



Sodium glucoheptonate (H-Quest A300)

INCI Sodium glucoheptonate
CAS 13007-85-7

SPECIFICATIONS

Appearance White or off-white crystal
Assay (%) 96.0

REGULATORY

ECOCERT/COSMOS Allowed
NATRUE Allowed

GENERAL INFORMATION

Sodium glucoheptonate (H-Quest A300) is a natural chelating agent produced from high purity sugar and is inherently biodegradable.

Sodium glucoheptonate is a replacement for traditional chelate such as EDTA and exhibit excellent natural sequestration power over a broad range of di- and tri-valent metal ions, (Ca²⁺, Mg²⁺, Fe²⁺, Fe³⁺, Zn²⁺, Al³⁺).

FORMULATIONS & RECOMMENDATIONS

Sodium glucoheptonate is highly compatible with strong alkali solutions (pH 8.00-10.00), which can prevent the bacterial and fungal degradation of the solution. Unlike EDTA and NTA based chelating agents, Sodium glucoheptonate is a non-toxic, non-hazardous, non-corrosive product and therefore a much safer compound. Typically, a dosage level of 0.1% to 0.3% is used as a starting point.

Dosage level

Recommended concentration

0.1 – 0.6 %

Solubility

Moderate solubility in water (4 g/100 mL) and is miscible in alcohols and diethyl ether.

BENEFITS

- Can be used in ECOCERT/COSMOS formulations
- Easy to handle
- Good efficacy against molds and bacteria
- Safe profile
- Approved for use in leave-on and rinse-off products
- Efficacy at low concentration

APPLICATIONS

Fragrances

Natural extracts

Cosmetics

- Skin care
- Sun care
- Make up
- Hair care
- Toiletries
- Baby care

EFFICACY

Sodium glucoheptonate is a high-performance chelating agent. Its superior performance in the pH range between 12 and 14 is due to its efficiency in forming stable chelates with di- and tri-valent metal ions such as Ca²⁺, Mg²⁺, Fe²⁺, Fe³⁺, Zn²⁺, Mn²⁺, etc.

In the chart below comparative data are reported at different pH levels with the most common chelating agents present on the market.

%NaOH	pH	Calcium Chelation as mg CaCO ₃ /g			
		H-Quest A-300	H-Quest E5	48% GLDA	40% HEDTA
0.25	12.6	153.2	51.1	142	136.2
0.50	12.9	190.1	93.6	156	139
0.75	13.1	332	207.1	150	164.6
1.00	13.3	652.6	252.5	167	141.9
2.00	13.5	686.7	295.1	216	144.7
4.00	13.8	794.5	317.8	281	141.9

SHELF LIFE

Shelf life

60 months under proper storage conditions