

COMPONENTS: 1. Copper tellurite; CuTeO_3 ; [13812-58-3] 2. Hydrochloric acid; HCl ; [7647-01-0] 3. Sulfuric acid; H_2SO_4 ; [7664-93-9] 4. Water; H_2O ; [7732-18-5]		ORIGINAL MEASUREMENTS: Ganelina, E.Sh. <i>Zh. Priklad. Khim.</i> <u>1967</u> , <i>40</i> , 1019-24; * <i>J. Appl. Chem. USSR (Eng. Transl.)</i> <u>1967</u> , <i>40</i> , 983-7.			
VARIABLES: One temperature, probably 298 K pH varied.		PREPARED BY: Mary R. Masson			
EXPERIMENTAL VALUES:					
		Author		Compiler	
pH	$[\text{Cu}^{2+}] \times 10^2$ mol dm^{-3}	$\alpha_{\text{L(H)}}$	$K_{\text{SO}} \times 10^7$ mol ² dm^{-6}	$\alpha_{\text{L(H)}}$	$K_{\text{SO}} \times 10^{11}$ mol ² dm^{-6}
3.78	7.2	3.24×10^5	0.16	1.21×10^8	4.29
4.04	5.4	1.27×10^5	0.23	3.66×10^7	7.96
4.44	3.5	3.5×10^4	0.35	5.89×10^6	20.8
4.61	2.6	1.78×10^4	0.38	2.72×10^6	24.9
4.26	1.7	1.81×10^4	0.16	1.34×10^7	2.16
4.54	1.56	1.43×10^4	0.17	3.74×10^6	6.51
Mean = 0.24×10^{-7}			Mean = 11.1×10^{-11}		$\text{p}K_{\text{SO}} = 9.95$
4.25	1.19	2.21×10^3	0.64	1.40×10^7	1.01
4.45	1.73	4.34×10^3	0.69	5.62×10^6	5.32
3.85	2.91	1.97×10^4	0.43	8.76×10^7	0.967
4.42	0.84	3.92×10^3	0.18	6.45×10^6	1.09
4.04	1.52	1.05×10^4	0.22	3.66×10^7	0.631
4.50	0.62	3.49×10^3	0.11	4.48×10^6	0.783
Mean = 0.38×10^{-7}			Mean = 1.6×10^{-11}		$\text{p}K_{\text{SO}} = 10.80$
<p>The results calculated by the author by using acid dissociation constants said to be from (1) are given along with values calculated by the compiler using constants from (2), which should be more reliable.</p> <p>The author does not state the temperature at which the investigations were done. The work on barium and lead tellurites was done at 25°C, and this work was probably done at the same temperature.</p>					
AUXILIARY INFORMATION					
METHOD APPARATUS/PROCEDURE: Copper tellurite was stirred with solutions of hydrochloric or sulfuric acid of various concentrations until equilibrium was established. The solution pH was measured by means of an LPU-01 instrument with a glass electrode. Copper in the filtrate was determined gravimetrically as CuCNS .			SOURCE AND PURITY OF MATERIALS: Copper tellurite was prepared by the exchange reaction between sodium tellurite and a copper salt. The precipitate was dried over H_2SO_4 and analysed for copper, tellurium and water of crystallization.		
			ESTIMATED ERROR: The error in K_{SO} is very large, possibly because of the low solubility of tellurous acid at low pH.		
			REFERENCES: 1. Blanc, E. <i>J. Chem. Phys.</i> <u>1920</u> , <i>18</i> , 40. 2. Masson, M.R. <i>J. Inorg. Nucl. Chem.</i> <u>1976</u> <i>38</i> , 545-8.		