

COMPONENTS: (1) Cesium chlorate; CsClO ₃ ; [13763-67-2] (2) Water; H ₂ O; [7732-18-5]	ORIGINAL MEASUREMENTS: Calzolari, F. <i>Gazz. Chim. Ital.</i> <u>1912</u> , 42, 85-92.																													
VARIABLES: T/K = 273 to 372	PREPARED BY: B. Scrosati																													
EXPERIMENTAL VALUES: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="text-align: center;">t/°C</th> <th colspan="2" style="text-align: center;">Solubility</th> </tr> <tr> <th style="text-align: center;">g/100g H₂O</th> <th style="text-align: center;">mol kg⁻¹ (compiler)</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">0</td><td style="text-align: center;">2.46</td><td style="text-align: center;">0.114</td></tr> <tr><td style="text-align: center;">8</td><td style="text-align: center;">3.50</td><td style="text-align: center;">0.162</td></tr> <tr><td style="text-align: center;">19.8</td><td style="text-align: center;">6.28</td><td style="text-align: center;">0.290</td></tr> <tr><td style="text-align: center;">30</td><td style="text-align: center;">9.53</td><td style="text-align: center;">0.440</td></tr> <tr><td style="text-align: center;">42.2</td><td style="text-align: center;">14.94</td><td style="text-align: center;">0.667</td></tr> <tr><td style="text-align: center;">50</td><td style="text-align: center;">19.40</td><td style="text-align: center;">0.897</td></tr> <tr><td style="text-align: center;">77</td><td style="text-align: center;">41.65</td><td style="text-align: center;">1.925</td></tr> <tr><td style="text-align: center;">99</td><td style="text-align: center;">76.5</td><td style="text-align: center;">3.54</td></tr> </tbody> </table>		t/°C	Solubility		g/100g H ₂ O	mol kg ⁻¹ (compiler)	0	2.46	0.114	8	3.50	0.162	19.8	6.28	0.290	30	9.53	0.440	42.2	14.94	0.667	50	19.40	0.897	77	41.65	1.925	99	76.5	3.54
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METHOD/APPARATUS/PROCEDURE: Method of equilibration not specified, but probably the isothermal method was employed. Aliquots of saturated solution for analysis were withdrawn with a pipet. The aliquots were placed in platinum dishes and the water evaporated. The residues were dried at 120°C to constant weight.	SOURCE AND PURITY OF MATERIALS: Cesium chlorate was prepared by treating cesium sulfate with barium chlorate. The product was repeatedly recrystallized until no trace of sulfate and barium were detected. The purity of the salt obtained was checked by volumetrically determining chlorine in the anhydrous chloride dried at 150-160°C. The result was not given.																													
ESTIMATED ERROR: Not possible to estimate due to insufficient data.																														
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VARIABLES: One temperature: 293 K	PREPARED BY: Hiroshi Miyamoto
EXPERIMENTAL VALUES: <p style="text-align: center;">The solubility of cesium chlorate in water at 20°C was given as:</p> <p style="text-align: center;">0.29 mol kg^{-1}</p> <p>The concentration solubility product was also given simply as the square of the solubility:</p> <p style="text-align: center;">$8.41 \times 10^{-2} \text{ mol}^2 \text{ kg}^{-2}$</p>	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: No information was given.	SOURCE AND PURITY OF MATERIALS: No information was given. ESTIMATED ERROR: Nothing specified. REFERENCES:

COMPONENTS: (1) Cesium chlorate; CsClO_3 ; [13763-67-2] (2) Water; H_2O ; [7732-18-5]	ORIGINAL MEASUREMENTS: Breusov, O.N.; Kashina, N.I.; Revzina, T.V.; Sovolevskaya, N.G. <i>Zh. Neorg. Khim.</i> 1967, 12, 2240-3; <i>Russ. J. Inorg. Chem. (Engl. Transl.)</i> 1967, 12, 1179-81.																																																							
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EXPERIMENTAL VALUES: <table border="1" data-bbox="157 504 727 887"> <thead> <tr> <th rowspan="2">t/°C</th> <th colspan="3">Solubility of CsClO_3</th> </tr> <tr> <th>mass %</th> <th>mol %</th> <th>mol kg⁻¹ (compiler)</th> </tr> </thead> <tbody> <tr><td>0</td><td>2.42</td><td>0.206</td><td>0.115</td></tr> <tr><td>10</td><td>3.98</td><td>0.344</td><td>0.192</td></tr> <tr><td>20</td><td>5.92</td><td>0.521</td><td>0.291</td></tr> <tr><td>25</td><td>7.27</td><td>0.649</td><td>0.362</td></tr> <tr><td>30</td><td>8.63</td><td>0.780</td><td>0.437</td></tr> <tr><td>40</td><td>12.25</td><td>1.149</td><td>0.645</td></tr> <tr><td>50</td><td>16.42</td><td>1.609</td><td>0.908</td></tr> <tr><td>60</td><td>21.09</td><td>2.177</td><td>1.235</td></tr> <tr><td>70</td><td>26.37</td><td>2.896</td><td>1.655</td></tr> <tr><td>80</td><td>31.74</td><td>3.872</td><td>2.149</td></tr> <tr><td>90</td><td>37.91</td><td>4.838</td><td>2.822</td></tr> <tr><td>100</td><td>43.71</td><td>6.073</td><td>3.589</td></tr> </tbody> </table> <div data-bbox="878 544 1097 1038" style="text-align: center;"> </div> <p style="text-align: center;">High temperature apparatus</p>		t/°C	Solubility of CsClO_3			mass %	mol %	mol kg ⁻¹ (compiler)	0	2.42	0.206	0.115	10	3.98	0.344	0.192	20	5.92	0.521	0.291	25	7.27	0.649	0.362	30	8.63	0.780	0.437	40	12.25	1.149	0.645	50	16.42	1.609	0.908	60	21.09	2.177	1.235	70	26.37	2.896	1.655	80	31.74	3.872	2.149	90	37.91	4.838	2.822	100	43.71	6.073	3.589
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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. Satd slns analyzed for chlorate by addition of excess ammonium iron (II) sulfate and back-titration of the excess Fe(II) with potassium permanganate.	SOURCE AND PURITY OF MATERIALS: Results of analysis of CsClO_3 ; Content of CsClO_3 100.0 % Impurities, %, K <0.05 %; Rb <0.25; Na <0.05.																																																							
	ESTIMATED ERROR: Soly: nothing specified. Temp: precision ± 0.1 K.																																																							
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