BULLETIN VC-1015

natrosol™ plus 330 CS/polysurf 67 CS cetyl hydroxyethylcellulose

efficient thickening with nature-derived hydrophobically modified cellulose

formulator benefits

- nature-derived from cellulose, >54% natural origin content according to ISO16128-2:2017
- vegan suitable
- delivers efficient thickening in a variety of product formats
- improves emulsion stability, enabling finer oil-in-water emulsions
- demonstrates synergy with common thickeners, enabling more sustainable formulations through reduction in synthetic, primary rheology modifiers
- good surfactant and electrolyte compatibility
- effective over a wide pH range (3.5-11)
- surface treated for easy, lump-free processing

formulation benefits

- enables formulations that deliver unique and playful textures, including;
  - non-tacky/ non-stringy feel
  - buttery textures with improved playtime
  - cushion and softness
  - reshapes to form smooth surface in jar, giving creams an unused appearance
- thickens alkylpolyglucoside containing systems, such as sulfate-free shampoos
- reduces stringiness of surfactant-based systems
- enables low gel phase hair care emulsions with rich body that apply easily and don't weigh down hair

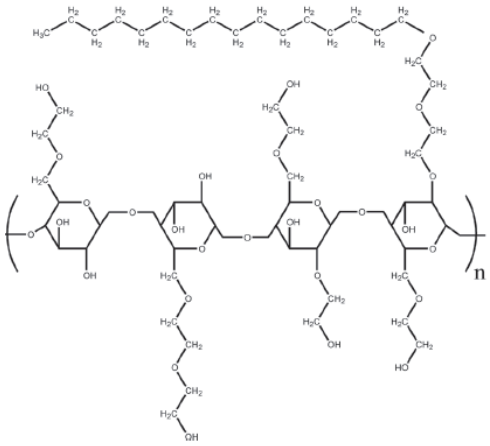
applications

liquid soap and body washes, shampoos, conditioners, hair styling, AP/DEO, color cosmetics, sunscreens, face and body creams, hair masks, butters, face masks

product forms gels, liquids, emulsions

available formulations from Ashland conditioners, hair masks, shampoos, face and body creams, face masks, sunscreens

chemistry



description: cetyl hydroxyethylcellulose
preservative: non-preserved

typical properties	Natrosol Plus 330 CS	Polysurf 67 CS
Brookfield viscosity, 1% solution, cP	150-500	9,000-14,000
average molecular weight	350,000	550,000
moisture content, % maximum	5	5
ash content, % maximum, calculated as Na_2SO_4	5	5

formulation guidelines

recommended use levels	0.10-1.0%
temperature/mixing conditions	- Add Natrosol™ Plus 330/ Polysurf™ 67 cetyl hydroxyethylcellulose to well agitated, room temperature water pH 7 or lower. - Continue mixing until polymer is fully dissolved and a smooth solution texture is observed.
when to add	Polymer is ideally added at the beginning of the formulation to ensure that the polymer is completely hydrated before adding additional ingredients.
tips from Ashland's solvers	To decrease dissolution time: -Apply heat once polymer powder is well dispersed. -Adjust pH to 8.5 or higher with NaOH, aminomethyl propanol (AMP) or triethanolamine (TEA) - Polymer can be pre-dispersed in an appropriate non-solvent, like glycol, prior to introduction to the water phase. - In certain formulations, like butters, a drastic viscosity increase can be observed upon addition of Natrosol™ Plus 330/Polysurf™ 67 cetyl hydroxyethylcellulose. In these cases, a pre-solution of polymer can be made in a side vessel before addition to the main batch.

safety, handling, and storage

It is recommended to use the product in rotation on a first-in first-out basis. The product should be stored under dry and clean conditions in its original packing and away from heat. The product is hygroscopic. The packaging is selected in a way to avoid ingress of moisture, but the water content of the packed product will/may increase if not stored properly.

Additional information concerning safety, handling and storage is supplied in the safety data sheet, which can be made available upon request. Such information includes:

- classification and labelling per regulation for transport and for dangerous substances
- protective measures for storage and handling

A toxicology summary can also be made available, on a confidential basis, by contacting your local Ashland representative.

regulatory

INCI: Cetyl Hydroxyethylcellulose
CAS#: 80455-45-4
Component ingredients are listed in the China IECIC-2015
Other regulatory information is available on request.

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