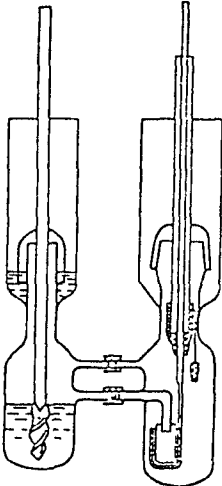


COMPONENTS: (1) Cesium iodate; CsI ₃ ; [13454-81-4] (2) Water; H ₂ O; [7732-18-5]	ORIGINAL MEASUREMENTS: Wheeler, H.L. <i>Am. J. Sci.</i> <u>1892</u> , [3] 44, 123-33.
VARIABLES: T/K = 297	PREPARED BY: Hiroshi Miyamoto
EXPERIMENTAL VALUES: <p style="text-align: center;">The solubility of CsI₃ in water is given as 100 parts water dissolve 2.6 parts of CsI₃.</p> <p style="text-align: center;">The compiler's conversions to mass % and mol kg⁻¹ are 2.53 mass % 0.0844 mol kg⁻¹</p>	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: No information was given.	SOURCE AND PURITY OF MATERIALS: Cesium iodate was prepared by stoichiometric mixing of iodic acid and cesium carbonate. The solution was boiled, and upon cooling small cubic crystals were separated. The product was filtered, washed with cold water, pressed on papers, and then dried at 100°C. Found: Cs 43.08; I 40.84; O 15.74. Calcd for CsI ₃ : Cs 43.18; I 41.23; O 15.59.
ESTIMATED ERROR: Nothing specified.	
REFERENCES:	

COMPONENTS: (1) Cesium iodate; CsIO ₃ ; [13454-81-4] (2) Water; H ₂ O; [7732-18-5]	ORIGINAL MEASUREMENTS: Barker, T.V. <i>J. Chem. Soc.</i> <u>1908</u> , 93, 15-6.
VARIABLES: T/K = 297	PREPARED BY: Hiroshi Miyamoto
EXPERIMENTAL VALUES: <p style="text-align: center;">The solubility of CsIO₃ in water at 24°C was given as 100 parts of water dissolves 2.6 parts of salt. This is equivalent to 0.084 mol kg⁻¹ (compiler).</p> <p style="text-align: center;">The specific gravity of the saturated solution at 16°C was reported as 4.559. The compiler assumes that pptn occurred upon cooling a satd sln at 24°C to 16°C.</p>	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: The iodine content was estimated by the Carius method (the reference was not given in the original paper), but the compiler assumes that the total solubility was determined by evaporation and heating to constant mass. The heating was carried out in two operations lasting four hours: the first to 150°C, and the second to 250°C. The cesium content was determined by the usual sulfate method. No other information was given in the original paper.	SOURCE AND PURITY OF MATERIALS: Cesium iodate was prepared by adding aqueous HIO ₃ solution to aqueous cesium carbonate solution. Another method was also used to prepare cesium iodate: a good yield was obtained by passing chlorine into a hot concentrated solution of a mixture of cesium iodide and hydroxide. No other information given. ESTIMATED ERROR: Nothing specified. REFERENCES:

COMPONENTS: (1) Cesium iodate; CsIO_3 ; [13454-81-4] (2) Water; H_2O ; [7732-18-5]		ORIGINAL MEASUREMENTS: Breusov, O.N.; Kashina, N.I.; Revzina, T.V.; Sobolevskaya, N.G. <i>Zh. Neorg. Khim.</i> 1967, 12, 2240-3; <i>Russ. J. Inorg. Chem.</i> (Engl. Transl.) 1967, 12, 1179-81.	
VARIABLES: Temperature: 273.2 to 373.2 K		PREPARED BY: Hiroshi Miyamoto	
EXPERIMENTAL VALUES:			
Solubility of CsIO_3			
$t/^\circ\text{C}$	mass %	mol %	mol kg^{-1} (compiler)
0	1.07	0.0633	0.0351
10	1.57	0.0933	0.0518
20	2.29	0.137	0.0761
25	2.62	0.157	0.0874
30	2.99	0.180	0.100
40	4.00	0.243	0.135
50	4.05	0.310	0.173
60	6.20	0.385	0.215
70	7.62	0.481	0.268
80	9.08	0.581	0.324
90	10.85	0.707	0.395
100	12.58	0.835	0.468
			
High temperature apparatus			
AUXILIARY INFORMATION			
METHOD/APPARATUS/PROCEDURE: Isothermal method. Equilibrium reached in 4-5 h. From 90-100°C, soly detd in apparatus shown in figure. At equilibrium, the apparatus was tilted to allow satd sln to filter through connecting tube into weighed test tubes. The test tube was closed with a stopper, withdrawn, and weighed. Condensation on the walls of the apparatus and loss of water by evaporation was thus prevented. At the lower temperatures, ordinary soly vessels were used, and pipets with glass filters were used for sampling (no other details given). Above 50°C, the pipets were preheated in the thermostat. Iodate was determined iodometrically.		SOURCE AND PURITY OF MATERIALS: Results of analysis of CsIO_3 : CsIO_3 content; 99.5 % Impurities, %; K 0.005; Rb 0.20; Na 0.02; SO_4 <0.05; Fe 0.005.	
		ESTIMATED ERROR: Soly: nothing specified. Temp: precision ± 0.1 K.	
		REFERENCES:	