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MOLTEN SALT DATA

Electrical Conductance, Density, and Viscosity

by

George J. Janz, Anthony T. Ward and Roger D. Reeves  
Rensselaer Polytechnic Institute  
Department of Chemistry  
Troy, New York

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ABSTRACT

Conductance, density, and viscosity data at round values of temperature ( $^{\circ}$ K) are given for some 126 inorganic compounds as Single-Salt Melts (Fluorides, 15; Chlorides, 34; Bromides, 20; Iodides, 23; Oxides, 7; Sulphates, 5; Nitrates, 7; Carbonates, 3; and Miscellaneous, 12). Equations expressing the temperature dependence of these properties for the single-salt melts are also given. For mixtures of these salts, the binary systems that have received attention are listed; numerical values for these mixtures are not given but are referenced.

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## I. INTRODUCTION

This compilation was undertaken largely to meet the need in the scientific community at large for "best" values for inorganic salts as single-salt melts. The need for such values to advance both theoretical and experimental studies in the various areas of high temperature technology involving molten inorganic compounds has become apparent with the increasing interest and activity in the last decades.

An assessment of the original publications for the properties of electrical conductance, density, and viscosity, for the various inorganic compounds in the molten state, for the period 1850 - 1964, was the first part of this study. Chemical Abstracts (ACS), Current Chemical Papers (Chemical Society, London), and Molten Salt Bibliography (Bibliography on Molten Salts; G.J. Janz, Rensselaer Polytechnic Institute, 1961); an Annotated Bibliography of Molten Salts (L.S. Charnoff, New York University, 1958), as well as the various scientific journals were searched for contributions pertinent to this work. The original data for some 126 inorganic compounds as single-salt melts were thus traced to the original research publications.

Where a given salt has been studied by more than one group of investigators, graphs of the numerical values against

temperature were drawn using the original experimental values (where available), and data calculated from equations quoted in these publications. In some cases, the equations for these data, with limits of error, are quoted, and in such cases, additional weight was given to these values when drawing a smooth curve through the graphical points. Comparison of the results of the various investigators with such a reference curve made possible the immediate exclusion of grossly inaccurate data, and the grading of the remaining values in order of agreement with the reference curve. The grading order was reasonably consistent in all cases where it was applicable; it was used as a base for the "best value" decisions.

The numerical data were programmed to linear, quadratic, and exponential type equations, using an IBM 1410 computer. Conservative standard deviations were obtained and are listed in the Tables of Equations; the equation giving the smallest standard deviation ( $s$ ) was used to compute the values of density ( $\rho$ ), specific conductance ( $X$ ), equivalent conductance ( $\Lambda$ ), and viscosity ( $\eta$ ) at round temperatures (10°K intervals for the range of measurements). The "best values" for  $\rho$  and  $X$  were used to compute the values of equivalent conductance.

For the mixtures, the assessment was restricted to binary systems. Since both composition and temperature are variables, and owing to the very limited number of studies made for any one system, no numerical data are listed in the present compilation. The binary

system and the reference to the original research publication are listed as a guide to the results in this area of molten salt studies.

Properties of the very low melting salts (e.g. < 100°C,  $\text{AlBr}_3$ , quaternary ammonium salts), and the silicates have not been included in this work.

## II. SINGLE SALT MELTS

A: Numerical Values The "best values", and the equations used (linear, quadratic, and exponential) for density ( $\rho$ ), specific conductance ( $\times$ ), equivalent conductance ( $\Lambda$ ), and viscosity ( $\eta$ ), are listed at 10°(K) intervals for temperature range of the measurements (Tables 1-126). The equivalent weight, melting point temperature, the temperature dependence as an equation, and the salient literature references are also given for each compound.

For presentation of the data, a classification in groups by anions, i.e., Fluorides, Chlorides, Bromides, Iodides, Carbonates, Nitrates, Oxides, Sulphates, and Miscellaneous, has been used. The order within each anionic group is summarized in the group title sheet preceding each set of tables.

B: Equations In general practice, the temperature dependence has been expressed by (a) linear, and (b) exponential type equations. Tables 127-130 list the coefficients for the following equations:

$$\text{density: } \rho = a - bT \quad (1)$$

$$\text{electrical conductance: } \kappa = a - bT \quad (2)$$

$$\kappa = A_\kappa e^{-E_\kappa/RT} \quad (3)$$

$$\text{and } \Lambda = A_\Lambda e^{-E_\Lambda/RT} \quad (4)$$

$$\text{viscosity: } \eta = A_\eta e^{E_\eta/RT} \quad (5)$$

$$\text{and } \eta = \frac{B}{v-b} \quad (6)$$

where the last expression (eq. 6) is an alternate method of representing the viscosity variation with temperature (the Batchinskii equation).

C: References The references to the original publications used as the data sources for the "best values" for the single-salt melts computed in this work are listed in this section.

### III. MIXTURES

The binary systems for which density, conductance, and viscosity data have been reported are listed in a series of three tables in this section; the salient references to each table are given so that the results, as originally published, can be readily recovered from the literature.

### IV. UNITS

Unless otherwise noted, the units in this compilation are as follows:

Temperature	$T^\circ K$
Equivalent Conductance	$\Lambda \text{ ohm}^{-1} \text{cm}^2 \text{equiv.}^{-1}$
Specific Conductance	$\kappa \text{ ohm}^{-1} \text{cm}^{-1}$
Density	$\rho \text{ g cm}^{-3}$
Viscosity	$\eta \text{ cp}$

Fluorides

$\text{LiF}$

$\text{NaF}$

$\text{KF}$

$\text{CsF}$

$\text{MgF}_2$

$\text{CaF}_2$

$\text{SrF}_2$

$\text{BaF}_2$

$\text{LaF}_3$

$\text{CeF}_3$

$\text{CuF}_2$

$\text{AgF}$

$\text{ZnF}_2$

$\text{PbF}_2$

$\text{MnF}_2$

TABLE ILITHIUM FLUORIDE

Eq. Wt. 25.94

m.p. 847 °C. (1120 °K.)

$$\chi = 1.29 \exp(-991/RT)$$

$$\rho = 2.3768 - 0.4902 \cdot 10^{-3} T$$

$$\Lambda = 31.30 \exp(-1611/RT)$$

T	$\Lambda$	$\chi$	$\rho$
1150	14.18	0.991 <sub>0</sub>	1.8131
1160	14.27	0.994 <sub>7</sub>	1.8082
1170	14.36	0.998 <sub>3</sub>	1.8033
1180	14.45	1.002 <sub>0</sub>	1.7984
1190	14.54	1.005 <sub>5</sub>	1.7935
1200	14.63	1.009 <sub>0</sub>	1.7886
1210	14.73	1.012 <sub>5</sub>	1.7837
1220	14.82	1.015 <sub>9</sub>	1.7788
1230	14.91	1.019 <sub>3</sub>	1.7739
1240	15.00	1.022 <sub>7</sub>	1.7690
1250	15.09	1.026 <sub>0</sub>	1.7641
1260	15.18	1.029 <sub>2</sub>	1.7591
1270	15.27	1.032 <sub>4</sub>	1.7542
1280	15.36	1.035 <sub>6</sub>	1.7493
1290	15.45	1.038 <sub>7</sub>	1.7444
1300	15.54	1.041 <sub>8</sub>	1.7395

Density: 25, 81, 83.Conductance: 42, 83, 86, 88.

TABLE 2SODIUM FLUORIDE

Eq. Wt. 42.00 m.p. 995°C.(1268°K.)

$$\chi = 7.706 \exp(-1046/RT)$$

$$\rho = 2.655 - 0.56 \cdot 10^{-3} T$$

$$\Lambda = 244.8 \exp(-2019/RT)$$

T	$\Lambda$	$\chi$	$\rho$
1270	110.0	5.091	1.944
1280	110.7	5.108	1.938
1290	111.4	5.124	1.933
1300	112.0	5.140	1.927
1310	112.7	5.156	1.921
1320	113.4	5.172	1.916
1330	114.1	5.187	1.910

Density: 25, 31.Conductance: 31, 46, 67, 86, 88.

TABLE 3POTASSIUM FLUORIDE

Eq. Wt. 58.10

m.p. 858°C.(1131°K.)

$$\chi = 7.969 \exp(-1341/RT)$$

$$\rho = 2.6464 - 0.6515 \cdot 10^{-3} T$$

$$\Lambda = 387.0 \exp(-2398/RT)$$

T	$\Lambda$	$\chi$	$\rho$
1150	135.7	4.431	1.8972
1160	136.9	4.454	1.8907
1170	138.0	4.476	1.8841
1180	139.2	4.498	1.8776
1190	140.3	4.520	1.8711
1200	141.5	4.541	1.8646
1210	142.7	4.562	1.8581
1220	143.8	4.583	1.8516
1230	145.0	4.604	1.8451
1240	146.1	4.624	1.8385
1250	147.3	4.644	1.8320
1260	148.4	4.664	1.8255
1270	149.6	4.684	1.8190
1280	150.8	4.704	1.8125
1290	151.9	4.723	1.8060
1300	153.1	4.742	1.7995
1310	154.3	4.761	1.7929

Density: 26, 81, 83.Conductance: 26, 31, 42, 73, 83, 86, 88.

TABLE 4CESIUM FLUORIDE

Eq. Wt. 151.91

m.p. 703 °C. (976 °K.)

$$\kappa = -9.6104 + 20.7048 \cdot 10^{-3} T - 7.6993 \cdot 10^{-6} T^2$$

$$\rho = 4.8985 - 1.2806 \cdot 10^{-3} T$$

$$\Lambda = 741.8 \exp(-3262/RT)$$

T	$\Lambda$	$\kappa$	$\rho$
1000	142.6	3.395	3.6179
1010	145.3	3.447	3.6051
1020	147.9	3.498	3.5923
1030	150.5	3.547	3.5795
1040	153.1	3.595	3.5667
1050	155.6	3.641	3.5539
1060	158.1	3.686	3.5411
1070	160.5	3.729	3.5283
1080	162.9	3.770	3.5155
1090	165.3	3.810	3.5026
1100	167.5	3.849	3.4898
1110	169.8	3.886	3.4770
1120	171.9	3.921	3.4642
1130	174.1	3.955	3.4514
1140	176.1	3.987	3.4386
1150	178.2	4.018	3.4258
1160	180.1	4.047	3.4130
1170	182.0	4.075	3.4002
1180	183.9	4.101	3.3874
1190	185.7	4.125	3.3746

Density: 25, 83.Conductance: 83.

TABLE 5MAGNESIUM FLUORIDE

Eq. Wt. 31.16 m.p. 1263°C.(1536°K.)

$$\rho = 3.235 - 5.24 \cdot 10^{-4} T$$

T	P
1650	2.370
1700	2.344
1750	2.318
1800	2.292
1850	2.266
1900	2.239
1950	2.213
2000	2.187
2050	2.161
2100	2.135

Density: 95.

TABLE 6CALCIUM FLUORIDE

Eq. Wt. 39.04      m.p. 1418°C. (1691°K.)

$$\rho = 3.179 - 3.91 \cdot 10^{-4} T$$

T	ρ
1650	<b>2.534</b>
1700	<b>2.514</b>
1750	<b>2.495</b>
1800	<b>2.475</b>
1850	<b>2.456</b>
1900	<b>2.436</b>
1950	<b>2.417</b>
2000	<b>2.397</b>
2050	<b>2.377</b>
2100	<b>2.358</b>
2150	<b>2.338</b>
2200	<b>2.319</b>
2250	<b>2.299</b>
2300	<b>2.280</b>

Density: 95.

TABLE 7STRONTIUM FLUORIDE

Eq. Wt. 62.81 m.p. 1400°C. (1673°K.)

$$\rho = 4.784 - 7.51 \cdot 10^{-4} T$$

T	$\rho$
1750	3.470
1800	3.432
1850	3.395
1900	3.357
1950	3.320
2000	3.282
2050	3.244
2100	3.207
2150	3.169
2200	3.132

Density: 95.

TABLE 8BARIUM FLUORIDE

Eq. Wt. 87.68 m.p. 1320°C. (1593°K.)

$$\rho = 5.775 - 9.99 \cdot 10^{-4} T.$$

T	$\rho$
1600	4.177
1650	4.127
1700	4.077
1750	4.027
1800	3.977
1850	3.927
1900	3.877
1950	3.827
2000	3.777

Density: 95.

TABLE 9LANTHANUM (III) FLUORIDE

Eq. No. 65.30

$$\rho = 5.793 - 6.82 \cdot 10^{-4} T$$

T	$\rho$
1750	4.600
1800	4.565
1850	4.531
1900	4.497
1950	4.463
2000	4.429
2050	4.395
2100	4.361
2150	4.327
2200	4.293
2250	4.259
2300	4.224
2350	4.190
2400	4.156
2450	4.122

Density: 95.

TABLE 10CERIUM (III) FLUORIDE

Eq. Wt. 65.78 m.p. 1460°C. (1755°K.)

$$\rho = 6.253 - 9.36 \cdot 10^{-4} T$$

T	$\rho$
1700	4.662
1750	4.615
1800	4.568
1850	4.521
1900	4.475
1950	4.428
2000	4.381
2050	4.334
2100	4.287
2150	4.241
2200	4.194

Density: 95.

TABLE 11MANGANESE (II)FLUORIDE

Eq.Wt. 46.46 m.p. 856 °C. (1129 °K.)

$$\propto = 4.0 \cdot 10^{-3} T$$

T	$\propto$
1200	4.8
1250	5.0
1300	5.2

Conductance: 86.

TABLE 12COPPER (II) FLUORIDE

Eq. Wt. 41.27      m.p. 908°C. (1181°K.)

$$\chi = 0.93 + 1.0 \cdot 10^{-3} T$$

T	$\chi$
1270	2.2
1320	2.3
1370	2.4

Conductance: 86.

TABLE 13SILVER FLUORIDE

Eq. Wt. 126.88      m.p. 435°C. (708°K.)

$$X = 5.2 + 12.0 \cdot 10^{-3} T$$

T	X
800	4.4
850	5.0
900	5.6

Conductance: 86.

TABLE 14ZINC FLUORIDE

Eq. Wt. 51.69      m.p. 872°C. (1145°K.)

$$\chi = -3.75 + 6.0 \cdot 10^{-3} T$$

T	$\chi$
1150	3.1 <sub>5</sub>
1200	3.4 <sub>5</sub>

Conductance: 86.

TABLE 15LEAD (II)FLUORIDE

Eq.Wt. 122.60      m.p. 824 °C. (1097 °K.)

$$\kappa = 0.7 + 4.0 \cdot 10^{-3} T$$

T	$\kappa$
1150	5.3
1200	5.5
1250	5.7

Conductance: 86.

Chlorides

LiCl	UCl <sub>4</sub>
NaCl	MnCl <sub>2</sub>
KCl	CuCl
RbCl	AgCl
CsCl	ZnCl <sub>2</sub>
BeCl <sub>2</sub>	CdCl <sub>2</sub>
MgCl <sub>2</sub>	HgCl
CaCl <sub>2</sub>	HgCl <sub>2</sub>
SrCl <sub>2</sub>	InCl
BaCl <sub>2</sub>	InCl <sub>2</sub>
ScCl <sub>3</sub>	InCl <sub>3</sub>
YCl <sub>3</sub>	TlCl
LaCl <sub>3</sub>	SnCl <sub>2</sub>
CeCl <sub>3</sub>	PbCl <sub>2</sub>
PrCl <sub>3</sub>	BiCl <sub>3</sub>
NdCl <sub>3</sub>	TeCl <sub>2</sub>
ThCl <sub>4</sub>	TeCl <sub>4</sub>

TABLE 16LITHIUM CHLORIDE

Eq. Wt. 42.4

m.p. 610°C.(883°K.)

$$\chi = -2.0647 + 12.1271 \cdot 10^{-3} T - 3.7641 \cdot 10^{-6} T^2$$

$$\rho = 1.8842 - 0.4328 \cdot 10^{-3} T$$

$$\Lambda = 508.2 \exp(-2015/RT)$$

$$\eta = 15.19 \cdot 10^{-3} \exp(8517/RT)$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$	T	$\eta$
900	164.8 <sub>4</sub>	5.811	1.4947		1060	0.87
910	166.8 <sub>3</sub>	5.864	1.4904		1070	0.84
920	168.8 <sub>1</sub>	5.916 <sub>5</sub>	1.4860		1080	0.81
930	170.7 <sub>8</sub>	5.968	1.4817	1.52	1090	0.78
940	172.7 <sub>4</sub>	6.019	1.4774	1.45	1100	0.75
950	174.6 <sub>9</sub>	6.069	1.4730	1.38	1110	0.73
960	176.6 <sub>3</sub>	6.118 <sub>5</sub>	1.4687	1.32	1120	0.71
970	178.5 <sub>6</sub>	6.167	1.4644	1.26	1130	0.68
980	180.4 <sub>8</sub>	6.215	1.4601	1.20	1140	0.66
990	182.3 <sub>9</sub>	6.262	1.4557	1.15	1150	0.64
1000	184.2 <sub>9</sub>	6.308 <sub>5</sub>	1.4514	1.10	1160	0.61
1010	186.1 <sub>7</sub>	6.354	1.4471	1.05	1170	0.59
1020	188.0 <sub>5</sub>	6.399	1.4427	1.01		
1030	189.9 <sub>2</sub>	6.443	1.4384	0.97		
1040	191.7 <sub>7</sub>	6.486	1.4341	0.93		
1050	193.6 <sub>1</sub>	6.529	1.4298	0.90		

Density: 3, 25, 55, 62, 66, 79, 81.Conductance: 33, 42, 44, 45, 55, 62, 66, 79, 85.Viscosity: 12, 45, 47.

TABLE 17

SODIUM CHLORIDE

Eq. Wt. 58.45

m.p. 801°C. (1074°K.)

$$\chi = -2.4975 + 8.0431 \cdot 10^{-3} T - 2.2227 \cdot 10^{-6} T^2$$

$$\rho = 2.1393 - 0.5430 \cdot 10^{-3} T$$

$$\Lambda = 544.6 \exp(-2990/RT)$$

$$\eta = -24.3637 - 8.93369 \cdot 10^{-2} T - 9.2958 \cdot 10^{-5} T^2 + 3.00481 \cdot 10^{-8} T^3$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
1080	135.4	3.596	1.553	
1090	137.1	3.629	1.547	1.48
1100	138.8	3.660	1.542	1.42
1110	140.4	3.692	1.537	1.36
1120	142.1	3.723	1.531	1.30
1130	143.8	3.753	1.526	1.24
1140	145.4	3.783	1.520	1.19
1150	147.1	3.813	1.515	1.14
1160	148.8	3.842	1.509	1.08
1170	150.4	3.870	1.504	1.04
1180	152.1	3.898	1.499	0.99
1190	153.7	3.926	1.493	0.94
1200	155.3	3.954	1.488	0.90
1210	157.0	3.980	1.483	0.87
1220	158.6	4.007	1.477	0.83
1230	160.2	4.033	1.471	0.80
1240	161.8	4.058	1.466	0.77
1250	163.4	4.083	1.461	0.75
1260	165.0	4.108	1.455	0.73
1270	166.6	4.132	1.450	0.71
1280	168.2	4.156	1.444	
1290	169.8	4.179	1.439	

Density: 3, 10, 25, 55, 62, 66, 79, 80, 81, 96.

Conductance: 2, 4, 10, 27, 33, 42, 49, 55, 62, 63, 71, 79, 82, 85.

Viscosity: 12, 38, 57.

TABLE 18

POTASSIUM CHLORIDE

Eq. Wt. 74.55

m.p. 770°C. (1043°K.)

$$\chi = -3.2556 - 7.6635 \cdot 10^{-3}T - 2.3742 \cdot 10^{-6}T^2$$

$$\rho = 2.1359 - 0.5831 \cdot 10^{-3}T$$

$$\lambda = 558.3 \exp(-3458/RT)$$

$$\eta = 55.5632 - 0.127847T + 9.99580 \cdot 10^{-5}T^2 - 2.62035 \cdot 10^{-8}T^3$$

T	$\lambda$	$\chi$	$\rho$	$\eta$
1050	106.3	2.174	1.5236	
1060	108.1	2.200	1.5178	1.14 <sub>9</sub>
1070	109.8	2.226	1.5120	1.10 <sub>8</sub>
1080	111.5	2.252	1.5062	1.07 <sub>1</sub>
1090	113.1	2.277	1.5003	1.03 <sub>6</sub>
1100	114.8	2.301	1.4945	1.00 <sub>4</sub>
1110	116.5	2.326	1.4887	0.97 <sub>5</sub>
1120	118.1	2.349	1.4828	0.94 <sub>8</sub>
1130	119.8	2.373	1.4770	0.92 <sub>4</sub>
1140	121.4	2.395	1.4712	0.90 <sub>1</sub>
1150	123.0	2.418	1.4653	0.88 <sub>1</sub>
1160	124.6	2.439	1.4595	0.86 <sub>3</sub>
1170	126.2	2.461	1.4537	0.84 <sub>7</sub>
1180	127.8	2.481	1.4478	0.83 <sub>2</sub>
1190	129.3	2.502	1.4420	0.81 <sub>9</sub>
1200	130.9	2.522	1.4362	0.80 <sub>7</sub>
1210	132.4	2.541	1.4303	
1220	134.0	2.560	1.4245	

Density: 3, 11, 26, 62, 66, 70, 79, 80, 81.

Conductance: 2, 4, 10, 26, 27, 42, 44, 49, 50, 55, 62, 63, 66, 70,  
79, 80, 81, 95.

Viscosity: 12, 102, 111.

TABLE 19  
RUBIDIUM CHLORIDE

Eq. Wt. 120.94

m.p. 715°C. (988°K.)

$$\chi = -3.6290 + 7.3405 \cdot 10^{-3} T - 2.1918 \cdot 10^{-6} T^2$$

$$\rho = 3.1210 - 0.8832 \cdot 10^{-3} T$$

$$\Lambda = 754.1 \exp(-4401/RT)$$

$$\eta = 6.630 \cdot 10^{-3} \exp(11442/RT)$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
990	80.2	1.490	2.2466	
1000	82.1	1.520	2.2378	
1010	84.0	1.549	2.2290	1.98
1020	86.0	1.578	2.2201	1.89
1030	87.9	1.606	2.2113	1.80
1040	89.8	1.634	2.2025	1.71
1050	91.6	1.662	2.1936	1.62
1060	93.5	1.689	2.1848	1.54
1070	95.4	1.716	2.1760	1.46
1080	97.2	1.742	2.1671	1.39
1090	99.1	1.768	2.1583	1.31
1100	100.9	1.793	2.1495	1.24
1110	102.7	1.818	2.1406	1.18
1120	104.6	1.843	2.1318	1.11
1130	106.4	1.867	2.1230	1.05
1140	108.2	1.891	2.1142	1.00
1150	119.9	1.914	2.1053	0.95
1160	111.7	1.937	2.0965	0.91
1170	113.5	1.959	2.0877	0.87
1180	115.2	1.981	2.0788	0.83
1190	117.0	2.002	2.0700	0.80
1200	118.7	2.023	2.0612	0.79
1210				0.76
1220				0.75

Density: 25, 35, 36, 82.Conductance: 33, 82.Viscosity: 109.

TABLE 20CESIUM CHLORIDE

Eq. Wt. 168.37

m.p. 646 °C. (919 °K.)

$$\chi = -3.2034 + 6.0802 \cdot 10^{-3} T - 1.5216 \cdot 10^{-6} T^2$$

$$\rho = 3.7692 - 1.065 \cdot 10^{-3} T$$

$$\Lambda = 1102 \exp(-5110/RT)$$

$$\eta = 7.579 \cdot 10^{-3} \exp(9819/RT)$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
940	71.0	1.167	2.7681	1.45
950	73.2 <sub>5</sub>	1.200	2.7575	1.38
960	75.4 <sub>5</sub>	1.231	2.7468	1.30
970	77.7	1.263	2.7362	1.24
980	79.9 <sub>5</sub>	1.294	2.7255	1.17
990	82.1 <sub>5</sub>	1.325	2.7149	1.12
1000	84.4	1.355	2.7042	1.06
1010	86.6	1.385	2.6936	1.01
1020	88.8	1.415	2.6829	0.96
1030	91.0 <sub>5</sub>	1.445	2.6723	0.92
1040	93.2 <sub>5</sub>	1.474	2.6616	0.88
1050	95.5	1.503	2.6510	0.84
1060	97.7	1.532	2.6403	0.80
1070	99.9	1.560	2.6297	0.77
1080	100.2	1.588	2.6190	0.74
1090	104.3	1.616	2.6084	0.71
1100	106.5	1.644	2.5977	0.68
1110	108.7	1.671	2.5871	0.65
1120	110.9	1.698	2.5764	0.62
1130	113.2	1.724	2.5658	0.60
1140	115.3	1.751	2.5551	0.58
1150	117.6	1.777	2.5445	0.56
1160	119.8	1.802	2.5338	0.54
1170	122.0	1.828	2.5232	0.52

Density: 25, 59, 80, 81, 82.

