

Sodium Glucoheptonate

葡庚糖酸钠盐粉末

Product Name: Sodium Glucoheptonate

Other Names: SODIUM D-GLYCERO D-GLUCO HEPTONATE; α-D-Glucoheptonic acid sodium salt

CAS Number: 31138-65-5

Molecular Formula: C₇H₁₃O₈ Na·2H₂O

Product Description:

Sodium glucoheptonate is a high-end strong alkaline green chelating agent. The product is a glucose derivative and can be naturally degraded. During the reaction, two isomers are produced simultaneously, α-isomer and β-isomer. The α-body is Sodium α-Glucoheptonate, the scientific name is D-glycero-D-guloheptonic acid, monosodium salt. It is a solid crystal. The solid sodium glucoheptonate we produce is pure α-body. ;The β body is Sodium β-Glucoheptonate, the scientific name is D-glycero-D-ido-heptonic acid, monosodium salt. It is a liquid. The main component of liquid sodium glucoheptonate is β body aqueous solution.

Sodium glucoheptonate has a good complexing effect on a series of metal ions, such as: Ca³⁺, Mg²⁺, Fe³⁺, Cu²⁺, Mn²⁺, Co²⁺, Ni²⁺, etc., especially the complexing value of Fe³⁺ is higher, and the general complexing agent For example, one molecule of EDTA complexes one metal ion, while sodium glucoheptonate can complex 15 Fe³⁺ ions under appropriate conditions. Therefore, as each country strengthens its environmental protection efforts, it is expected to replace many non-environmentally friendly chelating agents that are widely used today, such as EDTA, DTPA, and ATMP.

Application areas:

■ Water treatment:

Due to its good complexing properties and non-toxic side effects, sodium glucoheptonate is widely used in large water treatment devices and for alkaline descaling in boiler condensers and heat exchangers.

■ Metal surface treatment:

Rust removal and degreasing of low carbon steel. Traditional rust removal and degreasing processes of low carbon steel mainly use cyanide formula treatment agents. Cyanide decomposes when the temperature reaches 50° C, so the temperature cannot be exceeded during treatment. High, which reduces the treatment efficiency, and this type of treatment agent has the disadvantages of being highly toxic, highly polluting, and extremely difficult to

operate and handle. However, the use of sodium glucoheptonate formula increases the treatment temperature and creates synergy with caustic soda. Under the effect, the efficiency of metal surface treatment is greatly improved. And it can prevent the electroplating solution from settling, making the electroplated layer denser and brighter. Under the synergistic effect of sodium glucoheptonate and caustic alkali, it can effectively remove the existing paint on the steel surface so that it can be repainted, and at the same time it has the effect of inhibiting corrosion and scale.

■ **Environmentally friendly cleaning:**

The cleaning agent that uses water as the cleaning medium uses the formula of sodium glucoheptonate. Its function is to complex the Ca^{3+} and Mg^{2+} ions in the water to improve the cleaning efficiency. A typical example: cleaning beer and milk glass bottles. At times, alkaline cleaning agents easily form hydroxides with Ca^{3+} and Mg^{2+} in the water, which adhere to the bottle wall and are difficult to rinse clean. Traditional bottle cleaning agent formulas use phosphates to complex Ca^{3+} and Mg^{2+} in the water, but this will bring disadvantages such as difficulty in rinsing and environmental impact. Using sodium glucoheptonate bottle cleaner can not only achieve the cleaning effect of phosphate cleaner, but also be easy to rinse, achieving the effects of water saving and environmental protection.

■ **Stabilizer:**

A large amount of peroxide is used when bleaching fabrics. Adding sodium glucoheptonate can effectively complex various valence metal ions, thereby improving the stability of peroxide, improving work efficiency and reducing production costs.

■ **Retarder:**

When sodium glucoheptonate is used as a concrete admixture, it can have two effects: 1. Retarding effect. At the dosage of sodium glucoheptonate, it can greatly extend the cement hydration time and better solve the problem of concrete problems. Premature setting problem; 2. Delay the corrosion of steel bars. When sodium glucoheptonate is used in reinforced concrete components, it can significantly alleviate the corrosion of steel bars, thus acting as a corrosion inhibitor.

■ **Micro-fertilizer additive:**

When used as a micro-fertilizer additive, sodium glucoheptonate can greatly promote the absorption and transformation of N, P, K, Ca, Fe, Mg, Zn and other elements by crops without any toxic effects.

■ **Fly ash treatment:**

Sodium glucoheptonate can effectively chelate various heavy metal ions. After the leach solution is turned over and soaked, the heavy metal chelate becomes stable and has strong resistance to decomposition. After the stabilization treatment of sodium glucoheptonate, it has the characteristics of low energy consumption, easy operation and small increase capacity, etc., and converts the toxic and harmful substances in the fly ash into water-insoluble inorganic minerals or polymer chelates, making it a Low solubility, low migration and low toxicity substances.

■ **Heavy metal chelation:**

Sodium glucoheptonate has a good complexing effect on a series of metal ions, such as: Ca^{3+} , Mg^{2+} , Fe^{3+} , Cu^{2+} , Mn^{2+} , Co^{2+} , Ni^{2+} , etc., especially the complexing value of Fe^{3+} is higher. Generally, complexing agents such as EDTA complex one metal ion per molecule, while sodium glucoheptonate can complex 15 Fe^{3+} ions under appropriate conditions. It is expected to replace many non-environmentally friendly heavy metal collectors that are widely used today, such as EDTA, DTPA, and ATMP.



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Physical properties:

Product Form: white crystal powder, Solid Content: $\geq 99\%$, Moisture: $<13.5\%$;PH(1%)@ 20℃: 8.0 ± 1.0 ;Reducing Sugar: $<0.5\%$

Health and Safety:

The use of proper protective equipment is recommended when using this product. Wash thoroughly after handling.
Store the product in a cool, dry, well-ventilated area away from incompatible materials. Before handling this material, read the corresponding SDS for safety, health and environmental data.

Shipping Classification:

Non-hazardous for road, sea or air transport.

Package:

25kg/bag,40bags/pallet=1000kg;18mt/20FCL.