

SECURE CHEMISTRY. SECURE SUPPLY. SECURE CONFIDENCE.



ANGUS is a leading global manufacturer of critical buffers for use in a variety of demanding pharmaceutical and biotechnology applications. With more than 50 years of manufacturing experience, we continue to invest in capacity and capabilities to deliver new buffer products and grades that meet the dynamic needs – as well as the regulatory and performance requirements – of the global markets we serve. All grades are GMO-free and BSE / TSE-free.

ANGUS BUFFER PRODUCT				PACKAGE SIZE AND GMID					PROPERTIES AND SPECIFICATIONS					
GRADE	MONOGRAPH	cGMP	ADDITIONAL MICROBIAL TESTING	1 kg	5 kg	12 kg	25 kg	50 kg	COUNTRY OF ORIGIN	CAS #	MOLECULAR WEIGHT (DALTON)	pH RANGE	MINIMUM PURITY (%)	
Buffer Series														
TRIS AMINO™ Standard Buffer							273255		U.S.	77-86-1	121.14	10-11.5	99.3	
TRIS AMINO™ Buffer ACS Grade	ACS			375893	375894		146914		U.S.	77-86-1	121.14	10-11.5	99.8	
TRIS AMINO™ AC Buffer							375981		Germany	77-86-1	121.14	10-11.5	99.9	
Ultra Pure Series														
TRIS AMINO™ Ultra Pure	USP/EP	X		375546	154032	201109	288737	151698	U.S.	77-86-1	121.14	10-11.5	99.9	
TRIS AMINO™ Ultra Pure	USP/EP/JPC	X	ET			11103466	279652	375624	U.S.	77-86-1	121.14	10-11.5	99.9	
TRIS AMINO™ Ultra Pure ¹	USP/EP/JPC/ChP	X	ET, Sterility				375547	375548	U.S.	77-86-1	121.14	10-11.5	99.9	
TRIS AMINO™ Ultra Pure Biologics Grade	USP/EP	X	ET, BB				375825	375824	375647	U.S.	77-86-1	121.14	10-11.5	99.9
TRIS AMINO™ Molecular Biology Grade	USP/EP	X	DN, RN, PR	375897	375898	376125	375845		U.S.	77-86-1	121.14	10-11.5	99.9	
TRIS AMINO™ AC Ultra Pure	USP/EP	X					375904		Germany	77-86-1	121.14	10-11.5	99.9	
TRIS AMINO™ AC Ultra Pure	USP/EP/JPC	X	ET				375905		Germany	77-86-1	121.14	10-11.5	99.9	
TRIS AMINO™ AC Ultra Pure	USP/EP/JPC/ChP	X	ET, Sterility				375906		Germany	77-86-1	121.14	10-11.5	99.9	
TRIS AMINO™ AC Ultra Pure Biologics Grade	USP/EP	X	ET, BB		376127	376126	375907		Germany	77-86-1	121.14	10-11.5	99.9	
TRIS Derivatives Series														
TRIS AMINO™ HCl					376066	376067	376068		U.S.	1185-53-1	157.6	4.2-5.0	99.0	
TRIS AMINO™ HCl Biologics Plus		X	ET, BB, DN, RN, PR, YM		376070	376071	376072	376099	U.S.	1185-53-1	157.6	4.2-5.0	99.5	
BIS-TRIS							146820		Mexico	6976-37-0	209.24	5.8-7.2	99.0	
BIS TRIS Biologics Grade			ET, BB		376043	376042	376041		Mexico	6976-37-0	209.24	5.8-7.2	99.0	
HEPES Buffer Series														
HEPES Biologics Plus			ET, BB, DN, RN PR, YM, TMC	376169	376170	376171	376172		U.S.	7365-45-9	238.3	6.8-8.2	99.5	

¹TRIS AMINO™ Ultra Pure USP/EP/JPC/ChP grade product has an excipient registration number with the Chinese Center for Drug Evaluation (CDE). This registration number, F20190000165, can be utilized by customers in order to list ANGUS' TRIS AMINO™ product in their regulatory filings with the CDE for new drug products or substances.

Additional Testing Key: ET = Endotoxin BB = Bioburden DN = DNase
RN = RNase PR = Protease YM = Yeast and Mold TMC = Total Microbial Count

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