

CITROFOL® BI (tributyl citrate) and CITROFOL® BII (tributyl O-acetylcitrate) are preferred components in diverse cosmetic applications due to their performance qualities and safety. Beside the use as bio-based plasticisers for nail lacquers or hair care products, both grades show excellent solvent behaviour paired with a pleasant skin feeling, which makes them the perfect emollients. CITROFOL® BI and BII also help dissolving organic colour dyes in colour cosmetic, and can be used as cleaning solvents in micellar water.

## Presentation

CITROFOL® BI and BII are esters derived from citric acid, which have numerous applications in cosmetics products, including skin care applications, as they both show an excellent skin tolerance without sensitising effects. One example is the usage of CITROFOL® BI or BII as solvent for solid, organic UV-stabilisers in sun protection lotions, supporting the homogeneity, spreading behaviour and pleasant skin perception.

### Production

CITROFOL® BI is produced by esterification of bio-based citric acid with n-butanol. CITROFOL® BII is produced by acetylation of CITROFOL® BI with acetic anhydride.

### Characteristics

CITROFOL® BI and BII are clear, practically colourless and odourless, oily liquids. They can be mixed with organic solvents (e.g. ethanol and ether), but are not soluble in water.

### **INCI** names

Tributyl Citrate (CITROFOL® BI)
Tributyl O-acetylcitrate (CITROFOL® BII)

### **INCI** functions

Plasticiser, emollient, solvent, solubiliser

### **Applications**

Colour cosmetics, hair care, skin care

# Functions and typical dosage

	Minimum	Maximum
	recommended amount	recommended amount
<ul><li>Plasticiser</li></ul>	3.0%	15.0%
■ Emollient	3.0%	15.0%
■ Solvent/solubiliser	1.0%	10.0%

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### Formulation examples

Micellar water

Nail polish

# △ Efficient sunscreen SPF 30\*

丛 BB cream SPF 20\*

BB cream light SPF 50+<sup>⋆</sup>

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