COMPONENTS:	ORIGINAL MEASUREMENTS:
1. Potassium trihydrogen diselenite; $KH_3(SeO_3)_2$; [15457-71-3] 2. Water; H_2O; [7732-18-5]	Janitzki, J. *Z. Anorg. Allgem. Chem.* 1932, *205*, 49-75.
VARIABLES:	PREPARED BY:
Temperature: 266 - 333 K	Mary R. Masson

EXPERIMENTAL VALUES:

t/°C	$KH_3(SeO_3)_2$ mass %	$KH_3(SeO_3)_2$[a] mol/kg
- 6.9	46.52	2.938
0.0	53.57	3.897
+11.9	63.20	5.801
20.3	68.65	7.397
31.0	75.71	10.529
40.2	80.30	13.769
50.8	85.55	19.999
59.4	89.65	29.259

[a] Molalities calculated by the compiler.

AUXILIARY INFORMATION

METHOD APPARATUS/PROCEDURE:

For each temperature, a saturated solution was prepared by stirring the salt in water inside a stoppered 4-cm diameter test-tube. Small samples of solution were removed at intervals, in order to test for attainment of equilibrium. The time required varied between 2 and 26 hr. The solutions were analysed for SeO_2 by the method of Norris and Fay (1).

SOURCE AND PURITY OF MATERIALS:

ESTIMATED ERROR:

Temperature: -20 - 0°C ±0.3°C, 0 - 60°C ±0.1°C, 60 - 110°C ±0.3°C.

REFERENCES:

1. Norris, J.F.; Fay, H. *Amer. Chem. J.* 1896, *18*, 703; 1900, *23*, 119.

COMPONENTS:	ORIGINAL MEASUREMENTS:
1. Potassium trihydrogen diselenite; $KH_3(SeO_3)_2$; [15457-71-3] 2. Water; H_2O; [7732-18-5]	Janickis, J.; Gutmanaite, H. *Z. Anorg. Allgem. Chem.* 1936, 227, 1-16.
VARIABLES:	PREPARED BY:
Temperature: 265 - 273 K Composition	Mary R. Masson

EXPERIMENTAL VALUES:

Composition of equilibrium solutions

t/°C	$KH_3(SeO_3)_2$ mol/dm^3	$KH_3(SeO_3)_2$ mass %	$KH_3(SeO_3)_2$[a] mol/kg	Solid phase
-0.128	0.02	0.590	0.0201	ice
-0.288	0.05	1.467	0.0503	"
-0.544	0.1	2.905	0.1011	"
-1.027	0.2	5.69	0.2039	"
-2.302	0.5	13.43	0.524	"
-4.10	1	24.62	1.103	"
-7.42	2	42.3	2.478	"
-8.0	satd.	46.0	2.88	ice + $KH_3(SeO_3)_2$

[a] Molalities calculated by the compiler.

AUXILIARY INFORMATION

METHOD APPARATUS/PROCEDURE:

Freezing points of prepared solution were measured by use of a Beckman-type apparatus (1). Determinations were repeated until the desired reproducibility was attained. Each reported value is the mean of at least three determinations.

SOURCE AND PURITY OF MATERIALS:

Potassium trihydrogen diselenite was prepared from selenious acid and potassium hydroxide.

ESTIMATED ERROR:

Temperature reproducibility, 0.5%

REFERENCES:

1. Ostwald, W.; Luther, R. *Hand- und Hilfsbuch zur Ausfuhrung physikochemischer Messungen*, 5th Ed., Akademische Verlag., Leipzig, 1931.