

Key Performance Advantages

- Effective buffer and mild neutralizer
- Soluble in water and alcohol
- Low toxicity



Personal Care

TRIS AMINO™ ULTRA PC

Globally Compliant Tromethamine Buffer for Personal Care and Cosmetic Products

When you need pure and broadly compliant tromethamine in commercial quantities for cosmetic and personal care products, make TRIS AMINO™ ULTRA PC tromethamine your first choice.

Tromethamine is rapidly becoming the preferred buffer and mild neutralizing amine for personal care and cosmetic products. For this reason, ANGUS has designed TRIS AMINO ULTRA PC to meet your global compliance needs.

TRIS AMINO ULTRA PC sets a new quality benchmark as it is compliant as of May 2015 with the most recent European Union rulings on purity, secondary amine and nitrosamine content of raw materials used in the manufacture of cosmetics and personal care products.

- As of May 2015:
 - European Cosmetic Directive 76/768/EEC compliant
 - China Food and Drug Administration “Safety and Technical Standards for Cosmetics” compliant
 - 2008 ASEAN Cosmetic Directive compliant
 - CTFA, including listing in USA and Japan (Tromethamine)
 - ISO 9000:2000 certified
- Reliable and consistent cGMP batch production process
- Batch size up to 1800 kg
- Standard packaging 25 kg drums
- Global supply capability

Typical Properties

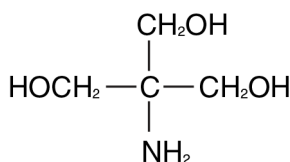
The following are typical physical/chemical properties of TRIS AMINO ULTRA PC; they are not to be considered product specifications.

Appearance	White, crystalline powder
Assay on a dried basis, % by weight (minimum)	99.0
Water content, % by weight (maximum)	0.2
APHA color, 20 % aqueous solution (maximum)	20
Secondary amines, anhydrous, % weight	<0.5
Nitrosamine content, ppb	<50

Application

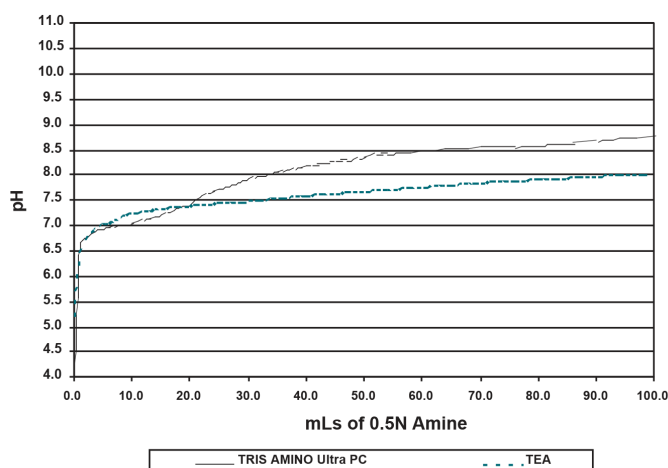
With its primary amine functionality, water- and alcohol-solubility and low toxicity, TRIS AMINO ULTRA PC is ideal as a buffer, solubilizer or neutralizer in:

- Skin treatment gels
- Sun blocks and sun screen lotions
- Detergent cleansing gels
- Spray-on lotions
- Cosmetic preparations



The lower equivalent weight and higher pKa value of TRIS AMINO ULTRA PC makes it more efficient than the tertiary amine triethanolamine (TEA) in developing alkaline pH and neutralizing acid-functional ingredients. TRIS AMINO ULTRA PC also provides superior color stability versus other amines and should not cause yellowing or darkening in skin-care preparations upon storage.

Neutralization of 0.1N Stearic Acid with TRIS AMINO ULTRA PC & TEA



Health and Safety

Tromethamine is slightly irritating to the skin upon prolonged contact and is not classified as a dermal sensitizer. Undiluted tromethamine is considered to have low toxicity via ingestion. Dusts may cause eye irritation or slight irritation to the mucous membranes of the gastrointestinal tract or respiratory tract. At the concentrations typically found in finished products, it is considered to be practically non-toxic. Please refer to the Safety Data Sheet for further information.

Environmental and Disposal Considerations

Bioaccumulation potential of tromethamine is low. Biodegradation of tromethamine will occur slowly in the environment following an acclimation period based on BOD (biochemical oxygen demand) data. In the atmospheric environment, the material is estimated to have a tropospheric half-life of four hours and, therefore, will not likely persist in the atmosphere. The material is practically non-toxic to fish on an acute basis (LC50 > 100 mg/L). Any disposal practice must be in compliance with Council Directive 91/689/EEC and with all local and national laws and regulations. Please refer to the Safety Data Sheet for further information.

Product Stewardship

ANGUS encourages its customers to review their applications of ANGUS products from the standpoint of human health and environmental quality. To help ensure that ANGUS products are not used in ways for which they are not intended, ANGUS personnel will assist customers in dealing with environmental and product safety considerations. For assistance, product Safety Data Sheets, or other information, please contact your ANGUS representative at the numbers provided in this document. When considering the use of any ANGUS product in a particular application, review the latest Safety Data Sheet to ensure that the intended use is within the scope of approved uses and can be accomplished safely. Before handling any of the products, obtain available product safety information including the Safety Data Sheet(s) and take the necessary steps to ensure safety of use.

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