

# HALLSTAR<sup>®</sup> CITRATE ESTERS

High-performing,  
biodegradable modifiers for  
personal care applications

**HALLSTAR**   
B E A U T Y



# HALLSTAR® CITRATE ESTERS

Hallstar is pleased to introduce its new line of high-performing citrate esters for the beauty and personal care markets. Key ingredients in myriad applications such as hair care, soaps and cleansers, skin care, nail polish, color cosmetics and sunscreens, these citrate esters are the latest entries in Hallstar's Personal Care Ingredients portfolio which also includes stearates, ethoxylates and oleochemicals.

## HallStar® TEC

INCI: Triethyl Citrate



HallStar® TEC, Triethyl Citrate, a citric acid ester, is a colorless, clear, oily, odorless to mild fruity liquid of natural origin. Triethyl Citrate is slightly soluble in water and miscible in ethanol and glycols. The ingredient is produced by reaction when combining natural, corn-derived ethyl alcohol and naturally produced citric acid. It is used as an emulsifier, antioxidant, solvent, plasticizer, and carrier or diluent for fragrances. It is non-irritating to skin and shows no irritating effects when used in beauty products.

HallStar® TEC also functions as a plasticizer in nitrocellulose, vinyl acetate and natural resins. It works well in hair fixative sprays and long lasting cosmetics. Additionally, it is used as a malodor active ingredient in deodorant products and a solubilizer of organic UV filters in sunscreen formulas. Typical use levels are 1.0% to 5.0% in formulation. Solubility in water is 6.5 gm/100 ml water.

### Applications:

- Sunscreen lotions, sticks and sprays
- Body wash and shampoo
- Styling gels and sprays
- Antiperspirants and deodorants
- Exfoliant/scrubs
- Facial moisturizers and creams
- Hair fixatives and pomades
- Baby and child products
- Hand soaps and cleansers
- Perfume and fragrances



## HallStar® TBC

INCI: Tributyl Citrate



HallStar® TBC is a colorless or light-yellow, odorless liquid. It is insoluble in water and freely soluble in alcohol and isopropyl alcohol. The ingredient is produced by reaction when combining butyl alcohol and citric acid. Tributyl Citrate functions as a plasticizer and anti-foam agent in nitrocellulose nail polish lacquers and a solvent and film former in colored hair dyes and styling products. These properties also make the compound useful in skin care products like acne washes, as well as hair styling aids, fixatives, and pomades. Tributyl Citrate exhibits equal performance as a plasticizer to replace phthalates and adipates in many cosmetic applications. Typical use levels are 1% to 4% in formulation.

### Applications:

- Hair color and bleaching
- Body wash and shampoo
- Styling gels and sprays
- Hair conditioners
- Exfoliant/scrubs
- Nail polish
- Hair fixatives and pomades
- Hair masks
- Hand soaps and cleansers
- Acne products



## HallStar® ATBC

INCI: Acetyl Tributyl Citrate

HallStar® ATBC is a slightly viscous colorless liquid with a faintly sweet, herbaceous odor. It is insoluble in water, and freely soluble in alcohol and in isopropyl alcohol. The ingredient is produced when butyl alcohol reacts with citric acid followed by acetylation. Acetyl Tributyl Citrate is used as a flavoring agent and plasticizer for cellulosic resins like nail polish. It is also used to make resinous and polymeric coatings and paper/paperboard for use in contact with food. It functions as a film forming plasticizer, especially popular in nitrocellulose nail lacquers and long-lasting makeup and sunscreen products. Typical use levels are 0.5% to 3% in long-lasting makeup and sunscreens and 1% to 7% in nail care products.

### Applications:

- Nail polish
- Nail glue
- Long lasting makeup
- Long lasting mascara
- Sunscreen products
- Styling gels and sprays
- Lip stick and lip gloss



Hallstar produces various citrate esters at our high capacity manufacturing facility in Greensboro, North Carolina.

