TRIS AMINO™ CRYSTALS

FOR BIOLOGICAL REPROCESSING AND INDUSTRIAL FORMULATION

TRIS AMINO™ Crystals from ANGUS Chemical Company is manufactured to meet the needs and specifications of formulators and blenders that serve life sciences research and intermediate chemical applications with a consistent product at an economical price.

TYPICAL PROPERTIES[(a)]

Appearance	white, crystalline powder
Assay, on a dried basis, % by weight (min.)	99.0
pH, 5% aqueous solution	10.0-11.5
APHA Color, 20% aqueous solution (max.)	20
Water content, % by weight (max.)	0.5
Melting Point, dried basis, 0°C (min.)	>160°C (>320°F)
UV Abs @260mm, 40% Aqueous	< or = 0.40 OD
UV Abs @280mm, 40% Aqueous	< or = 0.40 OD
UV Abs @290mm, 40% Aqueous	< or = 0.40 OD

[(a)]Values shown are typical properties and are not to be considered product specifications. Test methods available upon request.

USES

Life Sciences Applications
TRIS AMINO Crystals can be used in life sciences applications as a raw material for further processing, custom synthesis and formulating, where the highest purity is not required and compendial compliance is not needed. TRIS AMINO Crystals play an important role in the production, storage and use of enzymes for medical diagnostic assays, preparation of alkaline phosphate buffers, acidimetric standards and the preparation of TRIS AMINO salts for non-dissociating buffer systems used in electrophoretic techniques.

Resin Neutralization
TRIS AMINO Crystals can be used as an alternative neutralizer to ammonia, morpholine or other traditional volatile alkaline agents in water-based, resin-containing coatings systems such as paints and inks. TRIS AMINO Crystals will not contribute to color instability in low-VOC systems but will maintain film performance and solution stability. Unlike inorganic bases, TRIS AMINO Crystals will function as an alkaline pH buffer, maintaining a desired pH level despite incremental additions of acids to an aqueous solution.

Synthesis Starting Material
TRIS AMINO Crystals are useful as a starting material for synthesis of more complex organic chemicals, such as the production of oxazoline-functional products. Formed by the dehydration reaction between TRIS AMINO and a carboxylic acid, oxazolines have been used in a variety of industries, including motor oils and lubricants, paints and coatings, cosmetics, emulsion explosives and oil production.

Coatings
TRIS AMINO Crystals can be used as a buffering agent in the deposition of thin film poly-dopamine coatings. TRIS AMINO buffered systems promote rapid, controlled polymerization and deposition at the molecular level. These coatings have found use in biomedical applications, coatings for inorganic materials in electronics, and structural colors.

REGULATORY STATUS

See Safety Data Sheet (SDS)

PACKAGING AND STORAGE

TRIS AMINO Crystals is not classified as hazardous under the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). TRIS AMINO Crystals does not meet any of the defined criteria for “dangerous goods” contained in the International Transportation Regulations for Air (ICAO Technical Instructions) or for Ocean Transport (IMDG Code).

Shipping containers[(b)]	**Net wt.**	**Gross wt.**
Poly-lined paper bags	50 lbs./ 22.68 kg.	50.65 lbs./ 22.97 kg

Keep away from direct sunlight. Keep container tightly sealed until ready for use. Keep in a dry place. Store at room temperature.

[b]The shipping containers listed meet UN 1A1 packaging specifications. TRIS AMINO Crystals is also shipped in custom package sizes.

CHEMICAL INVENTORIES

Chemical Name	CAS No.	EINECS No.
Tris(hydroxymethyl)aminomethane	77-86-1	201-064-4

PRODUCT STEWARDSHIP

When considering the use of any ANGUS product in a particular application, review the latest Safety Data Sheet (SDS) 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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