COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Rubidium chlorate; $RbClO_3$; [13446-71-4]	Calzolari, F.
(2) Water; H_2O; [7732-18-5]	*Gazz. Chim. Ital.* 1912, *42*, 85-92.
VARIABLES:	**PREPARED BY:**
T/K = 273 to 372	B. Scrosati

EXPERIMENTAL VALUES:

	Solubility	
t/°C	g/100g H_2O	mol kg^{-1} (compiler)
0	2.138	0.1265
8	3.07	0.182
19.8	5.36	0.317
30	8.00	0.474
42.2	12.48	0.739
50	15.98	0.946
76	34.12	2.020
99	62.8	3.72

AUXILIARY INFORMATION

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 Aliquots of saturated solution for analysis were withdrawn with a pipet.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:

Rubidium chlorate was prepared by treating rubidium sulfate with barium chlorate. The product was repeatedly recrystallized until no trace of sulfate and barium were detected.
The purity of the salt was checked by volumetrically determining chlorine in the anhydrous chloride dried at 150-160°C.

ESTIMATED ERROR:

Not possible to estimate due to insufficient data.

REFERENCES:

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Rubidium chlorate; $RbClO_3$; [13446-71-4] (2) Water; H_2O; [7732-18-5]	Treadwell, W.D.; Ammann, A. *Helv. Chim. Acta.* 1938, *21*, 1249-56.
VARIABLES:	**PREPARED BY:**
One temperature; 293 K	Hiroshi Miyamoto

EXPERIMENTAL VALUES:

The solubility of rubidium chlorate in water at 20°C was given as:

$$0.32 \text{ mol kg}^{-1}$$

The concentration solubility product was also given simply as the square of the solubility:

$$1.02 \times 10^{-1} \text{ mol}^2 \text{ kg}^{-2}$$

AUXILIARY INFORMATION

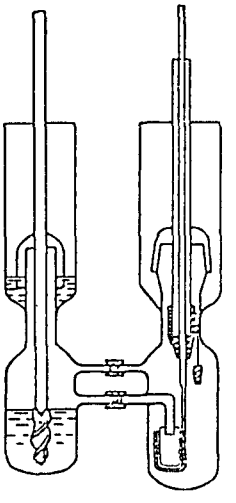
METHOD/APPARATUS/PROCEDURE:	SOURCE AND PURITY OF MATERIALS:
No information was given.	No information was given.
	ESTIMATED ERROR: Nothing specified.
	REFERENCES:

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) Rubidium chlorate; $RbClO_3$; [13446-71-4] (2) Water; H_2O; [7732-18-5]	Breusov, O.N.; Kashina, N.I.; Revzina, T.V.; Sobolevskaya, N.G. *Zh. Neorg. Khim.* 1967, *12*, 2240-3; *Russ. J. Inorg. Chem.* (*Engl. Transl.*) 1967, *12*, 1179-81.
VARIABLES: T/K = 273.2 to 373.2	**PREPARED BY:** Hiroshi Miyamoto

EXPERIMENTAL VALUES:

Solubility of $RbClO_3$

t/°C	mass %	mol %	mol kg^{-1} (compiler)
0	2.12	0.230	0.128
10	3.44	0.378	0.211
20	5.02	0.561	0.313
25	6.17	0.696	0.389
30	7.47	0.841	0.478
40	10.34	1.228	0.683
50	13.74	1.670	0.943
60	18.10	2.303	1.308
70	22.51	3.005	1.720
80	27.72	3.929	2.270
90	32.91	4.972	2.904
100	38.59	6.281	3.720



High temp. 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.

Saturated solutions 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 $RbClO_3$; Content of $RbClO_3$ 100.2 %. Impurities, %, K <0.05 %; Cs 0.05; Na <0.05.

ESTIMATED ERROR:

Soly: nothing specified.
Temp: precision ± 0.1 K.

REFERENCES: