

VCR C-23 B1304



## SHIN-YO CO., LTD.

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## Certificate of Analysis

Sep.24, 2021

Product name : Cupric Sulfate Anhydrous (USP/FCC Equivalent)  
 CAS No. : 7758-98-7  
 Country of Origin : Japan

Items	Specifications			Results	Test Methods
	USP (Anhydrous)	FCC (Pentahydrate)	SHIN-YO (Anhydrous)	Lot No. 109070	
Solubility (Water)	-----	soluble	soluble	meets tests	FCC
Solubility (Glycerin)	-----	soluble	soluble	meets tests	FCC
Solubility (Alcohol)	-----	slightly soluble	slightly soluble	meets tests	FCC
Identification	positive	positive	positive #1	meets tests	FCC
Assay <Cu>	(39.2~40.0% #2)	-----	(39.2~39.8%)	39.59 %	USP
<CuSO <sub>4</sub> ·5H <sub>2</sub> O>	-----	98.0~102.0%	-----	-----	-----
<CuSO <sub>4 <td>98.5~100.5% #2</td> <td>-----</td> <td>98.5~100.0%</td> <td>99.43 %</td> <td>USP</td> </sub>	98.5~100.5% #2	-----	98.5~100.0%	99.43 %	USP
Loss on drying (Dry at 250°C)	≦ 1.0 %	-----	≦ 1.0 %	0.41 %	USP
Sodium <Na>	≦ 0.02 %	-----	≦ 0.02 %	0.0001 %	ICP-OES
Potassium <K>	≦ 0.01 %	-----	≦ 0.01 %	0.0004 %	ICP-OES
Calcium <Ca>	≦ 0.005 %	-----	≦ 0.005 %	0.0002 %	ICP-OES
Iron <Fe>	≦ 0.003 %	≦ 0.01 %	≦ 0.003 %	0.0005 %	ICP-OES
Nickel <Ni>	≦ 0.005 %	-----	≦ 0.005 %	0.0001 %	ICP-OES
Substances not precipitated by Hydrogen Sulfide	-----	≦ 0.3 %	≦ 0.3 % #3	< 0.3 %	ICP-OES
Lead <Pb>	-----	≦ 0.0004 %	≦ 0.0001 %	< 0.0001 %	ICP-OES
Description	-----	-----	light gray powder	meets tests	Visual
Particle size on 60 mesh	-----	-----	≦ 0.1 %	0.08 %	JIS
Particle size on 100 mesh	-----	-----	≦ 2.0 %	0.74 %	JIS

#1 : A 1:20 solution gives positive tests for *Copper* and for *Sulfate*, Appendix IIIA (FCC)  
 #2 : Dried at 250°C to constant weight  
 #3 : Conversion value (CaSO<sub>4</sub>+MgSO<sub>4</sub>+Na<sub>2</sub>SO<sub>4</sub>+K<sub>2</sub>SO<sub>4</sub>)

USP = United States Pharmacopeia, FCC = Food Chemicals Codex  
 Meets Kosher requirement.

Manufacturing Date : Sep.7, 2021

Retest Date : Sep.6, 2023

Q.C. Manager :

*Mitsuru Ono*