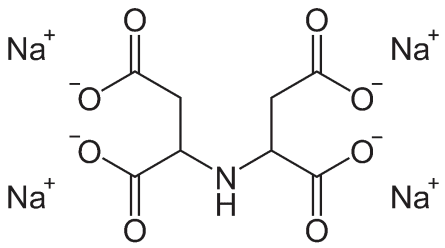
Tetrasodium Iminodisuccinate (IDS-Na4)

CAS No.	144538-83-0		
Molecular Formula	$C_8H_7NO_8Na_4$	**Molecular Weight**	337.102

Structural Formula



Product Features

Tetrasodium iminodisuccinate, also named IDS-Na4, is an eco-friendly phosphorus-free chelating agent, used to replace the traditional chelating agent HEDP, EDTA, DTPA, NTA, etc.

Tetrasodium iminodisuccinate is a powerful chelating agent used in various applications including cleaning and personal care products. It is also can be used as water treatment agent, scale inhibitor and water softener in traditional industrial circulation field.

Performance

1) Easily biodegradable, phosphorus-free, non-toxic and harmless to the ecosystem.

2) Excellent compatibility, high pH resistance and strong alkali resistance, and high temperature resistance. it can form stable complexes with metal ions, such as calcium, magnesium, iron, and copper, especially for copper under acidic conditions.

3) It has excellent stability to hydrogen peroxide H2O2. Under high alkaline conditions, the chelating stability constant of iron ion is still good, which can be used as stabilizer for hydrogen peroxide and oxygen bleaching.

Technical Specification

Parameter	Standard
Appearance	Colorless to light yellow aqueous solution
Solid content, %	40.0 min
Active content(as acid), %	24.0 min
PH (1% water solution)	10.0-11.5
Density (20℃) g/cm^3	1.30 min

Usage:

As a chelating agent,Tetrasodium iminodisuccinate is used as a cleaning agent for alkaline earth metals and heavy metal ions. Tetrasodium iminodisuccinate is widely used in industrial cleaning agents, detergents, textile printing and dyeing auxiliaries, pulp and paper industry, hydrogen peroxide stabilizers, electronic chemicals, copper complexing agents, and ceramic industries, electroplating industry, cleaning agent for photography industry, extraction of soil heavy metal pollutants, soil trace element fertilizer chelating agent, etc.

Tetrasodium iminodisuccinate, as a green chelating complexing agent, has a good effect on complexing iron ions, and can be used in the formula of complexing iron desulfurization technology. In the process of complex iron desulfurization, ferric iron ion Fe3+(L) directly oxidized HS-(L) to sulfur.

Complex iron desulfurization technology is a kind of desulfurization technology with complex iron as catalyst, is a method of wet oxidation to remove hydrogen sulfide, which is characterized by the gas phase hydrogen sulfide H2S into the liquid phase is directly oxidized to elemental sulfur S. Complex iron process is a new desulfurization technology with simple technology, high working sulfur capacity, environmental protection and non-toxic. It overcomes the disadvantages of traditional desulfurization process, such as low sulfur capacity, complex desulfurization process, high byproduct and serious environmental pollution. The sulfur recovery rate can reach 99.99% by sulfur tail exhaust recovery device.

Hydrogen peroxide bleaching stabilizer:

Tetrasodium iminodisuccinate, IDS can be used for hydrogen peroxide bleaching in various processes, and has obvious synergistic and stabilizing effects, especially in high-temperature alkaline environments has excellent performance. It can complex with copper ions, iron ions, etc. which are decomposed by bleaching agents. In addition, the whiteness of the obtained product is much better than that of using traditional stabilizers. When mixed with sodium silicate, it can reduce the formation of silica scale.

Cleaning hard surfaces:

Tetrasodium iminodisuccinate, IDS used together with surfactants, can achieve very good results.Use in neutral cleaning agent, can remove rust and iron sulfide scale in metal pipeline network, especially recommended for natural gas pipeline cleaning.

Pulping and textile printing and dyeing:

Tetrasodium iminodisuccinate, IDS is generally added during water treatment to complex the metal ions in the water system to avoid the influence of metal ions on the dye.

It has a strong complexing (chelating) effect on multivalent color-developing metal ions, turning the color-developing metal ions into colorless water-soluble complexes, improving the whiteness of pulp in pulp and paper industry. It eliminates the influence of multivalent ions on the color rendering of dyes, so as to avoid color deviation and keep color's stability in textile printing and dyeing industry.

Used in soaping agent:

Tetrasodium iminodisuccinate, IDS can increase the vividness of colors. Tetrasodium iminodisuccinate (IDS) can be used in soap formulations, which has stronger detergency than soap without IDS, because the adding of IDS can effectively shield metal ions' effect on detergent washing performance; added to dishwashing detergent, the precipitation on surface of stainless steel is very less, and effect of second washing is higher.

Detergent auxiliaries and daily cleaning agents:

Tetrasodium iminodisuccinate, IDS as a degradable complexing agent, can used in daily chemicals to complex metal ions, prevent or eliminate the turbidity of liquid daily chemical products, and maintain its clear and transparent state. Enhance the decontamination ability of product, increase the solubility of calcium-like ions, and enable the surfactant to function normally.

The environmental protection property of IDS also increases its safety in daily washing products.

IDS is completely biodegradable, non-toxic and harmless, and has good water solubility. It can be used in large-dose concentrated products. It is more convenient to use than EDTA under low temperature and high concentration conditions.

Anticorrosive preservation of light chemical products

During storage, light chemical products generally suffer from deterioration problems such as oxidation, aging, solidification, discoloration, and strength reduction. These problems are all related to the catalysis of metal ions. Tetrasodium iminodisuccinate, IDS has a strong ability to chelate high-valent metal ions, which can effectively reduce the catalytic activity of metal ions and extend the shelf life of product. Moreover, when used in together with fungicide, it can also improve the inhibitory effect on certain microorganisms and prevent product spoilage.

Cosmetics

Tetrasodium iminodisuccinate, IDS forms stable water-soluble complex molecules with heavy metal ions, thereby reducing the oxidation catalysis of heavy metal ions on unsaturated fatty acids in cosmetics. Its biodegradability can provide safer product and reduce the risk of adverse skin reactions.

Trace elements in agriculture

Tetrasodium iminodisuccinate, IDS can chelate all kinds of trace elements and supplement plant trace elements. Ionic trace elements are easy to react and deposit and solidify with other substances such as phosphate in the soil, while chelated trace elements can be quickly and directly absorbed by plants, and the utilization rate is high and effective. Tetrasodium iminodisuccinate, IDS chelated trace elements can be used alone or added to water-soluble fertilizer, foliar fertilizer, NKP, etc. Main products: iminodisuccinic acid IDS chelated calcium, magnesium, zinc, copper, iron, manganese, sodium, etc.

Package and Storage

Tetrasodium iminodisuccinate, IDS liquid: 25kg, 250kg, 1250kg plastic drum,IBC(1000L),customers' requirement. In shady room and dry place, liquid suggest temperature above 5℃。

Safety Protection

alkaline, Attention to provide labor protection when operating, avoid contact with skin, eyes, etc, once contacted, flush with plenty of water.

Synonyms

- IDS sodium salt
- Tetrasodium Iminodisuccinate
- Sodium Iminodisuccinate
- Iminodisuccinate Na-salt
- N-(1,2-Dicarboxyethyl)-DL-aspartic acid tetrasodium salt
- D,L-Aspartic acid, N-(1,2-dicarboxyethyl) tetra sodium salt