Conductance: 33, 82.

Viscosity: 109.

TABLE 21BERYLLIUM (II) CHLORIDE

Eq. Wt. 39.96      m.p. 440°C. (713°K.)  
 (Sublimation)

$$\chi = -0.1855 + 0.2607 \cdot 10^{-3} T$$

$$\rho = 2.276 - 1.10 \cdot 10^{-3} T$$

$$\Lambda = 3.05 \cdot 10^{15} \exp (-54911/RT)$$

T	$\Lambda \cdot 10^3$	$\chi \cdot 10^3$	$\rho$
720	5.8	0.22	1.484
730	12.9	0.48	1.473
740	20.1	0.74	1.462
750	27.5	1.00	1.451

Density: 36.

Conductance: 32.

TABLE 22MAGNESIUM CHLORIDE

Eq. Wt. 47.62

m.p. 708°C.(981°K.)

$$\chi = -0.6049 + 1.352 \cdot 10^{-3} T - 0.2911 \cdot 10^{-6} T^2$$

$$\rho = 1.976 - 0.302 \cdot 10^{-3} T$$

$$\Lambda = 263.7 \exp(-4363/RT)$$

T	$\Lambda$	$\chi$	$\rho$
1000	29.51	1.038	1.675
1020	30.75	1.077	1.668
1040	31.98	1.116	1.662
1060	33.21	1.155	1.656
1080	34.49	1.195	1.650
1100	35.77	1.235	1.644
1120	37.04	1.274	1.638
1140	38.37	1.315	1.632
1160	39.68	1.355	1.626
1180	41.04	1.396	1.620
1200	42.40	1.437	1.614
1220	43.77	1.478	1.608
1240	45.15	1.519	1.602

Density: 36, 63, 89, 96.Conductance: 35, 63, 94.

TABLE 23  
CALCIUM CHLORIDE

Eq. Wt. 55.49

m.p. 773 °C. (1046 °K.)

$$\chi = 19.628 \exp (-4749/RT)$$

$$\rho = 2.5261 - 0.4225 \cdot 10^{-3} T$$

$$\Lambda = 675.3 \exp (-5285/RT)$$

$$\eta = 1.073 \cdot 10^{-2} \exp (12030/RT)$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
1060	54.9 <sub>8</sub>	2.059	2.0783	3.24
1070	56.2 <sub>6</sub>	2.103	2.0740	3.08
1080	57.5 <sub>5</sub>	2.147	2.0698	2.92
1090	58.8 <sub>5</sub>	2.191	2.0656	2.77
1100	60.1 <sub>6</sub>	2.235	2.0614	2.64
1110	61.4 <sub>8</sub>	2.279	2.0571	2.51
1120	62.8 <sub>0</sub>	2.323	2.0529	2.39
1130	64.1 <sub>3</sub>	2.368	2.0487	2.28
1140	65.4 <sub>6</sub>	2.412	2.0445	2.17
1150	66.8 <sub>1</sub>	2.456	2.0402	2.07
1160	68.1 <sub>6</sub>	2.501	2.0360	1.98
1170	69.5 <sub>1</sub>	2.545	2.0318	1.90
1180	70.8 <sub>7</sub>	2.590	2.0276	1.81
1190	72.2 <sub>4</sub>	2.634	2.0233	1.74
1200	73.6 <sub>1</sub>	2.679	2.0191	1.67
1210	74.9 <sub>9</sub>	2.723	2.0149	1.60
1220	76.3 <sub>8</sub>	2.767	2.0107	1.53
1230	77.7 <sub>6</sub>	2.812	2.0064	1.47
1240				1.42

Density: 11, 17, 63, 83.

Conductance: 2, 4, 11, 35, 42, 50, 71, 83, 85, 94.

Viscosity: 47, 109.

TABLE 24STRONTIUM CHLORIDE

Eq. Wt. 79.27

m.p. 873 °C. (1146 °K.)

$$\kappa = 17.792 \exp (-4987/RT)$$

$$\rho = 3.3896 - 0.5781 \cdot 10^{-3} T$$

$$\lambda = 689.6 \exp (-5646/RT)$$

$$\eta = 4.302 \cdot 10^{-4} \exp (20700/RT)$$

T	$\lambda$	$\kappa$	$\rho$	$\eta$
1160				3.42
1170	60.85	2.082 <sub>5</sub>	2.7132	3.17
1180	62.09	2.120 <sub>8</sub>	2.7074	2.94
1190	63.35	2.159 <sub>6</sub>	2.7017	2.73
1200	64.61	2.197 <sub>3</sub>	2.6959	2.53
1220	65.88	2.235 <sub>6</sub>	2.6901	2.36
1230	67.15	2.274 <sub>0</sub>	2.6843	2.20
1240	68.43	2.312 <sub>3</sub>	2.6785	2.05
1250	69.72	2.350 <sub>7</sub>	2.6728	1.91
1260	71.01	2.389 <sub>1</sub>	2.6670	1.79
1270	72.31	2.427 <sub>4</sub>	2.6612	
1280	73.61	2.465 <sub>8</sub>	2.6554	
1290	74.92	2.504 <sub>2</sub>	2.6496	
1300	76.23	2.542 <sub>5</sub>	2.6439	
1310	77.55	2.580 <sub>9</sub>	2.6381	
1320	78.88	2.619 <sub>2</sub>	2.6323	

Density: 11, 81, 83.Conductance: 4, 83, 94.Viscosity: 109.

TABLE 25BARIUM CHLORIDE

Eq. Wt. 104.14

m.p. 962°C. (1235°K.)

$$\chi = 17.479 \exp (-12000/T)$$

$$\rho = 4.0152 - 0.6813 \cdot 10^{-3} T$$

$$\Lambda = 772.5 \exp (-6004/RT)$$

$$\eta = 1.643 \cdot 10^{-3} \exp (-20030/RT)$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
1240	67.5 <sub>8</sub>	2.058	3.1704	
1250	68.9 <sub>0</sub>	2.093	3.1636	
1260	70.2 <sub>2</sub>	2.129	3.1568	
1270	71.5 <sub>5</sub>	2.164	3.1499	4.60
1280	72.8 <sub>9</sub>	2.200	3.1431	4.32
1290	74.2 <sub>3</sub>	2.236	3.1363	4.07
1300	75.5 <sub>8</sub>	2.271	3.1295	3.83
1310	76.9 <sub>3</sub>	2.307	3.1227	3.61
1320	78.2 <sub>9</sub>	2.343	3.1159	
1330	79.6 <sub>6</sub>	2.378	3.1091	
1340	81.0 <sub>3</sub>	2.414	3.1023	
1350	82.4 <sub>1</sub>	2.450	3.0954	
1360	83.8 <sub>0</sub>	2.485	3.0886	

Density: 11, 63, 70, 81, 83.Conductance: 4, 63, 83, 85, 94.Viscosity: 52, 109.

TABLE 26SCANDIUM (III) CHLORIDE

Eq. Wt. 50.49                    m.p. 939 °C. (1212 °K.)

$$X = -2.890 + 2.796 \cdot 10^{-3} T$$

T °K	X	ρ
1213		1.67
1223	0.53	
1273	0.67	1.63

Density: 36.Conductance: 30.

TABLE 27YTTRIUM (III) CHLORIDE

Eq. Wt. 65.09

m.p. 680°C.(953°K.)

$$X = -3.7071 + 5.9576 \cdot 10^{-3}T - 1.8199 \cdot 10^{-6}T^2$$

$$\rho = 3.007 - 0.50 \cdot 10^{-3}T$$

$$\Lambda = 959.2 \exp(-8827/RT)$$

T	$\Lambda$	X	$\rho$
980	9.9	0.384	2.517
990	10.5 <sub>5</sub>	0.407	2.512
1000	11.2	0.431	2.507
1010	11.8	0.454	2.502
1020	12.4	0.476	2.497
1030	13.0	0.498	2.492
1040	13.6	0.520	2.487
1050	14.2	0.542	2.482
1060	14.8	0.563	2.477
1070	15.4	0.584	2.472
1080	15.9 <sub>5</sub>	0.604	2.467
1090	16.5	0.624	2.462
1100	17.0 <sub>5</sub>	0.644	2.457
1110	17.6	0.664	2.452
1120	18.1 <sub>5</sub>	0.683	2.447
1130	18.7	0.701	2.442
1140	19.2	0.719	2.437
1150	19.7 <sub>5</sub>	0.737	2.432
1160	20.2 <sub>5</sub>	0.755	2.427

Density: 36.Conductance: 35.

TABLE 28LANTHANUM (III) CHLORIDE

Eq. Wt. 81.76

m.p. 872°C. (1145°K.)

$$\chi = 12.623 \exp(-4812/RT)$$

$$\rho = 4.0895 - 0.7774 \cdot 10^{-3} T$$

$$\Lambda = 439.2 \exp(-5515/RT)$$

T	$\Lambda$	$\chi$	$\rho$
1150	39.3 <sub>2</sub>	1.537	3.1955
1160	40.1 <sub>4</sub>	1.565	3.1877
1170	40.9 <sub>6</sub>	1.593	3.1799
1180	41.7 <sub>9</sub>	1.621	3.1722
1190	42.6 <sub>2</sub>	1.649	3.1644
1200	43.4 <sub>5</sub>	1.678	3.1566
1210	44.2 <sub>9</sub>	1.706	3.1488
1220	45.1 <sub>4</sub>	1.734	3.1411
1230	45.9 <sub>9</sub>	1.762	3.1333
1240	46.8 <sub>4</sub>	1.791	3.1255
1250	47.6 <sub>9</sub>	1.819	3.1178

Density: 36, 83.Conductance: 35, 83.

TABLE 29CERIUM (III) CHLORIDE

Eq. Wt. 82.17

m.p. 822°C. (1095°K.)

$$\chi = -1.426 + 2.125 \cdot 10^{-3} T$$

$$\rho = 4.248 - 0.920 \cdot 10^{-3} T$$

$$\Lambda = 403.0 \exp(-6244/RT)$$

T	$\Lambda$	$\chi$	$\rho$
1130	24.98	0.9753	3.208
1140	25.59	0.9965	3.199
1150	26.22	1.0178	3.190
1160	26.84	1.0390	3.181
1170	27.47	1.0603	3.172
1180	28.10	1.0815	3.162
1190	28.74	1.1028	3.153
1200	29.38	1.1240	3.144
1210	30.02	1.1453	3.135
1220	30.67	1.1665	3.126

Density: 99.Conductance: 99.

TABLE 30PRASEODYMIUM (III) CHLORIDE

Eq. Wt. 82.43      m.p. 818°C. (1091°K.)

$$\kappa = 36.17 \exp (-8258/RT)$$

T	$\kappa$
1100	0.82 <sub>7</sub>
1110	0.85 <sub>6</sub>
1120	0.88 <sub>5</sub>
1130	0.91 <sub>4</sub>
1140	0.94 <sub>4</sub>
1150	0.97 <sub>5</sub>
1160	1.00 <sub>5</sub>
1170	1.03 <sub>7</sub>
1180	1.06 <sub>8</sub>
1190	1.10 <sub>1</sub>
1200	1.13 <sub>3</sub>
1210	1.16 <sub>6</sub>
1220	1.19 <sub>9</sub>
1230	1.23 <sub>3</sub>
1240	1.26 <sub>7</sub>

Conductance: 32.

TABLE 31NEODYMIUM (III) CHLORIDE

Eq. Wt. 83.55      m.p. 784°C. (1057°K.)

$$X = -2.018 + 2.527 \cdot 10^{-3} T$$

T	X
1050	0.635
1060	0.661
1070	0.686
1080	0.712
1090	0.736
1100	0.762
1110	0.787
1120	0.812
1130	0.838
1140	0.863
1150	0.888
1160	0.913
1170	0.939

Conductance: 32.

TABLE 32THORIUM (IV) CHLORIDE

Eq. Wt. 93.49                            m.p. 770°C. (1043°K.)

$$\chi = -13.1887 + 22.5705 \cdot 10^{-3} T - 9.0973 \cdot 10^{-6} T^2$$

$$\rho = 3.3_2 \text{ (1090°K. - 1190°K.)}$$

$$\Lambda = 395.0 \exp (-6764/RT)$$

T	$\Lambda$	$\chi$	$\rho$
1090	17.0	0.60	3.3 <sub>2</sub>
1100	17.8	0.63	3.3 <sub>2</sub>
1110	18.5	0.66	3.3 <sub>2</sub>
1120	19.1	0.69	3.3 <sub>2</sub>
1130	19.7	0.70	3.3 <sub>2</sub>
1140	20.2	0.72	3.3 <sub>2</sub>
1150	20.7	0.74	3.3 <sub>2</sub>
1160	21.2	0.75	3.3 <sub>2</sub>
1170	21.6	0.77	3.3 <sub>2</sub>
1180	21.9	0.78	3.3 <sub>2</sub>
1190	22.2	0.79	3.3 <sub>2</sub>

Density: 36.

Conductance: 32.

TABLE 33URANIUM (IV) CHLORIDE

Eq. Wt. 94.98      m.p. 590°C.(863°K.)

$$X = -2.023 + 2.803 \cdot 10^{-3} T$$

T	X
840	0.332
850	0.360
860	0.388
870	0.416
880	0.444
890	0.472

Conductance: 32.

TABLE 34MANGANESE (II) CHLORIDE

Eq. Wt. 62.92      m.p. 65°C.(923°K.)

$$X = 11.80 \exp (-4694/RT)$$

T	X
1120	1.43 <sub>2</sub>
1130	1.45 <sub>9</sub>
1140	1.48 <sub>6</sub>
1150	1.51 <sub>3</sub>
1160	1.54 <sub>0</sub>
1170	1.56 <sub>7</sub>
1180	1.59 <sub>4</sub>
1190	1.62 <sub>1</sub>
1200	1.64 <sub>8</sub>
1210	1.67 <sub>5</sub>
1220	1.70 <sub>2</sub>

Conductance: 85.

TABLE 35COPPER (I) CHLORIDE

Eq Wt. 99.00

m.p. 422°C. (695°K.)

$$X = 1.8400 + 1.6932 \cdot 10^{-3}T + 0.4767 \cdot 10^{-6}T^2$$

$$\rho = 4.301 - 0.79 \cdot 10^{-3}T$$

$$\Lambda = 189.2 \exp(-1102/RT)$$

$$\eta = 50.4565 - 0.140175T + 1.37677 \cdot 10^{-4}T^2 - 4.66667 \cdot 10^{-8}T^3$$

T	$\Lambda$	X	$\rho$	$\eta$
700	86.1	3.26	3.748	
710	86.9	3.28	3.740	
720	87.7	3.31	3.732	
730	88.5	3.33	3.724	
740	89.3	3.35 <sub>5</sub>	3.716	
750	90.2	3.38	3.709	
760	91.0	3.40	3.701	
770	91.9	3.42 <sub>5</sub>	3.693	
780	92.7	3.45	3.685	
790	93.6	3.47 <sub>5</sub>	3.677	
800	94.4	3.50	3.669	2.54
810	95.3	3.52 <sub>5</sub>	3.661	2.44
820	96.2	3.55	3.653	2.36
830	97.1	3.57 <sub>5</sub>	3.645	2.27
840	98.0	3.60	3.637	2.19
850	98.8	3.62 <sub>5</sub>	3.630	2.12
860	99.7	3.65	3.622	2.05
870				1.98
880				1.92
890				1.86
900				1.80
910				1.74
920				1.69
930				1.63
940				1.58
950				1.53
960				1.48
970				1.44

Density: 36.Conductance: 21, 33, 85.

Viscosity: 47.

TABLE 36  
SILVER CHLORIDE

Eq. Wt. 143.34

m.p. 455°C. (728°K.)

$$\chi = 7.368 \exp (-947/RT)$$

$$\rho = 5.489 - 0.849 \cdot 10^{-3} T$$

$$\Lambda = 255.1 \exp (-1184/RT)$$

$$\eta = 6.91305 - 4.47411 \cdot 10^{-3} T - 6.49368 \cdot 10^{-6} T^2 + 5.41584 \cdot 10^{-9} T^3$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
730				2.29
740	114.1	3.869	4.861	2.24
750	115.3	3.903	4.852	2.19
760	116.5	3.936	4.844	2.14
770	117.6	3.968	4.835	2.09
780	118.8	3.999	4.827	2.04
790	119.9	4.030	4.818	2.00
800	121.0	4.061	4.810	1.95
810	122.1	4.091	4.801	1.91
820	123.2	4.120	4.793	1.86
830	124.3	4.149	4.784	1.82
840	125.1	4.178	4.776	1.78
850	126.5	4.206	4.767	1.74
860	127.5	4.233	4.759	1.71
870	128.6	4.260	4.750	1.67
880	129.6	4.287	4.742	1.64
890	130.6	4.315	4.733	1.61
900	131.6	4.339	4.725	1.57
910	132.6	4.364	4.716	1.55
920				1.52
930				1.49
940				1.47
950				1.45
960				1.43
970				1.41

Density: 22, 54, 60, 81.

Conductance: 1, 10, 21, 23, 60, 72, 100.

Viscosity: 24, 72.

TABLE 37ZINC CHLORIDE

Eq. Wt. 68.15

m.p. 318°C. (591°K.)

$$X = 1.3973 - 4.5034 \cdot 10^{-3}T + 3.6428 \cdot 10^{-6}T^2$$

$$\rho = 2.690 - 0.512 \cdot 10^{-3}T$$

$$\Lambda = 20750 \exp(-13715/RT)$$

T	$\Lambda$	X	$\rho$
720	1.2 <sub>7</sub>	0.043	2.321
730	1.5 <sub>0</sub>	0.051	2.316
740	1.7 <sub>6</sub>	0.060	2.311
750	2.0 <sub>3</sub>	0.069	2.306
760	2.3 <sub>3</sub>	0.079	2.301
770	2.6 <sub>6</sub>	0.089	2.296
780	3.0 <sub>0</sub>	0.101	2.290
790	3.3 <sub>7</sub>	0.113	2.286
800	3.7 <sub>6</sub>	0.126	2.280
810	4.1 <sub>8</sub>	0.140	2.275
820	4.6 <sub>2</sub>	0.154	2.270
830	5.0 <sub>8</sub>	0.169	2.265
840	5.5 <sub>7</sub>	0.185	2.260
850	6.0 <sub>9</sub>	0.201	2.255
860	6.6 <sub>2</sub>	0.219	2.250
870	7.1 <sub>8</sub>	0.237	2.245
880	7.7 <sub>7</sub>	0.255	2.239
890	8.3 <sub>8</sub>	0.275	2.234
900	9.0 <sub>2</sub>	0.295	2.229
910	9.6 <sub>8</sub>	0.316	2.224

Density: 36, 40, 56, 87, 96.Conductance: 33, 94, 98.

TABLE 38CADMIUM CHLORIDE

Eq. Wt. 91.66

m.p. 568°C.(841°K.)

$$\chi = 1.9571 + 6.1834 \cdot 10^{-3} T - 1.9576 \cdot 10^{-6} T^2$$

$$\rho = 4.078 - 0.82 \cdot 10^{-3} T$$

$$\Lambda = 224.4 \exp(-2499/RT)$$

$$\eta = 799.691 - 2.55839T + 2.73879 \cdot 10^{-3} T^2 - 9.78643 \cdot 10^{-7} T^3$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
840	50.19	1.8557	3.389	
850	51.09	1.8844	3.381	
860	51.98	1.9128	3.373	
870	52.87	1.9408	3.365	2.44
880	53.75	1.9683	3.356	2.31
890	54.63	1.9955	3.348	2.21
900	55.50	2.0223	3.340	2.13
910	56.36	2.0487	3.332	2.07
920	57.22	2.0747	3.324	2.03
930	58.06	2.1003	3.315	1.99
940	58.91	2.1256	3.307	1.95
950	59.75	2.1504	3.299	1.91
960	60.58	2.1748	3.291	1.87
970	61.40	2.1989	3.283	
980	62.22	2.2226	3.274	
990	63.02	2.2458	3.266	
1000	63.83	2.2687	3.258	
1010	64.62	2.2912	3.250	
1020	65.41	2.3133	3.242	
1030	66.19	2.3350	3.233	
1040	66.97	2.3563	3.225	
1050	67.73	2.3772	3.217	
1060	68.49	2.3977	3.209	
1070	69.24	2.4179	3.201	

Density: 15, 54, 66.Conductance: 19, 21, 27, 33, 51, 66, 94.Viscosity: 47, 53.

TABLE 39MERCURY (I) CHLORIDE

Eq. Wt. 236.07      m.p. 525°C. (798°K.)

$$X = 5.255 \exp (-2644/RT)$$

$$\rho = 6.22 - 4.0 \cdot 10^{-3}T$$

$$\Lambda = 123.1 \exp (-4391/RT)$$

T	$\Lambda$	X	$\rho$
800	78.0	0.99 <sub>5</sub>	3.02
810	80.5	1.01 <sub>5</sub>	2.98
820	83.0	1.03 <sub>5</sub>	2.94

Density: 36.Conductance: 35.

TABLE 40MERCURY (II) CHLORIDE

Eq. Wt. 135.76

m.p. 276°C. (549°K.)

$$x = -0.6628 \cdot 10^{-4} + 0.4852 \cdot 10^{-7} T + 0.2354 \cdot 10^{-9} T^2$$

$$\rho = 5.9391 - 2.8624 \cdot 10^{-3} T$$

$$\Lambda = 0.370 \exp (-6490/RT)$$

$$\eta = -4341.632 + 22.96096T - 4.043872 \cdot 10^{-2} T^2 + 2.372690 \cdot 10^{-5} T^3$$

T	$\Lambda \cdot 10^3$	$x \cdot 10^5$	$\rho$	$\eta$
550	0.9833	3.1615	4.3648	
560	1.0780	3.4430	4.3362	1.74
570	1.1932	3.7858	4.3075	1.63
580	1.3024	4.1050	4.2789	1.54

Density: 18, 103.Conductance: 35, 94, 103.Viscosity: 103.

TABLE 41  
INDIUM CHLORIDE

Eq. Wt. 150.22

m.p. 225°C. (498°K.)

$$X = -2.0281 + 5.2188 \cdot 10^{-3}T - 1.0942 \cdot 10^{-6}T^2$$

$$\rho = 4.43_7 - 1.40 \cdot 10^{-3}T$$

$$\Lambda = 1208 \exp (-3528/RT)$$

T	$\Lambda$	X	$\rho$
500	34.4	0.85	3.74 <sub>8</sub>
510	37.0	0.92	3.74 <sub>0</sub>
520	39.8	0.98	3.73 <sub>2</sub>
530	42.5	1.05	3.72 <sub>4</sub>
540	45.3	1.11	3.71 <sub>6</sub>
550	48.1	1.17	3.70 <sub>9</sub>
560	50.9	1.24	3.70 <sub>0</sub>
570	53.8	1.30	3.69 <sub>3</sub>
580	56.6	1.37	3.68 <sub>5</sub>
590	59.6	1.43	3.67 <sub>7</sub>
600	62.5	1.50	3.66 <sub>9</sub>
610	65.5	1.56	3.66 <sub>1</sub>
620	68.5	1.63	3.65 <sub>3</sub>

Density: 34.

Conductance: 34.

