



**Specification for Citric Acid, Monohydrate, USP, EP, BP, JP,  
FCC, bioCERTIFIED (TM) (C9400)**

Item Number	C9400
Item	Citric Acid, Monohydrate, USP, EP, BP, JP, FCC, bioCERTIFIED (TM)
CAS Number	5949-29-1
Molecular Formula	$C_6H_8O_7 \cdot H_2O$
Molecular Weight	210.14
MDL Number	
Synonyms	2-Hydroxy-1,2,3-propanetricarboxylic Acid

Test	Specification	
	Min	Max
APPEARANCE		
ASSAY (ANHYDROUS BASIS) (USP/EP/BP/JP)	99.5	100.5 %
ASSAY (ANHYDROUS BASIS) (FCC)	99.5	100.5 %
WATER DETERMINATION (USP/EP/BP/JP)	7.5	9.0 %
RESIDUE ON IGNITION (USP/EP/BP/JP)		0.1 %
RESIDUE ON IGNITION (FCC)		0.05 %
SULFATE (USP/JP)		0.15 %
SULFATES (EP/BP)		150 ppm
LIMIT OF OXALIC ACID (USP/EP/BP/JP)		0.036 %
OXALATE (FCC)		100 mg/kg
APPEARANCE OF SOLUTION (EP/BP)	CLEAR AND COLORLESS OR NOT MORE INTENSELY COLORED THAN Y?, BY?, OR GY?	
CLARITY OF SOLUTION (USP)	SAME AS WATER OR NOT MORE THAN STANDARD SUSPENSION A	
COLOR OF SOLUTION (USP)	NOT MORE THAN WATER OR STANDARD SOLUTIONS A, B, AND C	
CLARITY AND COLOR OF SOLUTION (JP)	CLEAR AND COLORLESS OR NOT MORE INTENSELY COLORED THAN CONTROL SOLUTIONS 1, 2, AND 3	
READILY CARBONIZABLE SUBSTANCES (USP/EP/BP/JP)	COLOR IS NOT DARKER THAN MATCHING FLUID K	
READILY CARBONIZABLE SUBSTANCES (FCC):		

Test	Specification	
	Min	Max
ABSORBANCE		0.52
TRANSMISSION		30 %
HEAVY METALS (JP)		10 ppm
LEAD (FCC)		0.5 mg/kg
WATER DETERMINATION (FCC)		8.8 %
MICROBIAL LIMITS:		
TAMC		1000 cfu/g
TYMC		100 cfu/g
BACTERIAL ENDOTOXIN (BET)		0.5 IU/mg
ELEMENTAL IMPURITIES	AS REPORTED	
IDENTIFICATION A (USP A)	SPECTRUM MATCHES REFERENCE	
IDENTIFICATION B (FCC)	POSITIVE FOR CITRATE	
IDENTIFICATION C (EP/BP A)	SOLUTION IS STRONGLY ACIDIC	
IDENTIFICATION D (EP/BP B)	SPECTRUM MATCHES REFERENCE	
IDENTIFICATION E (EP/BP C)	RED COLOR DEVELOPS	
IDENTIFICATION F (EP/BP D)	WHITE PRECIPITATE FORMS	
IDENTIFICATION G (EP/BP E)	7.5	9.0 %
IDENTIFICATION H (JP)	SPECTRUM MATCHES REFERENCE	
EXPIRATION DATE		
DATE OF MANUFACTURE		
MONOGRAPH EDITION		
MONOGRAPH EDITION.		
RESIDUAL SOLVENTS	AS REPORTED	

***Spectrum Chemical Mfg Corp***

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