

Sodium Gluconate

Cement Retarder | Water Reducing Agent

Overview of Sodium Gluconate

Sodium gluconate is a beneficial additive in the concrete industry, functioning as a sodium salt of gluconic acid, commonly obtained from glucose fermentation. This crystalline powder, ranging from white to tan, is prized for its excellent solubility in water and compatibility with concrete mixtures. Its introduction into concrete technology marks a significant advancement due to its multifaceted benefits in improving concrete properties.

In the concrete industry, sodium gluconate serves primarily as a water-reducing agent and a set retarder. Its ability to reduce the water content in concrete enhances the strength and durability of the final product, particularly in creating high-strength and high-performance concrete. Additionally, its capacity to delay concrete's setting time proves invaluable in hot weather conditions, enabling longer working times and preventing premature setting.

A significant advantage of sodium gluconate is its chloride-free nature, making it a safer option for reinforced concrete structures. The absence of chloride ions effectively reduces the risk of steel corrosion within the concrete, extending the structure's lifespan. This is an essential feature in maintaining the structural integrity of buildings and infrastructure.

Furthermore, sodium gluconate's role in improving the workability of concrete mixtures cannot be overstated. It allows for easier handling and pouring of concrete, which is particularly beneficial in large-scale construction projects where efficiency and precision are crucial. This improved workability also contributes to achieving a smoother finish in concrete structures, enhancing their aesthetic appeal.

Specifications

Product Name	Sodium Gluconate
CAS No.....	527-07-1
HS Code.....	29181690
EINECS.....	Not available
Molecular Weight.....	218.14
Molecular Formula	C6H11NaO7
Appearance.....	White crystalline
Purity %.....	99 Min
Loss on drying %.....	0.50 Max
Sulfate (SO42-) %.....	0.05 Max
Chloride (Cl) %	0.07 Max
Arsenic.....	2 ppm max
Reduzate (D-glucose).....	0.7% Max
pH (10% water solution).....	6.2~7.5
Solubility: soluble in water	590 g/l @ 25C

Benefits of Sodium Gluconate in Construction Applications

Improved Workability:

Enhances the ease and efficiency of concrete handling and pouring.

Increased Strength and Durability:

By reducing water content, the density and strength of the concrete are improved.

Versatility:

Suitable for a wide range of concrete types and applications.

Environmental Friendliness:

It is non-toxic and biodegradable, making it an environmentally friendly option.

High-Performance Concrete:

Used in high-strength concrete formulations where high durability and performance are required.

Hot Weather Concreting:

Its ability to delay setting time makes it ideal for use in hot climates or during summer months.

Large Scale Constructions:

Beneficial for large construction projects with extended workability.

Precast Concrete:

In precast concrete applications, it helps in achieving the desired strength and finish.

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