TABLE 42INDIUM (II) CHLORIDE

Eq. Wt. 92.84

m.p. 235°C. (508°K.)

$$\chi = -1.2783 + 3.6986 \cdot 10^{-3}T - 1.4444 \cdot 10^{-6}T^2$$

$$\rho = 3.86_3 - 1.60 \cdot 10^{-3}T$$

$$\Lambda = 288.4 \exp (-3687/RT)$$

T	$\Lambda$	$\chi$	$\rho$
510	7.1	0.23 <sub>2</sub>	3.04 <sub>7</sub>
520	7.8	0.25 <sub>4</sub>	3.03 <sub>1</sub>
530	8.5	0.27 <sub>6</sub>	3.01 <sub>5</sub>
540	9.2	0.29 <sub>8</sub>	2.99 <sub>9</sub>
550	9.9	0.31 <sub>9</sub>	2.98 <sub>3</sub>
560	10.6	0.34 <sub>0</sub>	2.96 <sub>7</sub>
570	11.3	0.36 <sub>1</sub>	2.95 <sub>1</sub>
580	12.1	0.38 <sub>1</sub>	2.93 <sub>5</sub>
590	12.8	0.40 <sub>1</sub>	2.91 <sub>9</sub>
600	13.5	0.42 <sub>1</sub>	2.90 <sub>3</sub>
610	14.2	0.44 <sub>0</sub>	2.88 <sub>7</sub>
620	14.9	0.46 <sub>0</sub>	2.87 <sub>1</sub>
630	15.6	0.47 <sub>9</sub>	2.85 <sub>5</sub>
640	16.3	0.49 <sub>7</sub>	2.83 <sub>9</sub>
650	17.0	0.51 <sub>5</sub>	2.82 <sub>3</sub>
660	17.6	0.53 <sub>4</sub>	2.80 <sub>7</sub>
670	18.3	0.55 <sub>1</sub>	2.79 <sub>1</sub>
680	19.0	0.56 <sub>9</sub>	2.77 <sub>5</sub>
690	19.7	0.58 <sub>6</sub>	2.75 <sub>9</sub>
700	20.4	0.60 <sub>3</sub>	2.74 <sub>3</sub>
710	21.1	0.62 <sub>0</sub>	2.72 <sub>7</sub>
720	21.8	0.63 <sub>6</sub>	2.71 <sub>1</sub>
730	22.5	0.65 <sub>2</sub>	2.69 <sub>5</sub>
740	23.1	0.66 <sub>8</sub>	2.57 <sub>9</sub>
750	23.8	0.68 <sub>3</sub>	2.66 <sub>3</sub>
760	24.5	0.69 <sub>8</sub>	2.64 <sub>7</sub>
770	25.2	0.71 <sub>3</sub>	2.63 <sub>1</sub>
780	25.8	0.72 <sub>8</sub>	2.61 <sub>5</sub>

Density: 34.Conductance: 34.

TABLE 43INDIUM (III) CHLORIDE

Eq. Wt. 73.71

m.p. 586°C. (859°K.)

$$X = 1.184 - 0.883 \cdot 10^{-3} T$$

$$\rho = 3.94_4 - 2.10 \cdot 10^{-3} T$$

$$\Lambda = 4.112 \exp (+2181/RT)$$

T	$\Lambda$	X	$\rho$
860	14.6 <sub>4</sub>	0.425	2.13 <sub>8</sub>
870	14.4 <sub>8</sub>	0.416	2.11 <sub>7</sub>
880	14.3 <sub>1</sub>	0.407	2.09 <sub>6</sub>
890	14.1 <sub>4</sub>	0.398	2.07 <sub>5</sub>
900	13.9 <sub>7</sub>	0.389	2.05 <sub>4</sub>
910	13.7 <sub>9</sub>	0.380	2.03 <sub>3</sub>
920	13.6 <sub>2</sub>	0.372	2.01 <sub>2</sub>
930	13.4 <sub>3</sub>	0.363	1.99 <sub>1</sub>
940	13.2 <sub>4</sub>	0.354	1.97 <sub>0</sub>
950	13.0 <sub>5</sub>	0.345	1.94 <sub>9</sub>
960	12.8 <sub>6</sub>	0.336	1.92 <sub>8</sub>
970	12.6 <sub>6</sub>	0.327	1.90 <sub>7</sub>

Density: 34.

Conductance: 34.

TABLE 44THALLIUM (I) CHLORIDE

Eq. Wt. 239.85

m.p. 430°C. (703°K.)

$$\chi = 10.790 \exp(-3203/RT)$$

$$\rho = 6.893 - 1.80 \cdot 10^{-3} T$$

$$\Lambda = 614.5 \exp(-3612/RT)$$

T	$\Lambda$	$\chi$	$\rho$
710	47.6	1.11 <sub>4</sub>	5.615
720	49.3	1.15 <sub>0</sub>	5.597
730	51.0	1.18 <sub>6</sub>	5.579
740	52.7	1.22 <sub>2</sub>	5.561
750	54.4	1.25 <sub>8</sub>	5.543
760	56.2	1.29 <sub>4</sub>	5.525
770	57.9	1.33 <sub>0</sub>	5.507
780	59.7	1.36 <sub>6</sub>	5.489
790	61.5	1.40 <sub>2</sub>	5.471
800	63.3	1.43 <sub>9</sub>	5.453
810	65.1	1.47 <sub>5</sub>	5.435
820	66.9	1.51 <sub>1</sub>	5.417
830	68.7	1.54 <sub>7</sub>	5.399
840	70.6	1.58 <sub>3</sub>	5.381
850	72.4	1.62 <sub>0</sub>	5.363
860	74.3	1.65 <sub>6</sub>	5.345
870	76.2	1.69 <sub>2</sub>	5.327
880	78.1	1.72 <sub>8</sub>	5.309

Density: 36.Conductance: 21.

TABLE 45TIN (II) CHLORIDE

Eq. Wt. 94.81

m.p. 246°C. (519°K.)

$$X = -3.1578 + 9.0387 \cdot 10^{-3} T - 2.7843 \cdot 10^{-6} T^2$$

$$\rho = 4.016 - 1.253 \cdot 10^{-3} T$$

$$\Lambda = 745.6 \exp (-3604/RT)$$

T	$\Lambda$	X	$\rho$
520	22.2	0.79	3.364
530	24.1	0.85	3.352
540	25.9	0.91	3.339
550	27.7	0.97	3.327
560	29.5	1.03	3.314
570	31.3	1.09	3.302
580	33.1	1.15	3.289
590	34.9	1.20 <sub>5</sub>	3.277
600	36.7	1.26 <sub>5</sub>	3.264
610	38.5	1.32	3.252
620	40.3	1.37 <sub>5</sub>	3.239
630	42.1	1.43	3.227
640	43.8	1.48 <sub>5</sub>	3.214
650	45.6	1.54	3.202
660	47.4	1.59 <sub>5</sub>	3.189
670	49.2	1.64 <sub>5</sub>	3.176
680	51.0	1.70	3.164

Density: 25, 36.Conductance: 35.

TABLE 46  
LEAD (II) CHLORIDE

Eq. Wt. 139.06

m.p. 501°C. (774°K.)

$$\chi = 18.093 \exp(-3883/RT)$$

$$\rho = 4.933 - 1.50 \cdot 10^{-3} T$$

$$\Lambda = 1001 \exp(-4514/RT)$$

$$\eta = 72.9309 - 0.175011 + 1.39742 \cdot 10^{-4} T^2 - 3.59013 \cdot 10^{-8} T^3$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
780	54.6	1.47 <sub>5</sub>	3.763	4.40
790	56.6	1.52 <sub>5</sub>	3.748	4.18
800	58.6	1.57	3.733	3.98
810	60.6	1.62	3.718	3.78
820	62.7	1.67	3.703	3.59
830	64.8	1.71 <sub>5</sub>	3.688	3.41
840	66.9	1.76 <sub>5</sub>	3.673	3.24
850	69.0	1.81 <sub>5</sub>	3.658	3.09
860	71.2	1.86 <sub>5</sub>	3.643	2.94
870	73.4	1.91 <sub>5</sub>	3.628	2.80
880	75.6	1.96 <sub>5</sub>	3.613	2.67
890	77.8	2.01 <sub>5</sub>	3.598	2.55
900	80.1	2.06 <sub>5</sub>	3.583	2.44
910	82.3	2.11	3.568	2.34
920	84.6	2.16	3.553	2.24
930	87.0	2.21	3.538	2.16
940	89.3	2.26	3.523	2.08
950	91.7	2.31	3.508	2.01
960	94.1	2.36	3.493	1.94
970	96.5	2.41 <sub>5</sub>	3.478	1.89

Density: 15, 40, 54.

Conductance: 7, 51, 72, 85, 96.

Viscosity: 8, 72.

TABLE 47BISMUTH (III) CHLORIDE

Eq. Wt. 105.12

m.p. 230°C. (503°K.)

$$X = -0.7226 + 2.8419 \cdot 10^{-3} T - 1.2740 \cdot 10^{-6} T^2$$

$$\rho = 5.073 - 2.30 \cdot 10^{-3} T$$

$$\Lambda = 98.6 \exp(-2253/RT)$$

$$\eta = 0.3787 \exp(4693/RT)$$

T	$\Lambda$	X	$\rho$	$\eta$
510	10.6 <sub>6</sub>	0.395	3.900	
520	11.1 <sub>4</sub>	0.411	3.877	
530	11.6 <sub>1</sub>	0.426	3.854	
540	12.0 <sub>8</sub>	0.441	3.831	30.0
550	12.5 <sub>6</sub>	0.445	3.808	27.7
560	13.0 <sub>3</sub>	0.460	3.785	25.7
570	13.5 <sub>1</sub>	0.483	3.762	23.9
580	13.9 <sub>8</sub>	0.497	3.739	22.2
590	14.4 <sub>5</sub>	0.511	3.716	20.7
600	14.9 <sub>1</sub>	0.524	3.693	19.4
610	15.3 <sub>8</sub>	0.537	3.670	18.2
620	15.8 <sub>4</sub>	0.550	3.647	

Density: 25, 32.Conductance: 25, 32.Viscosity: 16.

TABLE 48TELLURIUM (II) CHLORIDE

Eq. Wt. 99.26 m.p. 209 °C. (482 °K.)

$$\chi = -0.2949 + 0.3715 \cdot 10^{-3} T + 0.6918 \cdot 10^{-6} T^2$$

T	$\chi$
480	0.043
490	0.053
500	0.064
510	0.075
520	0.085
530	0.096
540	0.107
550	0.119
560	0.130
570	0.142
580	0.153

Conductance: 32.

TABLE 49TELLURIUM (IV) CHLORIDE

Eq. Wt. 67.36                    m.p. 224 °C. (497 °K.)

$$\kappa = -0.6702 + 1.930 \cdot 10^{-3} T - 0.7617 \cdot 10^{-6} T^2$$

T	$\kappa$
510	0.116 <sub>0</sub>
520	0.127 <sub>5</sub>
530	0.138 <sub>5</sub>
540	0.150 <sub>0</sub>
550	0.161 <sub>0</sub>
560	0.171 <sub>5</sub>
570	0.182 <sub>5</sub>
580	0.193 <sub>0</sub>
590	0.205 <sub>5</sub>

Conductance: 32.

Bromides

LiBr

NaBr

KBr

RbBr

CsBr

MgBr2

CaBr2

SrBr2

BaBr2

LaBr3

NdBr3

CuBr

AgBr

ZnBr2

CdBr2

HgBr2

InBr3

TlBr

PbBr2

BiBr3

TABLE 50  
LITHIUM BROMIDE

Eq. Wt. 86.86                            m.p. 547°C. (820°K.)

$$\chi = -1.1362 + 8.6159 \cdot 10^{-3}T - 1.8612 \cdot 10^{-6}T^2$$

$$\rho = 3.0658 - 0.6520 \cdot 10^{-3}T$$

$$\Lambda = 585.3 \exp(-2117/RT)$$

$$\eta = 6.868 \cdot 10^{-2} \exp(5355/RT)$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
830	162.83	4.7328	2.4008	
840	165.16	4.7879	2.5246	
850	167.47	4.8426	2.5181	
860	169.79	4.8969	2.5116	
870	172.11	4.9509	2.5051	1.52 <sub>1</sub>
880	174.43	5.0045	2.4986	1.46 <sub>9</sub>
890	176.75	5.0577	2.4920	1.41 <sub>9</sub>
900	179.06	5.1105	2.4855	1.37 <sub>2</sub>
910	181.38	5.1630	2.4790	1.32 <sub>7</sub>
920	183.69	5.2151	2.4725	1.28 <sub>5</sub>
930	186.01	5.2668	2.4660	1.24 <sub>6</sub>
940	188.34	5.3187	2.4594	1.20 <sub>8</sub>
950	190.63	5.3692	2.4529	1.17 <sub>1</sub>
960	192.94	5.4198	2.4464	1.13 <sub>8</sub>
970	195.25	5.4700	2.4399	1.10 <sub>5</sub>
980	197.57	5.5199	2.4334	1.07 <sub>4</sub>
990	199.88	5.5694	2.4268	1.04 <sub>5</sub>
1000	202.18	5.6185	2.4203	1.01 <sub>6</sub>
1010	204.48	5.6672	2.4138	0.99 <sub>0</sub>
1020	206.79	5.7156	2.4073	0.96 <sub>5</sub>
1030				0.94 <sub>0</sub>
1040				0.91 <sub>7</sub>

Density: 3, 81, 82.

Conductance: 82.

Viscosity: 47, 102.

TABLE 51

SODIUM BROMIDE

Eq. Wt. 102.91

m.p. 747°C. (1020°K.)

$$\kappa = 9.097 \exp (-2324/RT)$$

$$\rho = 3.1748 - 0.8169 \cdot 10^{-3}T$$

$$\Lambda = 622.7 \exp (-3228/RT)$$

$$\eta = 64.3240 - 0.152525T + 1.23215 \cdot 10^{-4}T^2 - 3.34241 \cdot 10^{-8}T^3$$

T	$\Lambda$	$\kappa$	$\rho$	$\eta$
1030	128.9	2.922	2.3334	
1040	130.8	2.954	2.3252	
1050	132.6	2.986	2.3171	
1060	134.5	3.018	2.3089	1.28 <sub>3</sub>
1070	136.4	3.049	2.3007	1.24 <sub>5</sub>
1080	138.3	3.080	2.2925	1.21 <sub>0</sub>
1090	140.1	3.111	2.2844	1.17 <sub>8</sub>
1100	142.0	3.141	2.2762	1.14 <sub>9</sub>
1110	143.9	3.172	2.2680	1.12 <sub>3</sub>
1120	145.8	3.202	2.2599	1.09 <sub>8</sub>
1130	147.7	3.231	2.2517	1.07 <sub>6</sub>
1140	149.6	3.261	2.2435	1.05 <sub>6</sub>
1150	151.5	3.290	2.2353	1.03 <sub>8</sub>
1160	153.4	3.319	2.2272	1.02 <sub>2</sub>
1170	155.3	3.348	2.2190	1.00 <sub>6</sub>
1180	157.2	3.376	2.2109	0.99 <sub>2</sub>
1190	159.1	3.404	2.2027	0.97 <sub>0</sub>
1200	161.0	3.432	2.1945	0.96 <sub>7</sub>
1210	162.9	3.460	2.1864	0.95 <sub>5</sub>
1220	164.8	3.488	2.1782	

Density: 3, 25, 81, 82.

Conductance: 10, 82.

Viscosity: 12, 102.

TABLE 52  
POTASSIUM BROMIDE

Eq. Wt. 119.01

m.p. 734°C. (1007°K.)

$$X = -6.6001 + 13.1823 \cdot 10^{-3}T - 5.0051 \cdot 10^{-6}T^2$$

$$\rho = 2.9583 - 0.8253 \cdot 10^{-3}T$$

$$\Lambda = 591.1 \exp(-3747/RT)$$

$$\eta = 128.399 - 0.334905T + 2.94450 \cdot 10^{-4}T^2 - 8.66540 \cdot 10^{-8}T^3$$

T	$\Lambda$	X	$\rho$	$\eta$
1020	92.1	1.639	2.1165	1.18 <sub>3</sub>
1030	94.1	1.668	2.1082	1.14 <sub>0</sub>
1040	96.1	1.696	2.1000	1.10 <sub>1</sub>
1050	98.0	1.723	2.0917	1.06 <sub>7</sub>
1060	99.9	1.749	2.0835	1.03 <sub>7</sub>
1070	101.8	1.775	2.0752	1.01 <sub>2</sub>
1080	103.6	1.799	2.0670	0.98 <sub>9</sub>
1090	105.3	1.822	2.0587	0.96 <sub>9</sub>
1100	107.0	1.844	2.0505	0.95 <sub>2</sub>
1110	108.7	1.865	2.0422	0.93 <sub>6</sub>
1120	110.3	1.886	2.0340	0.92 <sub>1</sub>
1130	111.9	1.905	2.0257	0.90 <sub>7</sub>
1140	113.4	1.923	2.0175	0.89 <sub>3</sub>
1150	114.9	1.940	2.0092	0.87 <sub>8</sub>
1160	116.4	1.957	2.0010	0.86 <sub>3</sub>
1170	117.8	1.972	1.9927	0.84 <sub>7</sub>
1180	119.1	1.986	1.9844	0.82 <sub>8</sub>
1190	120.4	1.999	1.9762	
1200	121.6	2.011	1.9679	

Density: 3, 15, 26, 66, 81, 82.

Conductance: 10, 26, 33, 66, 82, 100.

Viscosity: 6, 78, 103.

TABLE 53  
RUBIDIUM BROMIDE

Eq. Wt. 165.40

m.p. 682°C. (955°K.)

$$\chi = -5.6453 + 11.1780 \cdot 10^{-3}T - 4.3285 \cdot 10^{-6}T^2$$

$$\rho = 3.7390 - 1.0718 \cdot 10^{-3}T$$

$$\Lambda = 611.1 \exp(-4171/RT)$$

$$\eta = 51.9396 - 0.131564T + 1.14887 \cdot 10^{-4}T^2 - 3.39298 \cdot 10^{-8}T^3$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
960				1.49 <sub>9</sub>
970	68.9	1.125	2.6994	1.45 <sub>3</sub>
980	70.9	1.152	2.6886	1.41 <sub>0</sub>
990	72.8	1.179	2.6779	1.37 <sub>0</sub>
1000	74.7	1.204	2.6672	1.33 <sub>3</sub>
1010	76.5	1.229	2.6565	1.29 <sub>8</sub>
1020	78.3	1.253	2.6458	1.26 <sub>6</sub>
1030	80.1	1.276	2.6350	1.23 <sub>6</sub>
1040	81.8	1.298	2.6243	1.20 <sub>8</sub>
1050	83.5	1.319	2.6136	1.18 <sub>2</sub>
1060	85.1	1.340	2.6029	1.15 <sub>8</sub>
1070	86.7	1.359	2.5922	1.13 <sub>5</sub>
1080	88.3	1.378	2.5815	1.11 <sub>3</sub>
1090	89.8	1.396	2.5707	1.09 <sub>2</sub>
1100	91.3	1.413	2.5600	1.07 <sub>2</sub>
1110	92.7	1.429	2.5493	1.05 <sub>2</sub>
1120	94.1	1.444	2.5386	1.03 <sub>3</sub>
1130	95.4	1.459	2.5279	1.01 <sub>4</sub>
1140	96.7	1.472	2.5171	
1150	98.0	1.485	2.5064	
1160	99.2	1.497	2.4957	
1170	100.4	1.508	2.4850	
1180	101.5	1.518	2.4743	

Density: 25, 82.Conductance: 82.Viscosity: 102.

TABLE 54CESIUM BROMIDE

Eq. Wt. 212.83                    m.p. 636°C. (909°K.)  
 $\chi = -2.5553 + 4.7068 \cdot 10^{-3}T - 1.1218 \cdot 10^{-6}T^2$   
 $\rho = 4.2449 - 1.2234 \cdot 10^{-3}T$   
 $\Lambda = 1160 \exp(-5533/RT)$

T	$\Lambda$	$\chi$	$\rho$
910	54.3	0.799	3.1316
920	56.3	0.826	3.1194
930	58.3	0.852	3.1071
940	60.4	0.878	3.0949
950	62.4	0.904	3.0827
960	64.4	0.929	3.0704
970	66.4 <sub>5</sub>	0.955	3.0582
980	68.5	0.980	3.0460
990	70.5	1.005	3.0337
1000	72.5	1.030	3.0215
1010	74.6	1.054	3.0093
1020	76.6	1.079	2.9970
1030	78.6	1.103	2.9848
1040	80.6 <sub>5</sub>	1.126	2.9726
1050	82.7	1.150	2.9603
1060	84.7	1.173	2.9481
1070	86.7 <sub>5</sub>	1.197	2.9359
1080	88.8	1.220	2.9236
1090	90.8	1.242	2.9114
1100	92.8 <sub>5</sub>	1.265	2.8992
1110	94.9	1.287	2.8869
1120	96.9	1.309	2.8747
1130	99.0	1.331	2.8625
1140	101.0	1.353	2.8502

Density: 25, 74, 82.Conductance: 82.

TABLE 55MAGNESIUM BROMIDE

Eq. Wt. 92.08

m.p. 714 °C. (987 °K.)

$$\chi = -0.4257 + 0.5717 \cdot 10^{-3} T + 0.5784 \cdot 10^{-6} T^2$$

$$\rho = 3.087 - 0.478 \cdot 10^{-3} T$$

$$\Lambda = 385.5 \exp (-5404/RT)$$

T	$\Lambda$	$\chi$	$\rho$
1000	25.5 <sub>6</sub>	0.724	2.510
1020	26.8 <sub>9</sub>	0.759	2.600
1040	28.2 <sub>4</sub>	0.795	2.590
1060	29.6 <sub>2</sub>	0.830	2.581
1080	31.0 <sub>2</sub>	0.866	2.571
1100	32.4 <sub>6</sub>	0.903	2.562
1120	33.9 <sub>2</sub>	0.940	2.552
1140	35.4 <sub>1</sub>	0.978	2.542
1160	36.9 <sub>3</sub>	1.016	2.533
1180	38.4 <sub>7</sub>	1.054	2.523
1200	40.0 <sub>4</sub>	1.093	2.514
1220	41.6 <sub>5</sub>	1.133	2.504
1240	43.2 <sub>8</sub>	1.173	2.495

Density: 89, 96.Conductance: 94.

TABLE 56CALCIUM BROMIDE

Eq. Wt. 99.91

m.p. 730°C. (1003°K.)

$$\chi = 12.820 \exp(-4475/RT)$$

$$\rho = 3.618 - 0.500 \cdot 10^{-3} T$$

$$\Lambda = 506.7 \exp(-4901/RT)$$

T	$\Lambda$	$\chi$	$\rho$
1020	45.3 <sub>0</sub>	1.409	3.108
1040	47.4 <sub>2</sub>	1.470	3.098
1060	49.5 <sub>6</sub>	1.532	3.088
1080	51.7 <sub>1</sub>	1.593	3.078
1100	53.8 <sub>8</sub>	1.655	3.068
1120	56.0 <sub>7</sub>	1.716	3.058
1140	58.2 <sub>8</sub>	1.778	3.048
1160	60.5 <sub>0</sub>	1.840	3.038
1180	62.7 <sub>3</sub>	1.901	3.028
1200	64.9 <sub>7</sub>	1.963	3.018
1220	67.2 <sub>2</sub>	2.024	3.008
1240	69.4 <sub>8</sub>	2.085	2.998
1260	71.7 <sub>6</sub>	2.146	2.988
1280	74.0 <sub>4</sub>	2.207	2.978

Density: 89, 96.Conductance: 94.

TABLE 57STRONTIUM BROMIDE

Eq. Wt. 123.73                                    m.p. 643°C.(916°K.)

$$X = -4.0086 + 6.8056 \cdot 10^{-3}T - 1.7296 \cdot 10^{-6}T^2$$

$$\rho = 4.390 - 0.745 \cdot 10^{-3}T$$

$$\Lambda = 806.5 \exp (-6183/RT)$$

T	$\Lambda$	X	$\rho$
940	28.8 <sub>5</sub>	0.860	3.690
960	31.3 <sub>3</sub>	0.931	3.675
980	33.7 <sub>9</sub>	1.000	3.660
1000	36.2 <sub>3</sub>	1.067	3.646
1020	38.6 <sub>3</sub>	1.134	3.631
1040	41.0 <sub>1</sub>	1.198	3.616
1060	43.3 <sub>6</sub>	1.262	3.601
1080	45.6 <sub>9</sub>	1.324	3.586
1100	47.9 <sub>8</sub>	1.385	3.571
1120	50.2 <sub>4</sub>	1.444	3.556
1140	52.4 <sub>8</sub>	1.502	3.541
1160	54.6 <sub>9</sub>	1.559	3.526
1180	56.8 <sub>6</sub>	1.614	3.511

Density: 89, 96.

Conductance: 94.

TABLE 58BARIUM BROMIDE

Eq. Wt. 148.60

m.p. 847°C. (1150°K.)

$$\chi = 13.539 \exp(-5441/RT)$$

$$\rho = 5.035 - 0.924 \cdot 10^{-3} T$$

$$\Lambda = 693.8 \exp(-6162/RT)$$

T	$\Lambda$	$\chi$	$\rho$
1140	45.7 <sub>3</sub>	1.226	3.982
1150	46.8 <sub>2</sub>	1.252	3.972
1160	47.9 <sub>0</sub>	1.278	3.963
1170	48.9 <sub>9</sub>	1.304	3.954
1180	50.0 <sub>9</sub>	1.330	3.945
1190	51.2 <sub>0</sub>	1.356	3.935
1200	52.3 <sub>1</sub>	1.382	3.926
1210	53.4 <sub>3</sub>	1.408	3.917
1220	54.5 <sub>6</sub>	1.435	3.908
1230	55.7 <sub>0</sub>	1.461	3.898
1240	56.8 <sub>4</sub>	1.488	3.889
1250	58.0 <sub>0</sub>	1.514	3.880
1260	59.1 <sub>5</sub>	1.541	3.871
1270	60.3 <sub>2</sub>	1.567	3.862
1280	61.4 <sub>9</sub>	1.594	3.852
1290	62.6 <sub>7</sub>	1.621	3.843
1300	63.8 <sub>5</sub>	1.647	3.834
1310	65.0 <sub>5</sub>	1.674	3.825
1320	66.2 <sub>4</sub>	1.701	3.815
1330	67.4 <sub>5</sub>	1.728	3.806

Density: 66, 91, 96.Conductance: 94.

