COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Rubidium chlorate; $RbClO_3$; [13446-71-4] (2) Cesium chlorate; $CsClO_3$; [13763-67-2] (3) Water; H_2O; [7732-18-5]	Kirgintsev, A.N.; Kashina, N.I.; Vulikh, A.I.; Korotkevich, B.I. *Zh. Neorg. Khim.* 1965, *10*, 1225-8; *Russ. J. Inorg. Chem. (Engl. Transl.)* 1965, *10*, 662-4.
VARIABLES: Composition T/K = 298.2	**PREPARED BY:** Hiroshi Miyamoto

EXPERIMENTAL VALUES: Composition of the saturated solutions at 25°C

total salts mol kg^{-1}		rubidium chlorate		cesium chlorate	
	y_1[a]	$g_1/100\ g_3$	mass %[b]	$g_2/100\ g_3$	mass %[b]
3.62	0.00	0.00	0.00	7.79	7.23[c]
3.85	0.12	0.79	0.78	7.31	6.81
4.12	0.23	1.58	1.56	6.89	6.45
4.42	0.33	2.49	2.43	6.37	5.99
4.86	0.46	3.74	3.61	5.73	5.41
5.04	0.54	4.80	4.40	5.02	4.78
4.92	0.62	5.13	4.88	4.08	3.92
4.77	0.67	5.37	5.10	3.44	3.33
4.46	0.78	5.86	5.54	2.15	2.10
4.17	0.86	6.10	5.75	1.23	1.22
3.94	1.00	6.65	6.24[c]	0.00	0.00

[a] y_1 = mole fraction of $RbClO_3$ in mixture of chlorates.

[b] calculated by the compiler.

[c] For the binary systems at 25°C the compiler computes the following:

soly $RbClO_3$ = 0.394 mol kg^{-1} and 0.705 mol %

soly $CsClO_3$ = 0.360 mol kg^{-1} and 0.645 mol %.

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Solubility in this system was studied by the isothermal relief of supersaturation method. Weighed amounts of chlorates were dissolved in water in 50 cm^3 test-tubes by heating on a water bath at 65-70°C; the test-tubes were then placed in a thermostat at 25°C for 20 min. Supersaturation was then removed by stirring at 60 rpm for 10 h. After settling two samples of liquid phase were removed for analysis. The first was evaporated in a drying cupboard at 70-80°C and then dried to constant weight at 105°C. The other sample was analyzed for ClO_3^- by adding $FeSO_4$ sln and back-titrating excess iron(II) with permanganate solution.

SOURCE AND PURITY OF MATERIALS:

The purity of chlorates used was 99.9 % or better.

ESTIMATED ERROR:

Soly: accuracy of y_1 ± 0.01 (authors).
Temp: precision ± 0.1 K (authors).

REFERENCES: