can prevent adequate absorption and utilization of calcium in the body, which can easily cause fractures, tooth loss, and bone deformation. When too much phosphate is consumed in the diet, it can combine with calcium in the intestine to form water-insoluble calcium orthophosphate, thus reducing calcium absorption, which is one of the reasons why the dietary supply of calcium and phosphorus should be appropriately compared. Foods with inappropriate calcium and phosphorus ratios, i.e., calcium or phosphorus

deficient foods, will release calcium or phosphorus from the human skeletal tissue. Long duration can cause developmental delays, skeletal deformities, poor quality of bone and teeth. And long-term high intake of phosphate can lead to goiter, calcifying renal insufficiency, etc.