TABLE 59

LANTHANUM (III) BROMIDE

Eq. Wt. 126.22 m.p. 783°C. (1056°K.)

$$\chi = 106.15 \exp (-10353/RT)$$

$$\rho = 5.0351 - 0.096 \cdot 10^{-3} T$$

$$\Lambda = 2770 \exp (-10402/RT)$$

T	$\Lambda$	$\chi$	$\rho$
1070	20.8 <sub>5</sub>	0.815	4.9324
1080	21.8 <sub>2</sub>	0.853	4.9314
1090	22.8 <sub>1</sub>	0.891	4.9305
1100	23.8 <sub>3</sub>	0.931	4.9295
1110	24.8 <sub>7</sub>	0.971	4.9285
1120	25.9 <sub>4</sub>	1.013	4.9276
1130	27.0 <sub>4</sub>	1.055	4.9266
1140	28.1 <sub>6</sub>	1.099	4.9257
1150	29.3 <sub>1</sub>	1.144	4.9247
1160	30.4 <sub>8</sub>	1.189	4.9237
1170	31.6 <sub>8</sub>	1.236	4.9228
1180	32.9 <sub>1</sub>	1.283	4.9218
1190	34.1 <sub>6</sub>	1.332	4.9209

Density: 83.Conductance: 83.

TABLE 60NEODYMIUM (III) BROMIDE

Eq. Wt. 128.01                            m.p. 684 °C. (957 °K.)

$$X = 3.2616 - 7.7595 \cdot 10^{-3} T + 4.8482 \cdot 10^{-6} T^2$$

$$\rho = 4.9750 - 0.7779 \cdot 10^{-3} T$$

$$\Lambda = 4137 \exp (-11854/RT)$$

T	$\Lambda$	X	$\rho$
960	8.4 <sub>9</sub>	0.281	4.2282
970	8.9 <sub>9</sub>	0.297	4.2204
980	9.5 <sub>3</sub>	0.314	4.2127
990	10.0 <sub>9</sub>	0.331	4.2049
1000	10.6 <sub>8</sub>	0.350	4.1971
1010	11.3 <sub>1</sub>	0.370	4.1893
1020	11.9 <sub>7</sub>	0.391	4.1815
1030	12.6 <sub>6</sub>	0.413	4.1738
1040	13.3 <sub>8</sub>	0.436	4.1660
1050	14.1 <sub>4</sub>	0.459	4.1582
1060	14.9 <sub>3</sub>	0.484	4.1504
1070	15.7 <sub>5</sub>	0.510	4.1426
1080	16.6 <sub>0</sub>	0.536	4.1349
1090	17.4 <sub>9</sub>	0.564	4.1271
1100	18.4 <sub>1</sub>	0.592	4.1193
1110	19.3 <sub>7</sub>	0.622	4.1115
1120	20.3 <sub>6</sub>	0.653	4.1038
1130	21.3 <sub>8</sub>	0.684	4.0960
1140	22.4 <sub>3</sub>	0.716	4.0882
1150	23.5 <sub>3</sub>	0.750	4.0804

Density: 83.Conductance: 83.

TABLE 61  
COPPER (I) BROMIDE

Eq. Wt. 143.46      m.p. 504 °C. (777 °K.)

$$\chi = 6.342 \exp (-1416/RT)$$

T	$\chi$
770	2.514
790	2.544
790	2.573
800	2.602
810	2.631
820	2.659

Conductance: 41.

TABLE 62  
SILVER BROMIDE

Eq. Wt. 187.0

m.p. 454°C. (707°K.)

$$\chi = 5.183 \exp (-831/RT)$$

$$\rho = 6.307 - 1.035 \cdot 10^{-3} T$$

$$\Lambda = 208.8 \exp (-1087/RT)$$

$$\eta = 0.3806 \exp (3088/RT)$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
720	97.9	2.899	5.562	3.30
730	98.8 <sub>5</sub>	2.923	5.551	3.20
740	99.8	2.945	5.541	3.11
750	100.7	2.968	5.531	3.02
760	101.7	2.989	5.520	2.94
770	102.6	3.011	5.510	2.86
780	103.5 <sub>5</sub>	3.032	5.500	2.79
790	104.4 <sub>5</sub>	3.053	5.489	2.72
800	105.3	3.073	5.479	2.66
810	106.2	3.093	5.469	2.59
820	107.1	3.112	5.458	2.53
830	107.9 <sub>5</sub>	3.131	5.448	2.48
840	108.8	3.150	5.438	2.42
850	109.6 <sub>5</sub>	3.169	5.427	2.37
860	110.5	3.187	5.417	2.32
870	111.3	3.205	5.407	
880	112.1 <sub>5</sub>	3.222	5.396	
890	112.9 <sub>5</sub>	3.240	5.386	
900	113.8	3.257	5.376	
910	114.6	3.273	5.365	
920	115.3 <sub>5</sub>	3.290	5.355	
930	116.1 <sub>5</sub>	3.306	5.344	

Density: 3, 22, 54, 81.

Conductance: 1, 10, 21, 23, 72, 100.

Viscosity: 24, 72.

TABLE 63ZINC BROMIDE

Mol. Wt. 112.61 m.p. 394°C. (667°K.)

$$\chi = 1.2220 - 3.9416 \cdot 10^{-3} T + 3.1971 \cdot 10^{-6} T^2$$

$$\rho = 4.113 - 0.959 \cdot 10^{-3} T$$

$$\Lambda = 3565 \exp (-14604/RT)$$

$$\eta = 400 \text{ cp. at } 400^\circ\text{C.}$$

T	$\Lambda$	$\chi$	$\rho$
670	0.52 <sub>9</sub>	0.016	3.470
680	0.65 <sub>2</sub>	0.020	3.461
690	0.79 <sub>7</sub>	0.024	3.451
700	0.96 <sub>4</sub>	0.029	3.442
710	1.15 <sub>2</sub>	0.035	3.432
720	1.36 <sub>3</sub>	0.041	3.423
730	1.59 <sub>6</sub>	0.048	3.413
740	1.85 <sub>1</sub>	0.056	3.403
750	2.12 <sub>9</sub>	0.064	3.394
760	2.43 <sub>0</sub>	0.073	3.384
770	2.75 <sub>4</sub>	0.083	3.375
780	3.10 <sub>1</sub>	0.093	3.365
790	3.47 <sub>2</sub>	0.103	3.355
800	3.86 <sub>8</sub>	0.115	3.346
810	4.28 <sub>4</sub>	0.127	3.336
820	4.72 <sub>6</sub>	0.140	3.327
830	5.19 <sub>3</sub>	0.153	3.317
840	5.68 <sub>4</sub>	0.167	3.307
850	6.19 <sub>9</sub>	0.182	3.298
860	6.74 <sub>0</sub>	0.197	3.288
870	7.30 <sub>5</sub>	0.213	3.279
880	7.89 <sub>6</sub>	0.229	3.269
890	8.51 <sub>3</sub>	0.246	3.259
900	9.15 <sub>5</sub>	0.264	3.250

Density: 43, 89, 96.Conductance: 94, 98.Viscosity: 98.

TABLE 64

CADMIUM BROMIDE

Eq. Wt. 156.12                            m.p. 567°C. (840°K.)  
 $X = -1.6351 + 4.1892 \cdot 10^{-3}T - 1.1777 \cdot 10^{-6}T^2$   
 $\rho = 5.611 - 1.80 \cdot 10^{-3}T$   
 $A = 295.3 \exp(-3565/RT)$   
 $\eta = 0.1893 \exp(4556/RT)$

T	A	X	$\rho$	$\eta$
850	35.8 <sub>4</sub>	1.075	4.082	
860	36.7 <sub>3</sub>	1.097	4.064	2.72
870	37.6 <sub>2</sub>	1.118	4.046	2.64
880	38.5 <sub>0</sub>	1.139	4.028	2.56
890	39.3 <sub>9</sub>	1.160	4.010	2.49
900	40.2 <sub>8</sub>	1.181	3.992	2.42
910	41.1 <sub>7</sub>	1.202	3.974	2.35
920	42.0 <sub>5</sub>	1.222	3.956	2.29
930	42.9 <sub>4</sub>	1.242	3.938	2.23
940	43.8 <sub>3</sub>	1.262	3.920	2.17
950	44.7 <sub>1</sub>	1.282	3.902	
960	45.6 <sub>0</sub>	1.301	3.884	
970	46.4 <sub>9</sub>	1.320	3.866	
980	47.3 <sub>8</sub>	1.339	3.848	
990	48.2 <sub>6</sub>	1.358	3.830	
1000	49.1 <sub>5</sub>	1.376	3.812	
1010	50.0 <sub>4</sub>	1.395	3.794	
1020	50.9 <sub>2</sub>	1.413	3.776	
1030	51.8 <sub>1</sub>	1.430	3.758	
1040	52.7 <sub>0</sub>	1.448	3.740	
1050	53.5 <sub>8</sub>	1.465	3.722	
1060	54.4 <sub>7</sub>	1.482	3.704	

Density: 54.

Conductance: 94.

Viscosity: 53.

TABLE 65MERCURY (II) BROMIDE

Eq. Wt. 180.22

m.p. 238°C. (511°K.)

$$\chi = -0.8258 \cdot 10^{-3} + 0.1972 \cdot 10^{-5} T - 0.1812 \cdot 10^{-9} T^2$$

$$\rho = 6.7715 - 3.2331 \cdot 10^{-3} T$$

$$\Lambda = 2.074 \exp(-6167/RT)$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
510	0.4672	1.3279	5.1226	
520	0.5353	1.5064	5.0903	
530	0.6002	1.6846	5.0580	2.16
540	0.6679	1.8624	5.0256	1.97
550	0.7363	2.0399	4.9933	1.82
560	0.8054	2.2170	4.9610	

Density: 18, 103.Conductance: 94, 103.Viscosity: 6, 58.

TABLE 66

INDIUM (III) BROMIDE

Eq. Wt. 118.17

m.p. 436°C. (709°K.)

$$\chi = -0.1914 + 1.0056 \cdot 10^{-3} T - 0.7065 \cdot 10^{-6} T^2$$

$$\rho = 4.184 - 1.50 \cdot 10^{-3} T.$$

$$\Lambda = 6.66 \exp (-91/RT)$$

T	$\Lambda$	$\chi$	$\rho$
710	6.31	0.166 <sub>4</sub>	3.11 <sub>9</sub>
720	6.33	0.166 <sub>4</sub>	3.10 <sub>4</sub>
730	6.36	0.166 <sub>2</sub>	3.08 <sub>9</sub>
740	6.38	0.165 <sub>9</sub>	3.07 <sub>4</sub>
750	6.39	0.165 <sub>4</sub>	3.05 <sub>9</sub>
760	6.40	0.164 <sub>8</sub>	3.04 <sub>4</sub>
770	6.40	0.164 <sub>0</sub>	3.02 <sub>9</sub>
780	6.40	0.163 <sub>1</sub>	3.01 <sub>4</sub>
790	6.39	0.162 <sub>1</sub>	2.99 <sub>9</sub>
800	6.37	0.160 <sub>9</sub>	2.98 <sub>4</sub>
810	6.35	0.159 <sub>6</sub>	2.96 <sub>9</sub>

Density: 34.Conductance: 34.

TABLE 67  
THALLIUM (I) BROMIDE

Eq. Wt. 284.31

m.p. 459°C. (732°K.)

$$\chi = 3.1580 - 7.3502 \cdot 10^{-3} T + 5.7876 \cdot 10^{-6} T^2$$

T	$\chi$
630	0.80
640	0.80 <sub>s</sub>
650	0.80 <sub>s</sub>
660	0.81
670	0.81
680	0.82
690	0.82
700	0.83
710	0.84
720	0.85
730	0.86
740	0.87
750	0.88
760	0.89 <sub>s</sub>
770	0.91
780	0.93
790	0.94
800	0.96
810	0.98
820	1.00
830	1.02
840	1.05
850	1.07
860	1.10
870	1.12

Conductance: 21.

TABL 68LEAD (II) BROMIDE

Eq. Wt. 185.52

m.p. 373°C. (646°K.)

$$\kappa = -3.4892 + 8.7490 \cdot 10^{-3} T - 3.7998 \cdot 10^{-6} T^2$$

$$\rho = 5.432 - 1.45 \cdot 10^{-3} T$$

$$\Lambda = 864.5 \exp(-4594/RT)$$

$$\eta = 4.245 \cdot 10^{-2} \exp(6964/RT)$$

T	$\Lambda$	$\kappa$	$\rho$	$\eta$
650	24.2 <sub>1</sub>	0.592	4.489 <sub>5</sub>	
660	25.8 <sub>3</sub>	0.630	4.475	
670	27.4 <sub>4</sub>	0.667	4.460 <sub>5</sub>	
680	29.0 <sub>2</sub>	0.703	4.446	
690	30.5 <sub>8</sub>	0.739	4.431 <sub>5</sub>	
700	32.1 <sub>3</sub>	0.773	4.417	5.57
710	33.6 <sub>4</sub>	0.807	4.402 <sub>5</sub>	5.25
720	35.1 <sub>4</sub>	0.840	4.388	4.96
730	36.6 <sub>2</sub>	0.873	4.373 <sub>5</sub>	4.69
740	38.0 <sub>7</sub>	0.904	4.359	4.44
750	39.5 <sub>0</sub>	0.935	4.344 <sub>5</sub>	4.21
760	40.9 <sub>1</sub>	0.965	4.330	4.00
770	42.3 <sub>0</sub>	0.995	4.315 <sub>5</sub>	3.80
780				3.62
790				3.45
800				3.29
810				3.15
820				3.01

Density: 15, 54.Conductance: 7, 72.Viscosity: 8, 72.

TABLE 69

BISMUTH (III) BROMIDE

Eq. Wt. 149.58                                    m.p. 218°C.(491°K.)  
 $\chi = -0.9532 + 3.5555 \cdot 10^{-3}T - 2.4159 \cdot 10^{-6}T^2$   
 $\rho = 5.958 - 2.6 \cdot 10^{-3}T$   
 $\Lambda = 191.7 \exp(-751/RT)$

T	$\Lambda$	$\chi$	$\rho$
510	7.5	0.23	4.632
530	8.2	0.25	4.580
550	9.0	0.27	4.528
570	9.6	0.29	4.476
590	10.3	0.30	4.424
610	10.8	0.32	4.372
630	11.4	0.33	4.320
650	11.8	0.34	4.268
670	12.2	0.34	4.216
690	12.6	0.35	4.164
710	12.9	0.35	4.112
730	13.0	0.35	4.060
750	13.2	0.35	4.008
770	13.3	0.35	3.956
790	13.3	0.35	3.904
810	13.3	0.34	3.852
830	13.1	0.33	3.800
850	12.9	0.32	3.748
870	12.6	0.31	3.696
890	12.2	0.30	3.644
910	11.7	0.28	3.592
930	11.2	0.26	3.540
950	10.5	0.24	3.488
970	9.7	0.22	3.436

Density: 25.

Conductance: 104.

Iodides

$\text{LiI}$

$\text{NaI}$

$\text{KI}$

$\text{RbI}$

$\text{CsI}$

$\text{MgI}_2$

$\text{CaI}_2$

$\text{SrI}_2$

$\text{BaI}_2$

$\text{AlI}_3$

$\text{LaI}_3$

$\text{CeI}_3$

$\text{PrI}_3$

$\text{NdI}_3$

$\text{AgI}$

$\text{ZnI}_2$

$\text{CdI}_2$

$\text{HgI}_2$

$\text{GaI}_2$

$\text{InI}_3$

$\text{TlI}$

$\text{PbI}_2$

$\text{BiI}_3$

TABLE 70LITHIUM IODIDE

Mol. Wt. 131.86

m.p. 459°C. (742°F.)

$$\chi = 6.914 \exp(-949/RT)$$

$$\rho = 3.7902 - 0.9176 \cdot 10^{-3} T$$

$$\Lambda = 396.3 \exp(-1375/RT)$$

$$\eta = 17.1214 - 3.14016 \cdot 10^{-3} T + 1.54286 \cdot 10^{-5} T^2$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
750	157.8	3.65 <sub>s</sub>	3.1020	2.25
760	159.6	3.69	3.0928	2.17
770	161.4	3.72	3.0836	2.09
780	163.2	3.75	3.0745	2.01
790	164.9	3.77 <sub>s</sub>	3.0653	1.94
800	166.7	3.80 <sub>s</sub>	3.0561	1.87
810	168.4	3.83 <sub>s</sub>	3.0469	1.81
820	170.2	3.86	3.0378	1.75
830	171.9	3.89	3.0286	1.69
840	173.6	3.91 <sub>s</sub>	3.0194	1.63
850	175.3	3.94	3.0102	1.58
860	177.0	3.97	3.0011	1.53
870	178.7	3.99	2.9919	1.48
880	180.3	4.02	2.9827	1.44
890	182.0	4.04	2.9735	1.39
900	183.6	4.06 <sub>s</sub>	2.9644	1.36
910	185.3	4.09	2.9552	1.32
920	186.9	4.11 <sub>s</sub>	2.9460	1.29
930	188.6	4.13 <sub>s</sub>	2.9368	
940	190.2	4.16	2.9277	

Density: 82.Conductance: 82.Viscosity: 47.

TABLE 71

SODIUM IODIDE

Eq. Wt. 149.92                    m.p. 660°C. (933°K.)

$$\chi = 8.292 \exp (-2423/RT)$$

$$\rho = 3.6274 - 0.9491 \cdot 10^{-3} T$$

$$\Lambda = 697.1 \exp (-3230/RT)$$

$$\eta = 4.001 \cdot 10^{-2} \exp (7209/RT)$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
940	124.2	2.266	2.7352	1.90
950	126.3	2.297	2.7258	1.82
960	128.5	2.328	2.7163	1.75
970	130.6	2.359	2.7068	1.68
980	132.8	2.389	2.6973	1.62
990	135.0	2.419	2.6878	1.56
1000	137.1	2.449	2.6783	1.51
1010	139.3	2.479	2.6688	1.45
1020	141.4	2.509	2.6593	1.40
1030	143.6	2.538	2.6498	1.35
1040	145.8	2.567	2.6403	1.31
1050	147.9	2.596	2.6308	1.27
1060	150.1	2.624	2.6214	1.23
1070	152.3	2.653	2.6119	1.19
1080	154.5	2.681	2.6024	1.15
1090	156.6	2.709	2.5929	1.12
1100	158.8	2.737	2.5834	1.08
1110	161.0	2.764	2.5739	1.05
1120	163.2	2.791	2.5644	1.02
1130	165.4	2.818	2.5549	0.99
1140	167.6	2.845	2.5454	0.96
1150	169.8	2.872	2.5359	0.94
1160	172.0	2.898	2.5264	0.91
1170	174.2	2.924	2.5170	0.89
1180	176.4	2.950	2.5076	
1190	178.6	2.976	2.4980	

Density: 25, 66, 82.

Conductance 2, 10, 66, 82.

Viscosity: 47.

TABLE 72POTASSIUM IODIDE

Eq. Wt. 166.02

m.p. 681°C. (954°K.)

$$\chi = -6.1952 + 12.6232 \cdot 10^{-3}T - 5.0591 \cdot 10^{-6}T^2$$

$$\rho = 3.3594 - 0.9557 \cdot 10^{-3}T$$

$$\Lambda = 541.2 \exp (-3442/RT)$$

$$\eta = 81.1782 - 0.187839T + 1.48784 \cdot 10^{-4}T^2 - 4.00000 \cdot 10^{-8}T^3$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
1000	94.5	1.36 <sub>9</sub>	2.4037	
1010	96.4	1.39 <sub>3</sub>	2.3941	
1020	98.7	1.41 <sub>7</sub>	2.3846	
1030	100.4	1.43 <sub>9</sub>	2.3750	1.84
1040	102.5	1.46 <sub>1</sub>	2.3655	1.76
1050	104.4	1.48 <sub>2</sub>	2.3559	1.68
1060	106.3	1.50 <sub>1</sub>	2.3464	1.60
1070	108.0	1.51 <sub>9</sub>	2.3368	1.53
1080	109.6	1.53 <sub>7</sub>	2.3272	1.47
1090	111.3	1.55 <sub>3</sub>	2.3177	1.40
1100	112.8	1.56 <sub>9</sub>	2.3081	1.34
1110	114.4	1.58 <sub>3</sub>	2.2986	1.29
1120	115.8	1.59 <sub>7</sub>	2.2890	1.24
1130	117.2	1.60 <sub>9</sub>	2.2795	1.19
1140	118.5	1.62 <sub>0</sub>	2.2699	1.14
1150	119.8	1.63 <sub>1</sub>	2.2603	1.10
1160	121.0	1.64 <sub>0</sub>	2.2508	1.05
1170	122.2	1.64 <sub>9</sub>	2.2412	1.01
1180	123.3	1.65 <sub>6</sub>	2.2317	

Density: 26, 66, 79, 81.

Conductance: 10, 26, 33, 66, 79.

Viscosity: 47.

TABLE 73

RUBIDIUM IODIDE

Eq. Wt. 212.40

m.p. 647 °C. (920 °K.)

$$\chi = -2.5050 + 5.3229 \cdot 10^{-3} T - 1.6114 \cdot 10^{-6} T^2$$

$$\rho = 3.9499 - 1.1435 \cdot 10^{-3} T$$

$$\Lambda = 568.1 \exp (-3999/RT)$$

T	$\Lambda$	$\chi$	$\rho$
930	64.7	0.879	2.8864
940	66.3	0.898	2.8750
950	68.0	0.917	2.8636
960	69.7	0.936	2.8521
970	71.3	0.954	2.8407
980	73.0	0.972	2.8293
990	74.6	0.989	2.8178
1000	76.2	1.007	2.8064
1010	77.8	1.023	2.7950
1020	79.3	1.040	2.7835
1030	80.9	1.056	2.7721
1040	82.4	1.072	2.7607
1050	84.0	1.087	2.7492
1060	85.5	1.102	2.7378
1070	87.0	1.117	2.7264
1080	88.5	1.131	2.7149
1090	89.9	1.145	2.7035
1100	91.4	1.158	2.6921
1110	92.8	1.172	2.6806
1120	94.3	1.184	2.6692
1130	95.7	1.197	2.6577
1140	97.0	1.209	2.6463
1150	98.4	1.221	2.6349
1160	99.8	1.232	2.6234
1170	101.1	1.243	2.6120
1180	102.4	1.254	2.6006

Density: 25, 82.Conductance: 82.

TABLE 74

CESIUM IODIDE

Eq. Wt. 259.85 m.p. 626°C. (899°K.)

$$\times = -2.4630 + 4.5942 \cdot 10^{-3}T - 1.274910^{-6}T^2$$

$$\rho = 4.2410 - 1.1854 \cdot 10^{-3}T$$

$$\Lambda = 1125 \exp(-5450/RT)$$

T	$\Lambda$	$\times$	$\rho$
920	56.43	0.6846	3.1523
930	58.49	0.7069	3.1404
940	60.55	0.7290	3.1286
950	62.60	0.7509	3.1168
960	64.64	0.7725	3.1049
970	66.68	0.7938	3.0931
980	68.71	0.8149	3.0813
990	70.75	0.8357	3.0694
1000	72.77	0.8563	3.0576
1010	74.78	0.8766	3.0458
1020	76.79	0.8967	3.0339
1030	78.80	0.9165	3.0221
1040	80.79	0.9360	3.0103
1050	82.78	0.9553	2.9984
1060	84.77	0.9744	2.9866
1070	86.75	0.9932	2.9748
1080	88.72	1.0117	2.9629
1090	90.68	1.0300	2.9511
1100	92.64	1.0480	2.9393
1110	94.59	1.0658	2.9274
1120	96.54	1.0833	2.9156
1130	98.48	1.1005	2.9038

Density: 25, 74, 82.Conductance: 82.

TABLE 75MAGNESIUM IODIDE

Eq. Wt. 139.08                                    m.p. 650°C. (923°K.)

$$X = -0.7656 + 0.8785 \cdot 10^{-3} T + 0.4299 \cdot 10^{-6} T^2$$

$$\rho = 3.642 - 0.651 \cdot 10^{-3} T$$

$$\Lambda = 751.1 \exp (-6752/RT)$$

T	$\Lambda$	X	$\rho$
920	18.5 <sub>8</sub>	0.406	3.043
940	20.2 <sub>0</sub>	0.440	3.030
960	21.8 <sub>3</sub>	0.474	3.017
980	23.5 <sub>3</sub>	0.508	3.004
1000	25.2 <sub>4</sub>	0.543	2.991
1020	26.9 <sub>8</sub>	0.578	2.978
1040	28.7 <sub>6</sub>	0.613	2.965
1060	30.5 <sub>6</sub>	0.649	2.952
1080	32.4 <sub>0</sub>	0.685	2.939
1100	34.2 <sub>7</sub>	0.721	2.926
1120	36.1 <sub>7</sub>	0.758	2.913
1140	38.1 <sub>1</sub>	0.795	2.900
1160	40.0 <sub>8</sub>	0.832	2.887
1180	42.0 <sub>9</sub>	0.870	2.874

Density: 89, 96.

Conductance: 94.

TABLE 76CALCIUM IODIDE

Eq. Wt. 146.96

m.p. 784°C. (1057°K.)

$$\chi = -4.6282 + 8.2567 \cdot 10^{-3}T - 2.6610 \cdot 10^{-6}T^2$$

$$\rho = 4.233 - 0.751 \cdot 10^{-3}T$$

$$\Lambda = 545.6 \exp(-5093/RT)$$

T	$\Lambda$	$\chi$	$\rho$
1060	48.49	1.134 <sub>0</sub>	3.437
1070	49.70	1.159 <sub>0</sub>	3.429
1080	50.90	1.185 <sub>2</sub>	3.422
1090	52.08	1.210 <sub>1</sub>	3.414
1100	53.25	1.234 <sub>4</sub>	3.407
1110	54.39	1.258 <sub>1</sub>	3.399
1120	55.52	1.281 <sub>3</sub>	3.392
1130	56.63	1.304 <sub>0</sub>	3.384
1140	57.72	1.326 <sub>2</sub>	3.377
1150	58.79	1.347 <sub>8</sub>	3.369
1160	59.84	1.368 <sub>9</sub>	3.362
1170	60.88	1.389 <sub>3</sub>	3.354
1180	61.89	1.409 <sub>5</sub>	3.347
1190	62.89	1.429 <sub>0</sub>	3.339
1200	63.86	1.448 <sub>0</sub>	3.332
1210	64.83	1.466 <sub>4</sub>	3.324
1220	65.76	1.484 <sub>3</sub>	3.317
1230	66.96	1.501 <sub>7</sub>	3.309
1240	67.59	1.518 <sub>4</sub>	3.302
1250	68.48	1.534 <sub>9</sub>	3.294
1260	69.33	1.550 <sub>6</sub>	3.287
1270	70.18	1.565 <sub>0</sub>	3.279
1280	70.99	1.580 <sub>6</sub>	3.272
1290	71.81	1.594 <sub>8</sub>	3.264

Density: 89, 96.Conductance 94.

TABLE 77

STRONTIUM IODIDE

Eq. Wt. 170.74

m.p. 515°C. (788°K.)

$$\gamma = -1.8747 + 3.3276 \cdot 10^{-3}T - 0.5169 \cdot 10^{-6}T^2$$

$$\rho = 4.803 - 0.885 \cdot 10^{-3}T$$

$$\lambda = 610.1 \exp(-5409/RT)$$

T	$\lambda$	$\gamma$	$\rho$
820	21.2 <sub>0</sub>	0.506	4.077
840	23.3 <sub>7</sub>	0.556	4.060
860	25.5 <sub>5</sub>	0.605	4.042
880	27.7 <sub>2</sub>	0.653	4.024
900	29.8 <sub>9</sub>	0.701	4.007
920	32.0 <sub>7</sub>	0.749	3.989
940	34.2 <sub>5</sub>	0.797	3.971
960	36.4 <sub>3</sub>	0.843	3.953
980	38.6 <sub>1</sub>	0.890	3.936
1000	40.7 <sub>9</sub>	0.936	3.918
1020	42.9 <sub>7</sub>	0.982	3.900
1040	45.1 <sub>6</sub>	1.027	3.883
1060	47.3 <sub>5</sub>	1.072	3.865
1080	49.5 <sub>4</sub>	1.116	3.847
1100	51.7 <sub>3</sub>	1.160	3.830
1120	53.9 <sub>2</sub>	1.204	3.812
1140	56.1 <sub>2</sub>	1.247	3.794
1160	58.3 <sub>1</sub>	1.290	3.776
1180	60.5 <sub>1</sub>	1.332	3.759
1200	62.7 <sub>1</sub>	1.374	3.741
1220	64.9 <sub>2</sub>	1.416	3.723
1240	67.1 <sub>2</sub>	1.457	3.706
1260	69.3 <sub>3</sub>	1.497	3.688
1280	71.5 <sub>4</sub>	1.538	3.670

Density: 89, 96.Conductance: 94.

TABLE 78

## BARIUM IODIDE

Eq. Wt. 195.59

m.p. 740 °C. (1013°K.)

$$\kappa = -2.1845 + 3.3755 \cdot 10^{-3} T - 0.4666 \cdot 10^{-6} T^2$$

$$\rho = 5.222 - 0.977 \cdot 10^{-3} T$$

$$\lambda = 831.2 \exp (-6367/RT)$$

T	$\Lambda$	$\kappa$	$\rho$
1000	33.3 <sub>8</sub>	0.72 <sub>4</sub>	4.245
1020	35.7 <sub>8</sub>	0.77 <sub>3</sub>	4.225
1040	38.2 <sub>0</sub>	0.82 <sub>1</sub>	4.206
1060	40.6 <sub>1</sub>	0.86 <sub>9</sub>	4.186
1080	43.0 <sub>3</sub>	0.91 <sub>7</sub>	4.167
1100	45.4 <sub>6</sub>	0.96 <sub>4</sub>	4.147
1120	47.8 <sub>9</sub>	1.01 <sub>1</sub>	4.128
1140	50.3 <sub>3</sub>	1.05 <sub>7</sub>	4.108
1160	52.7 <sub>7</sub>	1.10 <sub>3</sub>	4.089
1180	55.2 <sub>2</sub>	1.14 <sub>9</sub>	4.069
1200	57.6 <sub>8</sub>	1.19 <sub>4</sub>	4.050
1220	60.1 <sub>4</sub>	1.23 <sub>9</sub>	4.030
1240	62.6 <sub>0</sub>	1.28 <sub>4</sub>	4.011
1260	65.0 <sub>8</sub>	1.32 <sub>8</sub>	3.991
1280	67.5 <sub>5</sub>	1.37 <sub>2</sub>	3.971

Density: 91, 96.Conductance: 94.

TABLE 79ALUMINIUM (III) IODIDE

Eq. Wt. 135.91

m.p. 191°C. (464°K.)

$$\kappa = -0.1721 \cdot 10^{-4} + 0.8131 \cdot 10^{-6} T + 0.6801 \cdot 10^{-10} T^2$$

$$\rho = 4.38_3 - 2.50 \cdot 10^{-3} T$$

T	$\Lambda$	$\kappa$	$\rho$
470	0.69	1.6 <sub>3</sub>	3.20 <sub>8</sub>
480	1.01	2.3 <sub>6</sub>	3.18 <sub>3</sub>
490	1.33	3.1 <sub>0</sub>	3.15 <sub>8</sub>
500	1.67	3.8 <sub>6</sub>	3.13 <sub>3</sub>
510	2.02	4.6 <sub>3</sub>	3.10 <sub>8</sub>
520	2.38	5.4 <sub>1</sub>	3.08 <sub>3</sub>
530	2.75	6.2 <sub>0</sub>	3.05 <sub>8</sub>

Density: 35.

Conductance: 35.

TABLE 80

LANTHANUM (III) IODIDE

Eq. Wt. 173.25

m.p. 779 °C. (1052 °K.)

$$\kappa = -0.9535 + 1.319 \cdot 10^{-3} T$$

T	$\kappa$
1070	0.457 <sub>8</sub>
1080	0.471 <sub>0</sub>
1090	0.484 <sub>2</sub>
1100	0.497 <sub>4</sub>
1110	0.510 <sub>6</sub>
1120	0.523 <sub>8</sub>
1130	0.537 <sub>0</sub>
1140	0.550 <sub>2</sub>

Conductance: 106.

TABLE 81CERIUM (III) IODIDE

Eq. Wt. 173.63      m.p. 761 °C. (1034 °K.)

$$\kappa = -0.8580 + 1.221 \cdot 10^{-3} T$$

T	$\kappa$
1070	0.448 <sub>5</sub>
1080	0.460 <sub>7</sub>
1090	0.472 <sub>9</sub>
1100	0.485 <sub>1</sub>
1110	0.497 <sub>3</sub>
1120	0.509 <sub>5</sub>
1130	0.521 <sub>7</sub>

Conductance: 106.

TABLE 82PRASEODYMIUM (III) IODIDE

Eq. Wt. 173.89      m.p. 738°C. (1001°K.)

$$\chi = -0.7922 + 1.500 \cdot 10^{-3} T$$

T	$\chi$
1040	0.767 <sub>s</sub>
1050	0.782 <sub>s</sub>
1060	0.797 <sub>s</sub>
1070	0.812 <sub>s</sub>
1080	0.827 <sub>s</sub>

Conductance: 106.

TABLE 83NEODYMIUM (III) IODIDE

Eq. Wt. 175.01      m.p. 787°C. (1060°K.)

$$X = -0.7193 + 1.040 \cdot 10^{-3} T$$

T	X
1080	0.403 <sub>9</sub>
1090	0.414 <sub>3</sub>
1100	0.424 <sub>7</sub>
1110	0.435 <sub>1</sub>

Conductance: 106.

TABLE 84

SILVER IODIDE

Eq. Wt. 234.80

m.p. 556°C.(829°K.)

$$\chi = 4.674 \exp (-1146/RT)$$

$$\rho = 6.415 - 1.01 \cdot 10^{-3} T$$

$$\Lambda = 239.9 \exp (-1475/RT)$$

$$\eta = 0.1481 \exp (5259/RT)$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
830	98	2.33	5.577	
840	99	2.35	5.567	
850	100	2.37	5.557	
860	101	2.39	5.546	
870	102	2.41	5.536	
880	103	2.43	5.526	3.00
890	104	2.45	5.516	2.90
900	105	2.46	5.506	2.80
910	106	2.48	5.496	2.71
920	107	2.50	5.486	2.63
930	108	2.52	5.476	2.55
940	109	2.53	5.466	2.47
950	110	2.55	5.456	2.40
960	110.5	2.56	5.445	2.33
970	111.5	2.58	5.435	2.27
980	112	2.60	5.425	2.21
990	113	2.61	5.415	2.15
1000	114	2.63	5.405	2.09
1010	115	2.64	5.395	2.03
1020	116	2.66	5.385	1.98
1030	117	2.67	5.375	1.93
1040	117.5	2.69	5.365	1.89
1050	118.5	2.70	5.355	1.85
1060	119	2.71	5.344	1.80
1070	120	2.73	5.334	1.76
1080	121	2.74	5.324	1.72
1090				1.68
1100				1.64

Density: 22, 39.Conductance: 10, 21, 23.Viscosity: 24.

TABLE 85  
ZINC IODIDE

Eq. Wt. 159.61                            m.p. 446°C. (719°K.)

$$\chi = 0.6723 - 2.6858 \cdot 10^{-3}T + 2.5446 \cdot 10^{-6}T^2$$

$$\rho = 4.856 - 1.360 \cdot 10^{-3}T$$

$$\Lambda = 17880 \exp (-12636/RT)$$

T	$\Lambda$	$\chi$	$\rho$
720	2.43	0.059	3.877
730	2.86	0.069	3.864
740	3.30	0.080	3.850
750	3.78	0.091	3.837
760	4.27	0.102	3.823
770	4.80	0.114	3.809
780	5.34	0.127	3.796
790	5.92	0.140	3.782
800	6.51	0.154	3.767
810	7.14	0.168	3.755
820	7.79	0.183	3.741
830	8.47	0.198	3.728
840	9.17	0.213	3.714
850	9.90	0.230	3.701
860	10.66	0.246	3.687
870	11.45	0.263	3.673

Density: 91, 96.

Conductance: 94.

TABLE 86  
CADMIUM IODIDE

Eq. Wt. 183.13

m.p. 388°C. (661°K.)

$$\chi = -1.0841 + 1.7574 \cdot 10^{-3} T + 0.2449 \cdot 10^{-6} T^2$$

$$\rho = 5.155 - 1.117 \cdot 10^{-3} T$$

$$\Lambda = 1109.0 \exp(-6365/RT)$$

T	$\Lambda$	$\chi$	$\rho$
680	9.4	0.224	4.373
690	10.3	0.245	4.362
700	11.2	0.266	4.351
710	12.1	0.287	4.340
720	13.0 <sub>5</sub>	0.308	4.329
730	13.9 <sub>5</sub>	0.329	4.318
740	14.9	0.351	4.306
750	15.8 <sub>5</sub>	0.372	4.295
760	16.8	0.393	4.284
770	17.7 <sub>5</sub>	0.414	4.273
780	18.7	0.436	4.262
790	19.7	0.457	4.251
800	20.6 <sub>5</sub>	0.479	4.239
810	21.6 <sub>5</sub>	0.500	4.228
820	22.6 <sub>5</sub>	0.522	4.217
830	23.6 <sub>5</sub>	0.543	4.206
840	24.6 <sub>5</sub>	0.565	4.195
850	25.7	0.587	4.184
860	26.7	0.608	4.172
870	27.7 <sub>5</sub>	0.630	4.161
880	28.7 <sub>5</sub>	0.652	4.150
890	29.8	0.674	4.139
900	30.8 <sub>5</sub>	0.696	4.128
910	31.9 <sub>5</sub>	0.718	4.117

Density: 66.

Conductance: 66, 94.

TABLE 87MERCURY (II) IODIDE

Mol. Wt. 227.23

m.p. 259°C. (532°K.)

$$\chi = 0.2775 - 0.6394 \cdot 10^{-3}T + 0.3554 \cdot 10^{-6}T^2$$

$$\rho = 6.9435 - 3.2351 \cdot 10^{-3}T$$

$$\Lambda = 0.018 \exp (+5428/RT)$$

$$\eta = 4.00 \cdot 10^{-3} \exp (4531/RT)$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
530	1.67	0.0384	5.2289	
540	1.57	0.0359	5.1965	
550	1.46 <sub>5</sub>	0.0333	5.1642	2.53
560	1.37	0.0309	5.1318	2.35
570	1.27	0.0285	5.0995	2.19
580	1.17 <sub>5</sub>	0.0262	5.0671	2.04
590	1.08	0.0240	5.0348	1.91
600	0.99	0.0218	5.0024	1.79
610	0.90	0.0197	4.9701	1.68
620	0.81 <sub>5</sub>	0.0177	4.9377	1.58
630	0.73	0.0157	4.9054	1.49

Density: 18, 78, 103.Conductance: 29, 94, 103.Viscosity: 103.

TABLE 88GALLIUM (II) IODIDE

Eq. Wt. 161.78

m.p. 212°C. (485°K.)

$$X = -0.4546 + 1.149 \cdot 10^{-3} T$$

$$\rho = 4.841 - 1.666 \cdot 10^{-3} T$$

$$\Lambda = 771.8 \exp (-5121/RT)$$

T	$\Lambda$	X	$\rho$
430	1.4	0.04	4.115
440	2.0	0.05	4.098
450	2.5	0.06	4.081
460	2.9	0.07	4.064
470	3.4	0.08	4.048
480	3.9	0.10	4.031
490	4.4	0.11	4.014
500	4.9	0.12	3.997
510	5.3	0.13	3.980
520	5.8	0.14	3.963
530	6.3	0.15	3.946
540	6.8	0.17	3.929
550	7.3	0.18	3.913
560	7.8	0.19	3.896
570	8.4	0.20	3.879
580	8.9	0.21	3.862
590	9.4	0.22	3.845
600	9.9	0.23	3.828
610	10.4	0.25	3.811
620	11.0	0.26	3.794

Density: 105.Conductance: 105.

TABLE 89

INDIUM (III) IODIDE

Eq. Wt. 165.17

m.p. 210 °C. (483 °K.)

$$\chi = -0.2413 + 0.8600 \cdot 10^{-3} T - 0.5224 \cdot 10^{-6} T^2$$

$$\rho = 4.89 - 1.50 \cdot 10^{-3} T$$

$$\Lambda = 28.30 \exp (-2480/RT)$$

T	$\Lambda$	$\chi$	$\rho$
490	2.1 <sub>5</sub>	0.054	4.15 <sub>5</sub>
500	2.3 <sub>0</sub>	0.058	4.14
510	2.4 <sub>4</sub>	0.061	4.12 <sub>5</sub>
520	2.5 <sub>8</sub>	0.064	4.11
530	2.7 <sub>1</sub>	0.067	4.09 <sub>5</sub>
540	2.8 <sub>4</sub>	0.070	4.08
550	2.9 <sub>7</sub>	0.073	4.06 <sub>5</sub>
560	3.0 <sub>9</sub>	0.076	4.05
570	3.2 <sub>1</sub>	0.079	4.03 <sub>5</sub>
580	3.3 <sub>3</sub>	0.081	4.02
590	3.4 <sub>5</sub>	0.084	4.00 <sub>5</sub>
600	3.5 <sub>6</sub>	0.086	3.99
610	3.6 <sub>6</sub>	0.088	3.97 <sub>5</sub>
620	3.7 <sub>7</sub>	0.090	3.96
630	3.8 <sub>7</sub>	0.092	3.94 <sub>5</sub>
640	3.9 <sub>6</sub>	0.094	3.93
650	4.0 <sub>6</sub>	0.096	3.91 <sub>5</sub>

Density: 34.Conductance: 34.

TABLE 90THALLIUM (I) IODIDE

Eq. Wt. 331.31

m.p. 440°C. (713°K.)

$$\chi = -1.4257 + 3.4061 \cdot 10^{-3}T - 0.9295 \cdot 10^{-6}T^2$$

T	$\chi$
710	0.524
720	0.545
730	0.565
740	0.586
750	0.606
760	0.626
770	0.646
780	0.666
790	0.685
800	0.704
810	0.723
820	0.742
830	0.761
840	0.780
850	0.798
860	0.816
870	0.834

Conductance: 21.

TABLE 91

LEAD (II) IODIDE

Eq. Wt. 230.53

m.p. 402°C. (675°K.)

$$\chi = -0.6501 + 1.0054 \cdot 10^{-3} T + 0.7888 \cdot 10^{-6} T^2$$

T	$\chi$
680	0.399
690	0.419
700	0.440
710	0.442
720	0.483
730	0.504
740	0.526
750	0.548
760	0.570
770	0.592
780	0.614
790	0.636
800	0.659
810	0.682
820	0.704
830	0.727
840	0.751
850	0.775
860	0.798
870	0.822

Conductance: 108.

TABLE 92BISMUTH (III) IODIDE

Eq. Wt. 199.59

m.p. 408°C. (671°K.)

$$\chi = -0.9306 + 3.0374 \cdot 10^{-3}T - 1.8477 \cdot 10^{-6}T^2$$

T	$\chi$
690	0.286
700	0.290
710	0.295
720	0.298
730	0.302
740	0.305
750	0.308
760	0.311
770	0.313

Conductance: 104.

Carbonates $\text{Li}_2\text{CO}_3$  $\text{Na}_2\text{CO}_3$  $\text{K}_2\text{CO}_3$

TABLE 93

LITHIUM CARBONATE

Eq. Wt. 36.94

m.p. 618°C. (891°K.)

$$\chi = 3.378 \exp (-3954/RT)$$

$$\rho = 2.2026 - 0.3729 \cdot 10^{-3} T$$

$$\Lambda = 754.5 \exp (-4438/RT)$$

$$\eta = -5259.12 + 14.8091T - 1.38581 \cdot 10^{-2} T^2 + 4.31294 \cdot 10^{-6} T^3$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
1010	82.88	4.097	1.8260	
1020	84.58	4.172	1.8222	
1030	86.31	4.249	1.8185	
1040	88.06	4.326	1.8148	
1050	89.83	4.404	1.8111	4.64
1060	91.63	4.483	1.8075	4.34
1070	93.46	4.563	1.8036	4.01
1080	95.31	4.644	1.7999	3.67
1090	97.19	4.726	1.7961	3.36
1100	99.09	4.808	1.7924	3.10
1110	101.02	4.892	1.7887	2.91
1120	102.98	4.976	1.7850	2.83

Density: 101.Conductance: 101.Viscosity: 107.

TABLE 94

SODIUM CARBONATE

Eq. Wt. 53.00

m.p. 858°C. (1131°K.)

$$\chi = 13.758 \exp (-3527/RT)$$

$$\rho = 2.4797 - 0.4487 \cdot 10^{-3}T$$

$$\Lambda = 550.2 \exp (-4199/RT)$$

$$\eta = 1464.540 - 3.443219T + 2.709817 \cdot 10^{-3}T^2 - 7.132598 \cdot 10^{-7}T^3$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
1140	78.0 <sub>8</sub>	2.900	1.9682	
1150	79.3 <sub>3</sub>	2.939	1.9637	
1160	80.5 <sub>7</sub>	2.978	1.9592	3.41
1170	81.8 <sub>2</sub>	3.018	1.9547	3.08
1180	83.0 <sub>7</sub>	3.057	1.9502	2.78
1190	84.3 <sub>2</sub>	3.096	1.9457	2.53
1200	85.5 <sub>7</sub>	3.134	1.9413	2.30
1210	86.8 <sub>3</sub>	3.173	1.9368	2.10
1220	88.0 <sub>8</sub>	3.211	1.9323	1.93
1230	89.3 <sub>4</sub>	3.249	1.9278	1.78
1240	90.5 <sub>9</sub>	3.288	1.9233	1.64
1250	91.8 <sub>5</sub>	3.325	1.9188	
1260	93.1 <sub>1</sub>	3.363	1.9143	
1270	94.3 <sub>7</sub>	3.401	1.9099	
1280	95.6 <sub>3</sub>	3.438	1.9054	

Density: 3, 101.Conductance: 4, 101.Viscosity: 107.

TABLE 95

POTASSIUM CARBONATE

Eq. Wt. 69.1

m.p. 899°C. (1172°K.)

$$\chi = 11.027 \exp (-3941/RT)$$

$$\rho = 2.4141 - 0.4421 \cdot 10^{-3} T$$

$$\Lambda = 544.6 \exp (-4650/RT)$$

$$\eta = 1.16 \cdot 10^{-5} \exp (29490/RT)$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
1180	74.9 <sub>8</sub>	2.053	1.8924	
1190	76.2 <sub>2</sub>	2.083	1.8880	3.03
1200	77.4 <sub>7</sub>	2.112	1.8836	2.73
1210	78.7 <sub>2</sub>	2.141	1.8792	2.46
1220	79.9 <sub>7</sub>	2.170	1.8747	2.25
1230	81.2 <sub>3</sub>	2.199	1.8703	2.02
1240	82.4 <sub>9</sub>	2.227	1.8659	1.83
1250	83.7 <sub>5</sub>	2.256	1.8615	1.66
1260	85.0 <sub>1</sub>	2.285	1.8571	
1270	86.2 <sub>8</sub>	2.313	1.8526	
1280	87.5 <sub>5</sub>	2.342	1.8482	

Density: 3, 101.Conductance: 4, 101.Viscosity: 107.

Nitrates

LiNO3

NaNO3

KNO3

RbNO3

CaNO3

AgNO3

TlNO3

TABLE 96LITHIUM NITRATE

Eq. Wt. 68.95

m.p. 252°C. (525°K.)

$$\chi = -2.8661 + 8.0532 \cdot 10^{-3} T - 2.1070 \cdot 10^{-6} T^2$$

$$\rho = 2.068 - 0.546 \cdot 10^{-3} T$$

$$\Lambda = 835.6 \exp(-3419/RT)$$

$\eta$  Obtained from smooth curve through experimental points of Dantuma, since fit to both exponential and cubic equations is poor.

T	$\Lambda$	$\chi$	$\rho$	$\eta$
550	36.1	0.93	1.768	5.87
560	38.3	0.98	1.762	5.49
570	40.3	1.04	1.757	5.14
580	43.1	1.10	1.751	4.81
590	45.3	1.15	1.746	4.50
600	47.3	1.21	1.740	4.21
610	50.2	1.26	1.735	3.92
620	52.3	1.32	1.729	3.66
630	54.3	1.37	1.724	3.41
640	57.2	1.42	1.719	3.16
650	59.3	1.48	1.713	2.95
660	61.3	1.53	1.708	2.74
670	64.2	1.58	1.702	2.54
680	66.3	1.64	1.697	2.34
690	68.3	1.69	1.691	2.15
700	71.1	1.74	1.686	

Density: 26.Conductance: 5, 26.Viscosity: 5, 38.

TABLE 97SODIUM NITRATE

Eq. Wt. 85.01

m.p. 307°C. (580°K.)

$$\chi = -1.5713 + 4.3855 \cdot 10^{-3} T$$

$$\rho = 2.320 - 0.715 \cdot 10^{-3} T$$

$$\Lambda = 705.6 \exp(-3215/RT)$$

$$\eta = 0.104 \exp(3886/RT)$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
580	43.3	0.971	1.905	
590	45.4 <sub>5</sub>	1.015	1.898	2.86
600	47.6	1.059	1.891	2.71
610	49.7 <sub>5</sub>	1.103	1.884	2.57
620	51.9 <sub>5</sub>	1.146	1.877	2.44
630	54.1	1.190	1.870	2.32
640	56.3 <sub>5</sub>	1.234	1.862	2.21
650	58.5 <sub>5</sub>	1.273	1.855	2.11
660	60.8	1.322	1.848	2.01
670	63.0 <sub>5</sub>	1.366	1.841	1.93
680	65.3 <sub>5</sub>	1.409	1.834	1.85
690	67.6 <sub>5</sub>	1.453	1.827	1.77
700	69.9 <sub>5</sub>	1.497	1.820	1.70
710				1.63
720				1.57
730				1.52

Density: 15, 26, 61, 66.

Conductance: 7, 26, 27, 61, 66, 71, 75, 93.

Viscosity: 5, 7, 13, 38.

TABLE 98

POTASSIUM NITRATE

Eq. Wt. 101.10 m.p. 334°C. (607°K.)

$$\chi = -1.9314 + 6.2321 \cdot 10^{-3} T - 1.7924 \cdot 10^{-6} T^2$$

$$\rho = 2.315 - 0.729 \cdot 10^{-3} T$$

$$\Lambda = 557.4 \exp(-3577/RT)$$

$$\eta = 8.385 \cdot 10^{-2} \exp(4301/RT)$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
620	35.8 <sub>3</sub>	0.660	1.863	
630	37.6	0.691	1.856	2.60
640	39.4	0.721	1.848	2.47
650	41.2	0.751	1.841	2.34
660	43.0	0.780	1.834	2.23
670	44.8 <sub>3</sub>	0.810	1.827	2.12
680	46.6 <sub>3</sub>	0.840	1.819	2.02
690	48.5	0.869	1.812	1.93
700	50.3 <sub>3</sub>	0.898	1.805	1.85
710	52.2	0.928	1.797	1.77
720	54.0 <sub>3</sub>	0.957	1.790	1.69
730	55.9	0.986	1.783	1.63
740	57.8	1.015	1.776	1.56
750	59.6 <sub>3</sub>	1.043	1.768	1.50
760	61.5 <sub>3</sub>	1.072	1.761	1.45
770	63.4 <sub>3</sub>	1.101	1.754	1.39
780	65.3 <sub>3</sub>	1.129	1.746	1.34
790	67.3	1.157	1.739	1.30
800	69.2	1.186	1.732	1.25
810	71.1 <sub>3</sub>	1.214	1.725	1.21
820	73.1	1.242	1.717	
830	75.0 <sub>3</sub>	1.269	1.710	
840	77.0	1.297	1.703	
850	79.0	1.325	1.695	
860	81.0	1.352	1.688	
870	83.0	1.380	1.681	

Density: 15, 26, 38, 66, 84.

Conductance: 7, 15, 20, 26, 27, 66, 84, 92.

Viscosity: 5, 8, 12, 38, 57.

TABLE 99  
RUBIDIUM NITRATE

Eq. Wt. 147.49                                    m.p. 310°C. (583°K.)

$$\chi = -1.3769 + 3.8156 \cdot 10^{-2} T - 1.2658 \cdot 10^{-4} T^2$$

$$\rho = 3.049 - 0.972 \cdot 10^{-3} T$$

$$\Lambda = 515.7 \exp(-3496/RT)$$

T	$\Lambda$	$\chi$	$\rho$
590	25.8	0.434	2.476
600	27.3	0.457	2.466
610	28.8	0.480	2.456
620	30.3	0.502	2.446
630	31.7	0.525	2.437
640	33.2	0.547	2.427
650	34.7	0.568	2.417
660	36.1	0.590	2.407
670	37.6	0.611	2.398
680	39.1	0.632	2.388
690	40.5	0.653	2.378
700	42.0	0.673	2.369
710	43.4	0.694	2.359
720	44.8	0.714	2.349
730	46.3	0.734	2.339
740	47.7	0.753	2.330
750	49.1	0.773	2.320
760	50.6	0.792	2.310

Density: 26.

Conductance: 26.

TABLE 100  
CESIUM NITRATE

Eq. Wt. 194.92                    m.p. 414°C. (687°K.)

$$\chi = 5.790 \exp (-3247/RT)$$

$$\rho = 3.6206 - 1.1660 \times 10^{-3} T$$

$$\Lambda = 551.1 \exp (-3685/RT)$$

T	$\Lambda$	$\chi$	$\rho$
690	37.53	0.5422	2.8161
700	38.98	0.5608	2.8044
710	40.45	0.5796	2.7927
720	41.94	0.5984	2.7811
730	43.45	0.6173	2.7694
740	44.97	0.6363	2.7578
750	46.51	0.6553	2.7461
760	48.07	0.6743	2.7344

Density: 26, 83.

Conductance: 26, 83.

TABLE 101

SILVER NITRATE

Eq. Wt. 169.89

m.p. 212°C.(485°K.)

$$\chi = -1.9314 + 6.2321 \cdot 10^{-3} T - 1.7924 \cdot 10^{-6} T^2$$

$$\rho = 4.454 - 1.02 \cdot 10^{-3} T$$

$$\Lambda = 587.9 \exp (-2898/RT)$$

$$\eta = 0.1153 \exp (3625/RT)$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
490	29.7 <sub>3</sub>	0.692	3.954	
500	31.7 <sub>3</sub>	0.737	3.944	
510	33.7 <sub>2</sub>	0.781	3.934	
520	35.7 <sub>1</sub>	0.825	3.924	
530	37.6 <sub>0</sub>	0.868	3.915	3.60
54	39.6 <sub>4</sub>	0.911	3.903	3.38
550	41.6 <sub>3</sub>	0.954	3.893	3.18
560	43.6 <sub>0</sub>	0.996	3.883	3.00
570	45.5 <sub>6</sub>	1.038	3.873	2.83
580	47.5 <sub>2</sub>	1.080	3.862	2.68
590	49.4 <sub>7</sub>	1.122	3.852	2.54
600	51.4 <sub>1</sub>	1.163	3.842	

Density: 26, 36, 54, 60.Conductance: 5, 61, 76.Viscosity: 5, 65, 69.

TABLE 102  
THALLIUM NITRATE

Eq. Wt. 266.40	m.p. 210°C. (485 °K.)
$\times = 10.64 \exp (-3260/RT)$	
$\rho = 5.745 - 1.75 \cdot 10^{-3} T$	
$\Lambda = 748.0 \exp (-3514/RT)$	
$\eta = 9.04 \cdot 10^{-4} \exp (3610/RT)$	

T	$\Lambda$	$\times$	$\rho$	$\eta$
490	20.4	0.374	4.887 <sub>5</sub>	3.68
500	21.9	0.400	4.870 <sub>0</sub>	3.42
510	23.4	0.426	4.852 <sub>5</sub>	3.19
520	25.0	0.454	4.835 <sub>0</sub>	2.98
530	26.6	0.481	4.817 <sub>5</sub>	
540	28.3	0.510	4.800 <sub>0</sub>	
550	30.0	0.539	4.782 <sub>5</sub>	
560	31.8	0.568	4.765 <sub>0</sub>	
570	33.6	0.598	4.747 <sub>5</sub>	
580	35.4	0.629	4.730 <sub>0</sub>	
590	37.3	0.660	4.712 <sub>5</sub>	
600	39.2	0.691	4.695 <sub>0</sub>	
610	41.2	0.723	4.677 <sub>5</sub>	
620	43.1	0.755	4.660 <sub>0</sub>	
630	45.2	0.787	4.642 <sub>5</sub>	
640	47.2	0.820	4.625 <sub>0</sub>	
650	49.3	0.853	4.607 <sub>5</sub>	
660	51.4	0.886	4.590 <sub>0</sub>	
670	53.6	0.919	4.572 <sub>5</sub>	
680	55.7	0.953	4.555 <sub>0</sub>	
690	57.9	0.987	4.537 <sub>5</sub>	
700	60.2	1.021	4.520 <sub>0</sub>	

Density: 25.

Conductance: 48, 110.

Viscosity: 110.

Oxides

V2O5

CrO3

MoO3

PbO

Sb2O3

Bi2O3

TeO2

TABLE 103VANADIUM PENTOXIDE

m.p. 690 °C. (963 °K.)

$$\times = -2.056 + 1.890 \cdot 10^{-3} T$$

T	$\times$
1140	0.09,
1150	0.11,
1160	0.13,
1170	0.15,
1180	0.17,
1190	0.19,
1200	0.21,
1210	0.23,
1220	0.25,
1230	0.26,
1240	0.28,

Conductance: 68.

TABLE 104CHROMIUM TRIOXIDE

m.p. 196°C.(469°K.)

$$\chi = -0.1952 + 0.4032 \cdot 10^{-3}T - 0.0391 \cdot 10^{-6}T^2$$

T	$\chi$
510	0.00026
520	0.00389
530	0.00751
540	0.01113

Conductance: 68.

TABLE 105  
MOLYBDENUM TRIOXIDE

m.p. 795°C. (1068°K.)

$$\gamma = 11.642 \exp (-5586/RT)$$

T	$\gamma$
1070	0.841
1080	0.862
1090	0.883
1100	0.904
1110	0.925
1120	0.946
1130	0.967
1140	0.989
1150	1.010
1160	1.032
1170	1.053
1180	1.075

Conductance: 76.

TABLE 106LEAD OXIDE

m.p. 888 °C. (1161 °K.)

$$\chi = 1.750 \cdot 10^5 \exp (-27629/RT)$$

T	$\chi$
1170	1.2 <sub>1</sub>
1180	1.3 <sub>3</sub>
1190	1.4 <sub>7</sub>
1200	1.6 <sub>2</sub>
1210	1.7 <sub>9</sub>
1220	1.9 <sub>6</sub>
1230	2.1 <sub>4</sub>
1240	2.3 <sub>6</sub>
1250	2.5 <sub>8</sub>
1260	2.8 <sub>2</sub>

Conductance: 68.

TABLE 107

ANTIMONY SESQUIOXIDE

m.p. 656 °C. (929 °K.)

$$\kappa = -1.086 + 1.062 \cdot 10^{-3} T$$

T	$\kappa$
1110	0.09 <sub>3</sub>
1120	0.10 <sub>3</sub>
1130	0.11 <sub>4</sub>
1140	0.12 <sub>5</sub>
1150	0.13 <sub>5</sub>
1160	0.14 <sub>6</sub>

Conductance: 68.

TABLE 108

BISMUTH SESQUIOXIDE

m.p. 820°C. (1095°K.)

$$\kappa = -11.668 + 10.764 \cdot 10^{-3} T$$

T	$\kappa$
1100	0.1 <sub>7</sub>
1110	0.2 <sub>8</sub>
1120	0.3 <sub>9</sub>
1130	0.5 <sub>0</sub>
1140	0.6 <sub>0</sub>
1150	0.7 <sub>1</sub>
1160	0.8 <sub>2</sub>
1170	0.9 <sub>3</sub>
1180	1.0 <sub>3</sub>
1190	1.1 <sub>4</sub>
1200	1.2 <sub>5</sub>
1210	1.3 <sub>6</sub>

Conductance: 68.

TABLE 109TELLURIUM DIOXIDE

m.p. 450°C. (723°K.)

$$\chi = 1.454 \cdot 10^3 \exp (-9656/RT)$$

T	$\chi$
1020	1.24
1030	1.30
1040	1.36
1050	1.42
1060	1.48
1070	1.55
1080	1.62
1090	1.68
1100	1.75
1110	1.82
1120	1.90
1130	1.97
1140	2.05
1150	2.12
1160	2.20
1170	2.28
1180	2.37
1190	2.45
1200	2.53
1210	2.62
1220	2.71
1230	2.80

Conductance: 68.

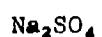
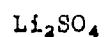
Sulphates

TABLE 110LITHIUM SULPHATE

Eq. Wt. 54.97      m.p. 859 °C. (1132 °K.)

$$\rho = 2.464 - 0.000407T$$

T	$\rho$
1150	1.996
1200	1.976
1250	1.955
1300	1.935
1350	1.915
1400	1.894
1450	1.874

Density: 25.

TABLE IIISODIUM SULPHATE

Eq. Wt. 71.03 m.p. 884°C.(1157°K.)

$$\chi_c = -0.960 + 0.00272T$$

$$\rho = 2.628 - 0.000483T$$

$$\Lambda = 477.6 \exp (-4266/RT)$$

T	$\Lambda$	$\chi_c$	$\rho$
1200	79.91	2.304	2.048
1250	85.63	2.440	2.024
1300	91.49	2.576	2.000
1350	97.49	2.712	1.976

Density: 25.Conductance: 4.

TABLE 112

POTASSIUM SULPHATE

Eq. Wt. 137.13

m.p. 1076°C. (1349°K.)

$$\chi = -0.906 + 0.002T$$

$$\rho = 2.620 - 0.0005449T$$

$$\Lambda = 904.9 \exp(-5194/RT)$$

T	$\Lambda$	$\chi$	$\rho$
1350	130.6	1.794	1.884
1400	139.9	1.894	1.857
1450			1.830
1500			1.803
1550			1.775
1600			1.748
1650			1.721
1700			1.694
1750			1.666
1800			1.639
1850			1.612
1900			1.585

Density: 25.Conductance: 4.

TABLE 113RUBIDIUM SULPHATE

Eq. Wt. 133.52      m.p. 1074 °C. (1347 °K.)

$$\rho = 3.442 - 0.000665T$$

T	$\rho$
1350	2.544
1400	2.511
1450	2.478
1500	2.445
1550	2.411
1600	2.378
1650	2.345
1700	2.312
1750	2.278
1800	2.245

Density: 25.

TABLE 114  
CESIUM SULPHATE

Eq. Wt. 180.95 m.p. 1019 °C. (1292 °K.)

$$\rho = 3.116 + 0.000586T - 0.000000494T^2$$

T	$\rho$
1300	3.043
1350	3.007
1400	2.968
1450	2.927
1500	2.884
1550	2.837
1600	2.789
1650	2.738
1700	2.685
1750	2.629

Density: 25.

Miscellaneous $\text{Na}_2\text{MoO}_4$  $\text{Na}_2\text{WO}_4$  $\text{NaCNS}$  $\text{K}_2\text{MoO}_4$  $\text{K}_2\text{WO}_4$  $\text{K}_2\text{Cr}_2\text{O}_7$  $\text{KCNS}$  $\text{UO}_2\text{Cl}_2$  $\text{NaN}_3$  $\text{KNO}_2$  $\text{NaOH}$  $\text{KOH}$

TABLE 115SODIUM MOLYBDATE

Eq. Wt. 102.97

m.p. 687 °C. (960 °K.)

$$X = -3.1705 + 5.2419 \cdot 10^{-3}T - 0.8970 \cdot 10^{-6}T^2$$

$$\rho = 3.407 - 0.629 \cdot 10^{-3}T$$

$$\Lambda = 779.9 \exp(-5713/RT)$$

T	$\Lambda$	X	$\rho$
1020	46.3	1.243	2.765
1030	47.7	1.277	2.759
1040	49.0	1.311	2.753
1050	50.4	1.345	2.747
1060	51.8	1.378	2.740
1070	53.2	1.411	2.734
1080	54.5	1.444	2.728
1090	55.9	1.477	2.721
1100	57.3	1.510	2.715
1110	58.6	1.543	2.709
1120	60.0	1.575	2.703
1130	61.4	1.607	2.696
1140	62.8	1.640	2.690
1150	64.1	1.671	2.684
1160	65.5	1.703	2.677
1170	66.9	1.735	2.671
1180	68.2	1.767	2.665
1190	69.6	1.797	2.658
1200	71.0	1.828	2.652
1210	72.3	1.859	2.646
1220	73.7	1.890	2.640
1230	75.1	1.920	2.633

Density: 26.Conductance: 26, 76.

TABLE 116SODIUM TUNGSTATE

Eq. Wt 146.96 m.p. 698°C. (971°K.)

$$\gamma = 7.541 \exp (-3931/RT)$$

$$\rho = 4.629 - 0.797 \cdot 10^{-3} T$$

$$\lambda = 381.7 \exp (-4491/RT)$$

T	$\lambda$	$\gamma$	$\rho$
1050	44.4	1.14 <sub>5</sub>	3.792
1060	45.3	1.16 <sub>5</sub>	3.784
1070	46.2	1.18 <sub>5</sub>	3.776
1080	47.1	1.20 <sub>5</sub>	3.768
1090	48.0	1.23	3.760
1100	48.9	1.25	3.752
1110	49.8	1.27	3.744
1120	50.7	1.29	3.736
1130	51.6	1.31	3.728
1140	52.5	1.33	3.720
1150	53.4	1.35	3.712
1160	54.4	1.37	3.704
1170	55.3	1.39	3.697
1180	56.2	1.41	3.689
1190	57.1	1.43	3.681
1200	58.0	1.45	3.673
1210	59.0	1.47	3.665
1220	59.9	1.49	3.657
1230	60.8	1.51	3.649
1240	61.7	1.53	3.641

Density: 26.Conductance: 26.

TABLE 117SODIUM THIOCYANATE

Eq. Wt. 81.08                    m.p. 310°C. (583°K.)

$$\chi = 43.0 \exp (-4740/RT)$$

$$\eta = 49.35 \cdot 10^{-3} \exp (4636/RT)$$

T	$\chi$	$\eta$
590	0.754	2.57
600	0.807	2.41
610	0.861	2.26
620	0.917	2.13
630	0.974	2.00
640	1.035	
650	1.096	

Conductance: 112.

Viscosity: 112.

TABLE 118POTASSIUM MOLYBDATE

Eq. Wt. 119.08      m.p. 926°C.(1199°K.)

$$\rho = 2.888 - 2.83 \cdot 10^{-4} T - 1.28 \cdot 10^{-7} T^2$$

T	$\rho$
1250	2.334
1300	2.304
1350	2.273
1400	2.241
1450	2.209
1500	2.176
1550	2.142
1600	2.108
1650	2.075
1700	2.037
1750	2.001

Density: 25.

TABLE 119POTASSIUM TUNGSTATE

Eq. Wt. 326.14      m.p. 930 °C. (1203 °K.)

$$\rho = 4.419 - 1.233 \cdot 10^{-3} T + 1.62 \cdot 10^{-7} T^2$$

T	$\rho$
1250	3.131
1300	3.090
1350	3.050
1400	3.010
1450	2.972
1500	2.934
1550	2.897
1600	2.861
1650	2.826
1700	2.791
1750	2.757

Density: 25.

TABLE 120  
POTASSIUM DICHROMATE

Eq. Wt. 147.11                                    m.p. 398°C. (671°K.)

$$\chi = 73.0 \exp(-7800/RT)$$

$$\rho = 2.753 - 0.695 \cdot 10^{-3} T$$

$$\Lambda = 604.2 \exp(-8141/RT)$$

$$\eta = 10.16 \cdot 10^{-3} \exp(6533/RT)$$

T	$\Lambda$	$\chi$	$\rho$	$\eta$
690	16.0	0.24 <sub>7</sub>	2.273	1.19
700	17.4	0.26 <sub>8</sub>	2.267	1.12
710	18.9	0.29 <sub>0</sub>	2.260	1.06
720	20.4	0.31 <sub>3</sub>	2.253	1.00
730	22.1	0.33 <sub>7</sub>	2.246	0.94
740	23.8	0.36 <sub>3</sub>	2.239	0.88
750	25.7	0.38 <sub>9</sub>	2.232	0.82
760	27.6	0.41 <sub>7</sub>	2.225	0.77
770	29.6	0.44 <sub>6</sub>	2.218	0.71
780	31.7	0.47 <sub>6</sub>	2.211	0.66
790	33.9	0.50 <sub>7</sub>	2.204	
800	36.1	0.54 <sub>0</sub>	2.197	

Density: 25, 110.

Conductance: 7, 110.

Viscosity: 8, 110.

TABLE 121POTASSIUM THIOCYANATE

Eq. Wt. 97.18

m.p. 175°C.(448°K.)

$$\chi' = 100 \exp (-5850/RT)$$

$$\rho = 1.9581 - 0.800 \cdot 10^{-3} T$$

$$\Lambda = 786.1 \exp (-6082/RT)$$

$$\eta = 8.580 \cdot 10^{-3} \exp (6454/RT)$$

T	$\Lambda$	$\chi'$	$\rho$	$\eta$
450	8.8	0.144	1.5981	1.17
460	10.2	0.166	1.5901	1.00
470	11.7	0.190	1.5821	0.86
480	13.4	0.217	1.5741	0.75
490	15.3	0.246	1.5661	0.65
500	17.3	0.277	1.5581	0.57
510	19.5	0.311	1.5501	0.50
520				0.44

Density: 110.Conductance: 112.Viscosity: 112.

TABLE 122URANYL CHLORIDE

Rq. Wt. 170.49                    m.p. 578°C. (841°K.)  
 $\kappa = -0.273 + 0.371 \cdot 10^{-3} T$

T	$\kappa$
860	0.046
870	0.050
880	0.053
890	0.057
900	0.061
910	0.065
920	0.068
930	0.072
940	0.076
950	0.079
960	0.083

Conductance: 64.

TABLE 123SODIUM NITRITE

**Eq. Wt.** 69.01                      **m.p.** 284°C. (557°K.)

$$\alpha = 13.2 \exp (-2600/RT)$$

$$\rho = 2.226 - 0.746 \cdot 10^{-3} T$$

$$\Lambda = 685.7 \exp (-2949/RT)$$

$$\eta = 8.56 \cdot 10^{-3} \exp (4000/RT)$$

T	$\Lambda$	$\alpha$	$\rho$	$\eta$
560				3.12
570	50.9	1.32 <sub>9</sub>	1.801	2.93
580	53.2	1.38 <sub>3</sub>	1.793	2.75
590	55.5	1.43 <sub>7</sub>	1.786	
600	57.9	1.49 <sub>1</sub>	1.778	
610	60.2	1.54 <sub>3</sub>	1.771	
620	62.6	1.60 <sub>0</sub>	1.763	
630	65.0	1.65 <sub>4</sub>	1.756	
640	67.4	1.70 <sub>9</sub>	1.749	
650	69.9	1.76 <sub>3</sub>	1.741	
660	72.4	1.81 <sub>8</sub>	1.734	
670	74.9	1.87 <sub>2</sub>	1.726	
680	77.4	1.92 <sub>7</sub>	1.719	
690	79.9	1.98 <sub>1</sub>	1.711	
700	82.5	2.03 <sub>6</sub>	1.704	
710	85.0	2.09 <sub>0</sub>	1.696	
720	87.6	2.14 <sub>4</sub>	1.689	

**Density:** 66, 110.

**Conductance:** 66.

**Viscosity:** 110.

TABLE 124POTASSIUM NITRITE

Eq. Wt. 105.11 m.p. 417°C.(690°K.)

$$\eta = 1.337 \cdot 10^{-1} \exp (4230/RT)$$

T	$\eta$
700	2.80
710	2.68
720	2.57

Viscosity: 110.

TABLE 125  
SODIUM HYDROXIDE

Eq. Wt. 40.01                    m.p. 318°C. (591°K.)

$$\chi = -3.25 + 90.10^{-3}T$$

$$\rho = 2.068 - 0.4784 \cdot 10^{-3}T$$

$$\Lambda = 685.7 \exp(-2949/RT)$$

T	$\Lambda$	$\chi$	$\rho$
600	48.7	2.17	1.781
610	50.9	2.26	1.776
620	53.1	2.35	1.771
630	55.3	2.44	1.767
640	57.5	2.53	1.762
650	59.7	2.62	1.757
660	61.9	2.71	1.752
670	64.1	2.80	1.747
680	66.4	2.89	1.743
690	68.6	2.98	1.738
700	70.9	3.07	1.733
710	73.2	3.16	1.728
720	75.4	3.25	1.724
730	77.7	3.34	1.719

Density: 37.

Conductance: 37.

TABLE 126  
POTASSIUM HYDROXIDE

Eq. Wt. 56.10	m.p. 360°C. (633°K.)		
$\chi = -1.38 + 5.80 \cdot 10^{-3}T$			
$\rho = 2.013 - 0.4396 \cdot 10^{-3}T$			
$\Lambda = 520.2 \exp(-2467/RT)$			
T	$\Lambda$	$\chi$	$\rho$
640	75.5	2.33	1.732
650	77.6	2.39	1.727
660	79.7	2.45	1.723
670	81.8	2.51	1.718
680	83.9	2.56	1.714
690	86.0	2.62	1.710
700	88.2	2.68	1.705
710	90.3	2.74	1.701
720	92.5	2.80	1.696
730	94.6	2.85	1.692
740	96.8	2.91	1.688
750	99.0	2.97	1.683
760	101.2	3.03	1.679
770	103.4	3.09	1.675
780	105.6	3.14	1.670
790	107.8	3.20	1.666
800	110.1	3.26	1.661
810	112.3	3.32	1.657
820	114.6	3.38	1.653
830	116.9	3.43	1.648
840	119.2	3.49	1.644
850	121.5	3.55	1.639
860	123.8	3.61	1.635
870	126.1	3.67	1.631

Density: 37.

Conductance: 37.

## Single-Salt Melts

Equations for Temperature Dependence of  
Density, Electrical Conductance, and Viscosity

$$\text{Density: } \rho = a - bT$$

$$\text{Specific Conductance: } \kappa = a + bT$$

$$\kappa = A_{\kappa} e^{-E_{\kappa}/RT}$$

$$\text{Equivalent Conductance: } \Lambda = A_{\Lambda} e^{-E_{\Lambda}/RT}$$

$$\text{Viscosity: } \eta = A_{\eta} e^{E_{\eta}/RT}$$

$$\eta = \frac{B}{(v-b)}$$

Units (cont'd from p. 4)

For Tables 127-130 the units of  $\rho$ ,  $\Lambda$ ,  $\kappa$  and  $\eta$  are as in Tables 1-126. The units for the parameters in the above equations are:

$$A_{\kappa} : \text{ohm}^{-1} \text{ cm}^{-1}$$

$$E_{\kappa} : \text{Kcal mole}^{-1}$$

$$A_{\Lambda} : \text{ohm}^{-1} \text{ cm}^2 \text{ equiv}^{-1}$$

$$E_{\Lambda} : \text{cal mole}^{-1}$$

$$A_{\eta} : \text{cp}$$

$$E_{\eta} : \text{cal mole}^{-1}$$

TABLE 127

## DENSITY-SINGLE SALT MELTS

Salt	m.p. (°K.)	a	b × 10 <sup>3</sup>	Temperature Range (°K.)	References*
Aluminum Trifluoride	464	4.383	2.50	464-543	35
Barium Bromide	1150	5.035	0.924	1140-1340	66, 91, 96
Barium Chloride	1235	4.0152	0.6813	1240-1360	11, 63, 70, 81, 83
Barium Fluoride	1593	5.775	0.999	1600-2000	95
Barium Iodide	1013	5.222	0.977	1000-1280	91, 96
Bismuth Chloride	713	2.276	1.1	723-743	44
Bismuth Tribromide	491	5.958	2.6	523-715	44
Bismuth Trichloride	503	5.073	2.30	503-828	25, 32
Cadmium Bromide	840	4.983	1.08	853-993	54
Cadmium Chloride	841	4.078	0.82	840-1080	15, 54, 66
Cadmium Iodide	661	5.133	1.117	680-920	66
Calcium Bromide	1003	3.618	0.500	1020-1210	89, 96
Calcium Chloride	1046	2.5261	0.4225	1060-1230	11, 17, 63, 83
Calcium Fluoride	1691	3.179	0.391	1650-2300	95
Calcium Iodide	1057	4.233	0.751	1060-1290	89, 96
Cerium (III) Chloride	1095	4.248	0.920	1123-1223	99
Cerium (III) Fluoride	1733	6.253	0.936	1760-2200	95
Cesium Bromide	909	4.2449	1.2234	910-1140	25, 74, 82
Cesium Chloride	919	3.7692	1.0650	940-1180	25, 59, 80, 81, 82
Cesium Fluoride	976	4.8985	1.2806	980-1190	25, 83
Cesium Iodide	899	4.2410	1.1834	920-1130	25, 74, 82
Cesium Nitrate	687	3.6206	1.1660 <sub>5</sub>	690-760	26, 83
Cesium Sulphate	1292	3.116	0.586	1300-1750	25

TABLE 127

Salt	m.p. (°K.)	a	b × 10 <sup>3</sup>	Temperature Range (°K.)	References:
Copper (I) Chloride	695	4.301	0.79	709-860	<u>36</u>
Gallium (III) Iodide	485	4.841	1.688	454-538	<u>105</u>
Indium (III) Bromide	709	4.184	1.50	709-813	<u>34</u>
Indium (I) Chloride	498	4.437	1.40	498-624	<u>34</u>
Indium (III) Chloride	508	3.863	1.60	508-780	<u>34</u>
Indium (III) Chloride	859	3.944	2.10	859-967	<u>34</u>
Indium (III) Iodide	483	4.89	1.50	483-645	<u>34</u>
Lanthanum (III) Bromide	1056	5.0351	0.096	1069-1185	<u>83</u>
Lanthanum (III) Chloride	1145	4.0895	0.7774	1146-1246	<u>36, 83</u>
Lanthanum (III) Fluoride	—	5.793	0.682	1750-2450	<u>25</u>
Lead (II) Bromide	646	5.432	1.45	650-770	<u>15, 54</u>
Lead (II) Chloride	774	4.933	1.50	780-980	<u>15, 40, 54</u>
Lithium Bromide	820	3.0658	0.6520	828-1023	<u>3, 81, 82</u>
Lithium Carbonate	891	2.2026	0.3729	1010-1120	<u>101</u>
Lithium Chloride	883	1.8842	0.4328	900-1050	<u>3, 25, 55, 62, 66, 79, 8</u>
Lithium Fluoride	1120	2.3768	0.4902	1149-1300	<u>25, 81, 83</u>
Lithium Iodide	742	3.7902	0.9176	748-943	<u>82</u>
Lithium Nitrate	525	2.068	0.546	540-700	<u>26</u>
Lithium Sulphate	1132	2.464	0.407	1133-1487	<u>25</u>
Magnesium Bromide	987	3.087	0.478	1060-1240	<u>89, 96</u>
Magnesium Chloride	981	1.976	0.302	1080-1240	<u>36, 63, 89, 96</u>
Magnesium Fluoride	1536	3.235	0.524	1650-2100	<u>95</u>
Magnesium Iodide	923	3.642	0.651	920-1180	<u>89, 96</u>
Mercury (II) Bromide	511	6.7715	3.2331	510-560	<u>18, 103</u>

DENSITY-SINGLE SALT MELTS (cont'd)

TABLE 127

## DENSITY-SINGLE SALT MELTS (cont'd)

Salt	m.p. (°K.)	a	b × 10 <sup>3</sup>	Temperature Range (°K.)	References
Mercury (II) Chloride	798	6.22	4.0	799-850	<u>36</u>
Mercury (II) Chloride	549	5.9391	2.8624	550-580	18, <u>103</u>
Mercury (II) Iodide	532	6.9435	3.2351	530-630	18, <u>78, 103</u>
Ytterbium (III) Bromide	957	4.9750	0.7779	963-146	<u>83</u>
Yttrium Carbonate	1007	2.9583	0.8253	1020-1200	<u>3, 15, 26, 66, 81, 82</u>
Zotassium Bromide	1172	2.4141	0.4421	1180-1280	<u>101</u>
Zotassium Chloride	1049	2.1359	0.5831	1050-1220	<u>3, 11, 26, 62, 66, 70, 79, 80, 31</u>
Zotassium Dichromate	671	2.753	0.695	693-808	<u>25, 110</u>
Zotassium Fluoride	1131	2.6464	0.6515	1142-1313	<u>26, 81, 82</u>
Zotassium Hydroxide	633	2.013	0.4396	673-873	<u>37</u>
Zotassium Iodide	954	3.3594	0.9557	955-1177	<u>26, 66, 79, 81</u>
Zotassium Molybdate	1199	2.888	0.283	1250-1750	<u>25</u>
Zotassium Nitrate	607	2.315	0.729	620-880	<u>15, 26, 38, 66, 84</u>
Zotassium Sulphate	1349	2.620	0.5449	1344-1929	<u>25</u>
Potassium Thiocyanate	450	1.9583	0.80	447-460	<u>110</u>
Potassium Tungstate	1203	4.419	1.233	1250-1750	<u>25</u>
Rubidium Bromide	955	3.7390	1.0718	973-1183	<u>25, 82</u>
Rubidium Chloride	988	3.1210	0.8832	995-1198	<u>25, 35, 36, 82</u>
Rubidium Iodide	920	3.9499	1.1435	928-1178	<u>25, 82</u>
Rubidium Nitrate	583	3.049	0.972	593-773	<u>26</u>
Rubidium Sulphate	1347	3.442	0.665	1359-1818	<u>25</u>
Scandium (III) Chloride	1212	F = 1.67	at	1213	<u>36</u>
Silver Bromide	707	6.307	1.035	720-940	<u>3, 22, 54, 81</u>

TABLE 127  
DENSITY-SINGLE SALT MELTS (cont'd)

Salt	m.p. (°K.)	$\alpha$	$b \times 10^3$	Temperature Range (°K.)	References
Silver Chloride	728	5.489	0.849	740-910	22, 54, 60, 81
Silver Iodide	829	6.415	1.01	820-1080	22, 39
Silver Nitrate	485	4.454	1.02	490-600	26, 36, 54, 60
Sodium Bromide	1020	3.1748	0.8169	1028-1218	3, 25, 81, 82
Sodium Carbonate	1131	2.4797	0.4487	1140-1280	101
Sodium Chloride	1074	2.1393	0.5430	1076-1303	3, 10, 25, 55, 62, 66, 79, 80, 81, 96
Sodium Fluoride	1268	2.655	0.560	1270-1330	25, 31
Sodium Hydroxide	591	2.068	0.4784	593-723	37
Sodium Iodide	933	3.6274	0.9491	943-1188	25, 66, 82
Sodium Molybdate	960	3.407	0.629	1020-1240	26
Sodium Nitrate	580	2.320	0.715	490-600	15, 26, 61, 66
Sodium Nitrite	557	2.226	0.746	570-723	66, 110
Sodium Sulphate	1157	2.628	0.483	1173-1350	25
Sodium Tungstate	971	4.629	0.797	1050-1750	26
Strontium Bromide	916	4.390	0.745	940 - 1180	89, 96
Strontium Chloride	1146	3.3896	0.5781	1167-1310	11, 81, 83
Strontium Fluoride	1673	4.784	0.751	1750 - 2160	95
Strontium Iodide	788	4.803	0.885	920 - 1280	89, 96
Thallium (I) Chloride	703	6.893	1.80	710-880	26
Thallium (I) Nitrate	483	5.745	1.75	483-703	25
Tin (II) Chloride	519	4.016	1.253	520-680	25, 36
Yttrium (III) Chloride	953	3.007	0.50	980-1160	36
Zinc Bromide	667	4.113	0.959	670 - 900	43, 89, 96
Zinc Chloride	591	2.690	0.512	723-910	36, 40, 56, 87, 96
Zinc Iodide	712	4.555	1.360	720 - 870	91, 96

TABLE 128  
Specific Conductance of Single Salt Melts.

Salt	a	LINEAR		EXPONENTIAL		RANGE °K	REFERENCES
		b.10 <sup>-3</sup>	s	A $\kappa$	E $\kappa$		
Aluminum Triiodide	-0.340:10 <sup>-4</sup>	0.757:10 <sup>-4</sup>	0.12:10 <sup>-6</sup>	-2.054	10.449	0.1365	461-543 35
Antimony (III) Oxide	-1.086	1.062	0.0038	6.799:10 <sup>3</sup>	24.716	0.0529	1101-1161 68
Barium Bromide	-1.775	2.632	0.0047	13.539	5.441	0.0039	1126-1338 94
Barium Chloride	-2.361	3.562	0.0028	17.479	5.274	0.0012	1239-1359 4,63,83,85,94
Barium Iodide	-1.593	2.322	0.0047	13.767	5.831	0.0088	991-1292 94
Beryllium Chloride	-0.1855	0.2607	0.0001	5.712:10 <sup>12</sup>	50.449	0.9912	720-750 104
Bismuth (III) Bromide	0.299	-0.0115	0.0646	3.196	1.826	0.234	518-473 32
Bismuth (III) Chloride	-0.317	1.401	0.0030	1.091:10 <sup>4</sup>	1.880	0.0058	500-623 25,32
Bismuth (III) Iodide	0.0264	0.375	0.0021	0.753	1.332	0.0051	676-775 104
Bismuth (III) Oxide	-11.668	10.764	0.0817	2.654:10 <sup>7</sup>	40.138	0.0937	1102-1208 68
Cadmium Bromide	-0.584	1.959	0.0045	5.488	2.749	0.0021	849-1055 94
Cadmium Chloride	-3.1702	0.0024	0.0095	1.849	2.050	0.0021	845-1082 19,21,27,33,51,66,94
Cadmium Iodide	-1.234	2.142	0.0024	23.613	6.240	0.0286	675-913 66,94
Calcium Bromide	-1.723	3.071	0.0036	12.820	4.475	0.0022	1014-1291 94
Calcium Chloride	-2.634	4.427	0.0055	19.628	4.749	0.0024	1346-1292 2,4,11,35,42,50,71,
Calcium Iodide	-0.992	2.025	0.0113	2.060	4.042	0.0079	1057-1286 83,85,94
Cerium (III) Chloride	-1.426	2.125	0.0006	11.179	5.460	0.0011	1123-1223 99
Cerium (III) Iodide	-0.858	1.221	0.0003	1.746	6.055	0.0608	1070-1130 106

TABLE 128

## SPECIFIC CONDUCTANCE OF SINGLE-SALT MELTS

(cont'd)

Salt	LINEAR			EXPONENTIAL		RANGE °K	REFERENCES
	a	b. $10^3$	s	A $\times$	E $\times$		
Cesium Bromide	-1.412	2.435	0.0054	11.185	4.757	0.0068	917-1131 <u>82</u>
Cesium Chloride	-1.546	2.896	0.0092	11.698	4.293	0.0064	926-1170 <u>33,82</u>
Cesium Fluoride	-0.3567	3.7952	0.0297	11.505	2.407	0.0062	1000-1190 <u>83</u>
Cesium Iodide	-1.110	1.962	0.0060	2.147	4.588	0.0077	906-1137 <u>82</u>
Cesium Nitrate	0.5297	0.0150	0.0856	5.790	3.247	0.0003	690-760 <u>26,83</u>
Chromium (VI) Oxide	-0.1766	0.3470	0.0003	36.807	43.998	0.2381	513-535 <u>68</u>
Copper (I) Bromide	0.265	2.92	0.0045	6.342	1.416	0.0021	744-723 <u>41</u>
Copper (I) Chloride	1.5719	2.4103	0.0191	1.763	0.819	0.0059	695-850 <u>21,33,85</u>
Copper (II) Fluoride	0.93	1.0	—	—	—	—	— <u>86</u>
Gallium (II) Iodide	-0.4546	1.149	0.0050	1754	5.660	0.0930	423-623 <u>105</u>
Indium (III) Bromide	0.242	-0.103	0.0009	0.101	0.727	0.0067	709-813 <u>34</u>
Indium (I) Chloride	-2.376	6.457	0.0146	24.148	3.314	0.0192	498-624 <u>34</u>
Indium (II) Chloride	-0.679	1.818	0.0141	6.405	3.314	0.0416	508-780 <u>34</u>
Indium (III) Chloride	1.184	-0.883	0.0024	0.045	3.862	0.0124	859-967 <u>34</u>
Indium (III) Iodide	-7.798	0.273	0.0020	0.612	-2.337	0.0297	483-645 <u>34</u>
Lanthanum (III) Bromide	-3.8144	4.3158	0.0091	106.15	10.353	0.0023	1070-1190 <u>83</u>
Lanthanum (III) Chloride	-1.6841	2.8015	0.0093	12.623	4.812	0.0055	1150-1260 <u>35,83</u>

TABLE 128  
SPECIFIC CONDUCTANCE OF SINGLE-SALT MELTS

Salt	a	LINEAR		EXPONENTIAL		S	RANGE °K	REFERENCES
		B.10 <sup>-3</sup>	S	A <sub>X</sub>	E <sub>X</sub>			
Lanthanum (III) Iodide	-0.9535	1.3190	0.0003	9.118	6.351	0.0008	1070 - 1140	106
Lead (II) Bromide	-1.603	3.388	0.0037	16.726	4.290	0.0083	655-765	7,72
Lead (II) Chloride	-2.258	4.792	0.0191	18.093	3.883	0.0129	771-881	7,51,72,85,96
Lead (II) Fluoride	0.7	4.0	—	—	—	—	1150-1250	86
Lead (II) Iodide	-1.194	2.227	0.0004	1.100	4.476	0.00047	676-873	108
Lead (II) Oxide	-18.244	16.599	0.0800	1.7502.10 <sup>5</sup>	27.629	0.0584	1164-1260	68
Lithium Bromide	6.4578	5.117f	0.0077	12.49	1.666	0.0009	831-1022	82
Lithium Carbonate	-3.938	7.949	0.0084	3.378	3.954	0.0019	1018-1118	101
Lithium Chloride	1.5338	0.0048	0.0122	2.580	1.469	0.0015	896-1056	33,42,44,45,55,62, 66,79,85
Lithium Fluoride	0.5936	0.3453	0.0012	1.529	0.991	0.0004	1120-1300	42,83,85,88
Lithium Iodide	1.673	2.657	0.0386	6.914	0.949	0.0080	742-942	82
Lithium Nitrate	-2.039	5.491	0.0147	13.17	3.725	0.0029	595-714	5,26
Magnesium Bromide	-1.128	1.850	0.0045	2.149	4.915	0.0042	987-1245	94
Magnesium Chloride	-0.9679	2.004	0.0034	7.374	3.899	0.0034	987-1252	35,63,94
Magnesium Iodide	-1.227	1.772	0.0029	13.070	6.333	0.0047	910-1176	94
Manganese (II) Chloride	-1.511	2.700	0.0047	11.80	4.694	0.0026	1123-1223	85
Manganese (II) Fluoride	0.0	4.0	—	—	—	—	1200-1260	86

TABLE 128

## SPECIFIC CONDUCTANCE OF SINGLE-SALT MELTS (cont'd)

Salt	LINEAR			EXPONENTIAL			RANGE °K	REFERENCES
	a	b. 10 <sup>3</sup>	s	A <sub>K</sub>	E <sub>K</sub>	s		
Mercury (II) Bromide	-0.7966.10 <sup>-3</sup>	0.1818.10 <sup>-2</sup>	0.13.10 <sup>-5</sup>	0.280	5.399	0.0135	510-560	94,103
Mercury (I) Chloride	-0.653	2.062	0.0061	5.255	2.644	0.0059	801-819	35
Mercury (II) Chloride	-0.1626.10 <sup>-3</sup>	0.3521.10 <sup>-3</sup>	0.23.10 <sup>-6</sup>	0.866	6.147	0.0065	550-580	35,94,103
Mercury (II) Iodide	-0.0851	-0.1046	0.72.10 <sup>-4</sup>	0.146	-3.241	0.0032	530-630	29,94,103
Molybdenum (VI) Oxide	-1.445	2.135	0.0028	11.642	5.586	0.0022	1070-1187	76
Neodymium (III) Bromide	-2.1487	2.5020	0.0167	106.67	11.351	0.0075	960-1160	83
Neodymium (III) Chloride	-2.547	0.0024	26.55	7.934	0.0061	1048-1173	32	
Neodymium (III) Iodide	-0.7193	1.040	0.0003	6.336	5.908	0.0008	1060-1110	106
Potassium Bromide	-0.369	1.993	0.0205	6.256	2.691	0.0095	981-1229	10,26,33,66,82,100
Potassium Carbonate	-1.339	2.876	0.0020	11.027	3.941	j.0006	1184-1279	101
Potassium Chloride	9.210	2.007	0.0214	6.571	2.295	0.0058	1052-1373	24,10,26,27,42,44,49, 50,55,62,63,66,70,79, 80,81,95
Potassium Dichromate	-	-	-	7.8	7.8	-	610-800	7,110
Potassium Fluoride	2.1185	2.0190	0.0175	7.969	1.341	0.0031	1160-1320	26,31,42,73,83,86,88
Potassium Hydroxide	-1.38	5.80	-	-	-	-	640-870	37
Potassium Iodide	-0.464	1.831	0.0239	5.698	2.839	0.0151	959-1184	10,26,33,66,79
Potassium Nitrate	-1.1133	2.8706	0.0050	8.520	3.137	0.0078	620-880	7,15,20,26,27,66,84,92

TABLE 128

## SPECIFIC CONDUCTANCE OF SINGLE-SALT MELTS (cont'd)

Salt	a	LINEAR		EXPONENTIAL		S	RANGE %	REFERENCES
		b.10 <sup>3</sup>	s	A <sub>E</sub>	E <sub>A</sub>			
Potassium Sulphate	-0.906	-	-	-	-	-	1350-1400	4
Potassium Thiocyanate	-	-	-	100	5.85	-	450-550	112
Praseodymium (III) Chloride	-2.624	3.134	0.0044	36.17	8.258	0.0031	1097-1235	32
Praseodymium (III) Iodide	-0.7922	1.150	0.0063	7.424	6.617	0.0007	1040-1080	106
Rubidium Bromide	-0.671	1.878	0.0192	6.174	3.247	0.0131	1039-1176	82
Rubidium Chloride	-1.035	2.545	0.0084	8.621	3.440	0.0039	1003-1197	33,82
Rubidium Iodide	-0.593	1.592	0.0089	5.082	3.235	0.0069	929-1158	82
Rubidium Nitrate	-0.798	2.098	0.0037	6.302	3.117	0.0082	592-766	26
Scandium (III) Chloride	-2.590	2.796	-	2.307	3.162	-	1213-1273	30
Silver Bromide	1.7527	1.6491	0.0239	5.183	0.831	0.0016	700-1120	1,10,21,23,72,100
Silver Chloride	2.0748	2.4900	0.0333	7.368	0.947	0.0024	740-1100	1,10,21,23,60,72,100
Silver Fluoride	-5.2	12.0	-	-	-	-	200-900	86
Silver Iodide	0.342	1.685	0.1617	4.674	1.146	0.042	823-1073	10,21,23
Silver Nitrate	-1.4038	4.2832	0.0023	11.745	2.749	0.0053	490-600	5,61,78
Sodium Bromide	-0.1583	2.994	0.0085	9.097	2.324	0.0013	1017-1229	10,82
Sodium Carbonate	-1.518	3.876	0.0049	13.758	3.527	0.0013	1138-1240	101

TABLE 128

## SPECIFIC CONDUCTANCE OF SINGLE-SALT MELTS (cont'd)

Salt	LINEAR			EXPONENTIAL			RANGE	REFERENCES
	a	b. 10 <sup>3</sup>	s	A <sub>K</sub>	E <sub>K</sub>	s		
Sodium Chloride	0.5862	2.798	0.0126	2.204	1.981	0.0024	1078-1294	2 <sup>4</sup> , 10 <sup>2</sup> , 33 <sup>4</sup> , 4 <sup>5</sup> , 15 <sup>5</sup> , 62, 63, 71, 79, 82, 85
Sodium Fluoride	3.060	1.600	0.0095	7.706	1.046	0.0019	1273-1333	31, 46, 67, 86, 86
Sodium Hydroxide	-3.23	9.0	-	-	-	-	600-700	37
Sodium Iodide	-0.404	2.849	0.0123	8.292	2.423	0.0024	936-1187	2.10, 66, 82
Sodium Molybdate	-2.012	3.199	0.0057	15.609	5.112	0.0049	1024-1237	26, 76
Sodium Nitrate	-1.5713	4.3835	0.0008	12.103	2.905	0.0012	580-700	2, 26, 27, 61, 66, 71, 75, 93
Sodium Nitrite	-	-	-	13.2	2.60	-	570-720	66
Sodium Sulphate	-0.960	2.72	-	-	-	-	1200-1350	4
Sodium Thiocyanate	-	-	43	474	-	-	570-650	112
Sodium Tungstate	-0.760	1.840	0.0270	7.541	3.931	0.0045	1026-1174	26
Strontium Bromide	-2.128	3.188	0.0125	3.022	5.905	0.0177	929-1186	94
Strontium Chloride	-2.399	3.830	0.0011	17.792	4.987	0.0005	1146-1357	4, 83, 94
Strontium Iodide	-1.320	2.248	0.0086	10.990	4.932	0.0174	821-1270	94
Tellurium (II) Chloride	-0.4895	1.07	0.0010	66.19	6.933	0.0526	479-578	32
Tellurium (IV) Chloride	-0.4476	1.02	0.0008	7.734	4.246	0.0161	509-589	32
Tellurium (IV) Oxide	-6.547	7.570	0.0520	1.454.10 <sup>2</sup>	9.656	0.0208	1023-1233	68

TABLE 128

## SPECIFIC CONDUCTANCE OF SINGLE-SALT MELTS (cont'd)

Salt	a	LINEAR		EXPONENTIAL		REFERENCE
		b.10 <sup>3</sup>	s	A	E <sub>K</sub>	
Thallium (I) Bromide	1.630	1.228	0.0429	2.363	1.366	0.0498 630-873 21
Thallium (I) Chloride	-1.446	3.607	0.1084	10.790	3.203	0.0063 703-873 21
Thallium (I) Iodide	-0.859	1.950	0.0031	6.688	3.588	0.0057 709-873 21
Thallium (I) Nitrate	—	—	—	10.64	3.26	— 490-700 48,110
Thorium (IV) Chloride	-1.197	1.625	0.0154	10.25	6.063	0.0217 1087-1195 32
Tin (II) Chloride	-2.158	5.687	0.0121	20.880	3.363	0.0197 518-684 35
Uranium (IV) Chloride	-2.023	2.903	0.0013	16.7	10.360	0.0108 843-893 32
Uranium Chloride	-0.273	0.371	—	—	—	— 860-960 64
Vanadium (V) Oxide	-2.056	1.890	0.0058	4.692.10 <sup>4</sup> 29.422	0.058	1140-1237 68
Yttrium (III) Chloride	-1.647	2.077	0.0066	32.755 8.624	0.024	973-1148 35
Zinc Bromide	-0.768	1.125	0.0159	7.012.10 <sup>2</sup> 13.963	0.0644	671-913 94,98
Zinc Chloride	-0.682	1.059	0.0377	2.603.10 <sup>3</sup> 16.003	0.2209	712-941 33,94,98
Zinc Fluoride	-3.75	6.0	—	—	—	1150-1200 86
Zinc Iodide	-0.938	1.372	0.0049	2.832.10 <sup>2</sup> 12.009	0.0289	718-870 94

TABLE 129  
EQUIVALENT CONDUCTANCE - SINGLE-SALT MELTS

Salt	A <sub>A</sub>	E <sub>A</sub>	Salt	A <sub>A</sub>	E <sub>A</sub>
Aluminum Triiodide	—	—	Indium (III) Bromide	6.66	91
Barium Bromide	693.8	6162	Indium (I) Chloride	1208	3528
Barium Chloride	772.5	6004	Indium (II) Chloride	288.4	3687
Barium Fluoride	—	—	Indium (III) Chloride	4.112	-2181
Barium Iodide	831.2	6367	Indium (III) Iodide	28.30	2480
Beryllium (II) Chloride	$5.05 \times 10^{15}$	54,911	Lanthanum (III) Bromide	2770	10402
Bismuth Tribromide	191.7	731	Lanthanum (III) Chloride	439.2	5515
Bismuth Trichloride	98.6	2253	Lanthanum (III) Fluoride	—	—
Cadmium Bromide	295.3	3565	Lead (II) Bromide	864.5	4594
Cadmium Chloride	224.4	2499	Lead (II) Chloride	1001	4514
Cadmium Iodide	1109.0	6365	Lithium Bromide	585.3	2117
Calcium Bromide	506.7	4901	Lithium Carbonate	754.5	4438
Calcium Chloride	675.3	5285	Lithium Chloride	508.2	2015
Calcium Fluoride	—	—	Lithium Fluoride	31.30	1811
Calcium Iodide	545.6	5093	Lithium Iodide	396.3	1375
Cerium (III) Chloride	403.0	6244	Lithium Nitrate	835.6	3419
Cerium (III) Fluoride	—	—	Lithium Sulphate	—	—
Cesium Bromide	1160	5533	Magnesium Bromide	385.5	5404
Cesium Chloride	1102	5110	Magnesium Chloride	169.7	4363
Cesium Fluoride	741.8	3262	Magnesium Fluoride	—	—
Cesium Iodide	1125	5450	Magnesium Iodide	751.1	6752
Cesium Nitrate	551.1	3685	Mercury (II) Bromide	2.074	6167
Cesium Sulphate	—	—	Mercury (I) Chloride	123.1	4391
Copper (I) Chloride	189.2	1102	Mercury (II) Chloride	0.370	6490
Gallium (II) Iodide	771.8	5121	Mercury (II) Iodide	0.018	-5428

TABLE 129

EQUIVALENT CONDUCTANCE - SINGLE-SALT MELTS (cont'd)

Salt	$A_A$	$E_A$	Salt	$A_A$	$E_A$
Neodymium (III) Bromide	4137	11834	Silver Nitrate	587.9	2898
Potassium Bromide	591.1	3747	Sodium Bromide	622.7	3228
Potassium Carbonate	544.6	4650	Sodium Carbonate	550.2	4199
Potassium Chloride	558.3	3458	Sodium Chloride	544.6	2990
Potassium Dichromate	604.2	8141	Sodium Fluoride	244.3	2019
Potassium Fluoride	387.0	2398	Sodium Hydroxide	667.4	3120
Potassium Hydroxide	520.2	2467	Sodium Iodide	697.1	3230
Potassium Iodide	541.2	3442	Sodium Molybdate	779.9	5713
Potassium Molybdate	—	—	Sodium Nitrate	705.6	3215
Potassium Nitrate	657.4	3577	Sodium Nitrite	685.7	2949
Potassium Sulphate	904.9	5194	Sodium Sulphite	477.6	4266
Potassium Thiocyanate	786.1	6081	Sodium Tungstate	381.7	4491
Potassium Tungstate	—	—	Strontium Bromide	806.5	6183
Rubidium Bromide	611.1	4171	Strontium Chloride	689.6	5646
Rubidium Chloride	754.1	4401	Strontium Fluoride	—	—
Rubidium Iodide	568.1	3999	Strontium Iodide	610.1	5409
Rubidium Nitrate	515.7	3496	Thallium (I) Chloride	614.5	3612
Rubidium Sulphate	—	—	Thallium (I) Nitrate	748.0	3514
Scandium (III) Chloride	—	—	Tin (II) Chloride	745.6	3604
Silver Bromide	208.8	1087	Yttrium (III) Chloride	959.2	8827
Silver Chloride	255.1	1184	Zinc Bromide	3565	14604
Silver Iodide	239.9	1475	Zinc Chloride	20750	13715
			Zinc Iodide	17880	12636

**TABLE I<sup>30</sup>**  
**VISCOSEY - SINGLE-SALT MELTS**

Salt	EXPONENTIAL (cp.) $\rightarrow$			[ $\leftarrow$ MATCHISK ( $\eta$ in poise)			'← TEMPERATURE RANGE (°K) ;		REFERENCES
	Ax <sup>-3</sup>	E $\eta$	s	b	Bx10 <sup>6</sup>				
Barium Chloride	1.643	20023	0.0142	0.3076	453	1270-1310			52,109
Bismuth Chloride	378.7	4693	0.0095	0.2432	5348	540-610			16
Cadmium Bromide	189.3	4556	0.0042	—	—	860-940			53
Cadmium Chloride	131.9	5028	0.0252	0.2753	528	870-960			47,53
Calcium Chloride	10.73	12030	0.0370	0.4669	474	1050-1240			47,109
Cesium Chloride	7.579	9819	0.0286	0.3425	284	940-1170			109
Copper (I) Chloride	104.2	5075	0.0115	0.2588	350	800-970			47
Lead (II) Bromide	82.68	5857	0.0077	0.2155	611	700-820			8,72
Lead (II) Chloride	56.19	6762	0.0091	0.2498	714	780-970			8,72
Lithium Bromide	68.68	5355	0.0127	0.3729	421	870-1040			47,102
Lithium Carbonate	1.406	16890	0.0340	0.5397	579	1050-1120			107
Lithium Chloride	15.19	8517	0.0115	0.6438	491	930-1170			12,45,47
Lithium Iodide	115.1	4423	0.0078	0.2989	524	750-920			47
Lithium Nitrate	56.63	5103	0.0503	0.5513	929	540-700			5,38
Mercury (II) Bromide	19.42	5147	—	0.1841	292	530-550			6,58
Mercury (II) Iodide	65.86	3634	0.0114	0.2046	148	560-580			103
Potassium Bromide	40.00	4531	0.0189	0.1791	369	550-630			6,78,103

TABLE 130

## VISCOSITY - SINGLE-SALT MELTS (cont'd)

Salt	Ax10 <sup>3</sup>	E <sub>n</sub>	s	b	Bx10 <sup>6</sup>	BATCHESK ( $\eta$ in poise)	TEMPERATURE RANGE (°K)	REFERENCES
Potassium Carbonate	0.0116	29490	0.0100	0.5201	286	1190-1250	1	107
Potassium Chloride	49.84	<b>6586</b>	0.0177	0.5722	983	1060-1200		<u>12,102,111</u>
Potassium Dichromate	10.16	<b>6533</b>	0.0201	0.4229	2037	670-780		8,110
Potassium Hydroxide	22.95	<b>6177</b>	0.0129	0.5668	385	680-870		<u>37</u>
Potassium Iodide	12.59	<b>19230</b>	0.0286	0.3905	567	1030-1170		<u>47</u>
Potassium Nitrate	83.85	4301	0.0154	0.5026	948	630-810		<b>5,8,12,38,57</b>
Potassium Nitrite	133.7	4230	—	—	—	690-720		<u>110</u>
Potassium Thiocyanate	8.580	6454	0.0207	0.6115	1692	450-520		<u>112</u>
Rubidium Bromide	115.8	4863	0.0076	0.3112	852	960-1130		<u>102</u>
Rubidium Chloride	6.630	11442	0.0259	0.4249	487	1010-1220		<u>109</u>
Silver Bromide	330.6	3088	0.0038	0.1683	377	720-860		<u>24,72</u>
Silver Chloride	309.8	2915	0.0059	0.1914	321	730-970		<u>24,72</u>
Silver Iodide	148.1	5259	0.0397	0.1721	268	880-1100		<u>24</u>
Silver Nitrate	115.3	3625	0.0018	0.2459	343	530-590		<b>5,65,69</b>
Sodium Bromide	110.9	5132	0.0127	0.3631	884	1060-1210		<u>12,102</u>
Sodium Carbonate	0.0383	26260	3.0112	0.5015	305	1160-1240		<u>107</u>
Sodium Chloride	6.799	14680	0.0267	0.6094	569	1090-1270		<u>12,38,57</u>
Sodium hydroxide	72.11	4937	0.0285	0.5451	785	630-820		<u>37</u>

TABLE 130

VISCOOSITY - SINGLE-SALT MELTS  
(cont'd)

Salt	EXPONENTIAL (cp.)			BATCHINSKI ( $\eta$ in poise)		TEMPERATURE RATE (°K)	REFERENCES
	Ax10 <sup>3</sup>	E $\eta$	S	b	Bx10 <sup>6</sup>		
Sodium Iodide	40.01	7209	0.0107	0.3378	500	940-1170	<u>47</u>
Sodium Nitrate	104.0	3886	0.0120	0.4937	950	590-730	<u>5,7,13,38</u>
Sodium Nitrite	85.6	4000	—	0.5187	995	560-580	<u>110</u>
Sodium Thiocyanate	49.35	4636	0.0088	—	—	580-630	<u>112</u>
Strontium Chloride	0.4302	29700	0.0248	0.3601	268	1160-1260	<u>109</u>
Thallium (I) Nitrate	30.4	3610	—	—	—	480-520	<u>110</u>

Single-Salt Melts

References to Tables 1-130

## References to Tables 1-130 (Single-Galt Melts)

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### Molten Mixtures

The Binary Systems are listed by chemical compounds. The salient references are given so that the results, as originally published, can be recovered for the literature.

Table 131  
Melt Densities-Binary Systems

<u>System</u>	<u>Ref.</u>	<u>System</u>	<u>Ref.</u>	<u>System</u>	<u>Ref.</u>
AgBr-AgCl	25	BaCl <sub>2</sub> -PbCl <sub>2</sub>	1,25	Na <sub>2</sub> CO <sub>3</sub> -K <sub>2</sub> CO <sub>3</sub>	39
AgBr-KBr	7,25	BaF <sub>2</sub> -Na <sub>3</sub> AlF <sub>6</sub>	10,15		
AgCl-AgNO <sub>3</sub>	33	BaF <sub>2</sub> -NaF	15		
AgCl-KCl	7,25	BaNO <sub>3</sub> -KNO <sub>3</sub>	36		
AgCl-PbCl <sub>2</sub>	25	CaCl <sub>2</sub> -KCl	8		
AgI-AgNO <sub>3</sub>	30	CaCl <sub>2</sub> -MgCl <sub>2</sub>	35		
AgNO <sub>3</sub> -NaNO <sub>3</sub>	37	CaCl <sub>2</sub> -NaCl	8,27		
AgNO <sub>3</sub> -TlNO <sub>3</sub>	26	CaF <sub>2</sub> -Na <sub>3</sub> AlF <sub>6</sub>	15,31,38		
AlBr <sub>3</sub> -HgBr <sub>2</sub>	4,21	CaF <sub>2</sub> -NaF	15		
AlBr <sub>3</sub> -KBr	4,23	CdBr <sub>2</sub> -CdCl <sub>2</sub>	25		
2AlBr <sub>3</sub> .KCl	23	CdCl <sub>2</sub> -KCl	7,25		
AlBr <sub>3</sub> -NaBr	28	CdCl <sub>2</sub> -NaCl	7,25		
2AlBr <sub>3</sub> .NaBr	23	CdCl <sub>2</sub> -PbCl <sub>2</sub>	25		
AlBr <sub>3</sub> -NH <sub>4</sub> Br	21	CuCl <sub>2</sub> -KCl	5		
2AlBr <sub>3</sub> .NH <sub>4</sub> Br	23	KBr-ZnSO <sub>4</sub>	34		
AlBr <sub>3</sub> -SbBr <sub>3</sub>	4,20	KCl-LiCl	12		
AlBr <sub>3</sub> .SbBr <sub>3</sub>	23	KCl-MgCl <sub>2</sub>	11,35		
AlBr <sub>3</sub> .SbBr <sub>3</sub> -AsBr <sub>3</sub>	32	KCl-NaCl	8,17		
AlBr <sub>3</sub> -ZnBr <sub>2</sub>	20	KCl-PbCl <sub>2</sub>	7,25		
2AlBr <sub>3</sub> ZnBr <sub>2</sub>	23	KCl-ZnSO <sub>4</sub>	34		
AlCl <sub>3</sub> -KCl	29	KNO <sub>3</sub> -NaNO <sub>3</sub>	3,8,36		
AlCl <sub>3</sub> .KCl	29	KNO <sub>3</sub> -Pb(NO <sub>3</sub> ) <sub>2</sub>	36		
AlCl <sub>3</sub> .KCl	19	KNO <sub>3</sub> -Sr(NO <sub>3</sub> ) <sub>2</sub>	36		
AlCl <sub>3</sub> .LiCl	19	K <sub>2</sub> SO <sub>4</sub> -ZnSO <sub>4</sub>	34		
AlCl <sub>3</sub> -NaCl	16	MgCl <sub>2</sub> -NaCl	35		
AlCl <sub>3</sub> -NaCl	19	NaF-Na <sub>3</sub> AlF <sub>6</sub> <sup>‡</sup>	13,14,15,22,24,38		
AlCl <sub>3</sub> -NH <sub>4</sub> Cl	19	NaCl-PbCl <sub>2</sub>	17		
AlF <sub>3</sub> -Na <sub>3</sub> AlF <sub>6</sub> <sup>I</sup>	38,24,8	NaNO <sub>3</sub> -Pb(NO <sub>3</sub> ) <sub>2</sub>	36		
Al <sub>2</sub> O <sub>3</sub> -Na <sub>3</sub> AlF <sub>6</sub>	14,38,6	PbBr <sub>2</sub> -PbCl <sub>2</sub>	2,25		
BaCl <sub>2</sub> -CdCl <sub>2</sub>	25,1	TlCl-ZnSO <sub>4</sub>	34		
BaCl <sub>2</sub> -MgCl <sub>2</sub>	35	Li <sub>2</sub> CO <sub>3</sub> -Na <sub>2</sub> CO <sub>3</sub>	39		
BaCl <sub>2</sub> -NaCl	17	Li <sub>2</sub> CO <sub>3</sub> -K <sub>2</sub> CO <sub>3</sub>	39		

Table 132  
Melt Conductances-Binary Systems

System	Ref.	System	Ref.	System	Ref.
AgBr-AgCl	3	BaCl <sub>2</sub> -NaNO <sub>3</sub>	4C	PbBr <sub>2</sub> -PbCl <sub>2</sub>	3
AgCl-AgNO <sub>3</sub>	36	BaF <sub>2</sub> -NaF	11	Li <sub>2</sub> CO <sub>3</sub> -Na <sub>2</sub> CO <sub>3</sub>	41
AgCl-AlBr <sub>3</sub>	13	CaCl <sub>2</sub> -KCl	3,37	Li <sub>2</sub> CO <sub>3</sub> -K <sub>2</sub> CO <sub>3</sub>	41
AgCl-TlCl	3	CaCl <sub>2</sub> -MgCl <sub>2</sub> †	37	Na <sub>2</sub> CO <sub>3</sub> -K <sub>2</sub> CO <sub>3</sub>	41
AgI-AgNO <sub>3</sub>	33	CaCl <sub>2</sub> -NaCl	17,18		
AgNO <sub>3</sub> -HgI <sub>2</sub>	19	CaF <sub>2</sub> -Na <sub>3</sub> AlF <sub>6</sub>	26,12,39		
AgNO <sub>3</sub> -NaNO <sub>3</sub>	38	CaF <sub>2</sub> -NaF	11,4		
AgNO <sub>3</sub> -TlNO <sub>3</sub>	29	Ca(NO <sub>3</sub> ) <sub>2</sub> -KNO <sub>3</sub>	22		
AlBr <sub>3</sub> -HgBr <sub>2</sub>	25	CdBr <sub>2</sub> -CdCl <sub>2</sub>	24		
AlBr <sub>3</sub> -KBr	30	CdCl <sub>2</sub> -KCl	3,24,27		
2AlBr <sub>3</sub> -KCl	13,28	CdCl <sub>2</sub> -NaCl	24		
4AlBr <sub>3</sub> -LiCl	13	CdCl <sub>2</sub> -PbCl <sub>2</sub>	24		
AlBr <sub>3</sub> -NaBr	30	CdCl <sub>2</sub> -TlCl	3		
2AlBr <sub>3</sub> NaBr	28	HgBr <sub>2</sub> -NH <sub>4</sub> Br	32		
AlBr <sub>3</sub> -NaCl	13	HgCl <sub>2</sub> -HgI <sub>2</sub>	19		
AlBr <sub>3</sub> -NH <sub>4</sub> Br	25	HgCl <sub>2</sub> -NH <sub>4</sub> Cl	32		
2AlBr <sub>3</sub> .NH <sub>4</sub> Br	28	HgCl <sub>2</sub> -TlNO <sub>3</sub>	19		
AlBr <sub>3</sub> -SbBr <sub>3</sub>	23	HgI <sub>2</sub> -NH <sub>4</sub> I	32		
AlBr <sub>3</sub> -SbBr <sub>3</sub>	28	HgI <sub>2</sub> -TlNO <sub>3</sub>	19		
AlBr <sub>3</sub> -SbBr <sub>3</sub> -AsBr <sub>3</sub>	35	KCl-LiCl	10		
AlBr <sub>3</sub> -ZnBr <sub>2</sub>	23	KCl-MgCl <sub>2</sub> †	16,37		
2AlBr <sub>3</sub> -ZnBr <sub>2</sub>	28	KCl-NaCl	16		
AlCl <sub>3</sub> -KCl	21	KCl-PbCl <sub>2</sub>	24		
AlCl <sub>3</sub> -KCl	31	KF-NaCl	6		
AlCl <sub>3</sub> -KCl	21,31	KNO <sub>3</sub> -NaNO <sub>3</sub>	19		
AlCl <sub>3</sub> -LiCl	21	MgCl <sub>2</sub> -NaCl †	37		
AlCl <sub>3</sub> -NaCl	14,15,5	Na <sub>3</sub> AlF <sub>6</sub> -NaF ‡	34,39		
AlCl <sub>3</sub> -NH <sub>4</sub> Cl	21	NaCl-Na <sub>2</sub> CO <sub>3</sub>	6		
AlF <sub>3</sub> -Na <sub>3</sub> AlF <sub>6</sub>	12,34,39	NaCl-NaCl <sub>2</sub>	20		
Al <sub>2</sub> O <sub>3</sub> -Na <sub>3</sub> AlF <sub>6</sub>	4, 12,39	NaCl-PbCl <sub>2</sub>	17		
BaCl <sub>2</sub> -MgCl <sub>2</sub> †	37	NaCl-ZrCl <sub>4</sub>	20		
BaCl <sub>2</sub> -NaCl	17	NaF-SrF <sub>2</sub>	11		

Table 133Melt Viscosities-Binary Systems

<u>System</u>	<u>Ref.</u>	<u>System</u>	<u>Ref.</u>	<u>System</u>	<u>Ref.</u>
LiF-BeF <sub>2</sub>	33	KF-BeF <sub>2</sub>	30	AlBr <sub>3</sub> -HgBr <sub>2</sub>	15
LiCl-KCl	6	KCl-MgCl <sub>2</sub>	5,7,13	AgCl-AgBr	27
LiNO <sub>3</sub> -RbNO <sub>3</sub>	32	KCl-AgCl	27	AgCl-PbCl <sub>2</sub>	27
NaF-BeF <sub>2</sub>	33	KCl-CdCl <sub>2</sub>	28	AgBr-HgBr <sub>2</sub>	22
NaF-AlF <sub>3</sub>	21	KCl-PbCl <sub>2</sub>	28	AgI-AgNO <sub>3</sub>	13,19,32
NaF-ZrF <sub>4</sub>	33	KCl-SbCl <sub>3</sub>	9	AgI-HgI <sub>2</sub>	9
NaCl-NaNO <sub>3</sub>	24	KCl.2AlBr <sub>3</sub>	16	AgNO <sub>3</sub> -HgBr <sub>2</sub>	22
NaCl-KCl	6,10	KBr-AlBr <sub>3</sub>	14,18	AgNO <sub>3</sub> -HgI <sub>2</sub>	26,32
NaCl-KNO <sub>3</sub>	20	KBr-AgBr	27	AgNO <sub>3</sub> .TlNO <sub>3</sub>	4
NaCl-MgCl <sub>2</sub>	7	KBr-ZnSO <sub>4</sub>	32	CdCl <sub>2</sub> -CdBr <sub>2</sub>	17
NaCl-CaCl <sub>2</sub>	10,11,24,32	KBr-HgBr <sub>2</sub>	22	CdCl <sub>2</sub> -PbCl <sub>2</sub>	28
NaCl-BaCl <sub>2</sub>	10,24,32	KNO <sub>3</sub> -Ca(NO <sub>3</sub> ) <sub>2</sub>	32	HgBr <sub>2</sub> -HgI <sub>2</sub>	1
NaCl-AlCl <sub>3</sub>	8,13	KNO <sub>3</sub> -AgNO <sub>3</sub>	25,32	HgBr <sub>2</sub> -TlBr	22
NaCl-CdCl <sub>2</sub>	28	K <sub>2</sub> SO <sub>4</sub> -ZnSO <sub>4</sub>	32	PbCl <sub>2</sub> -PbBr <sub>2</sub>	23,27
NaCl-PbCl <sub>2</sub>	10	RbNO <sub>3</sub> -AgNO <sub>3</sub>	32		
NaBr-AlBr <sub>3</sub>	18	CsBr-ZnSO <sub>4</sub>	32		
NaBr-HgBr <sub>2</sub>	22	NH <sub>4</sub> Br-AlBr <sub>3</sub>	15		
NaBr-2AlBr <sub>3</sub>	16	NH <sub>4</sub> Br-2AlBr <sub>3</sub>	16		
NaOH-Na <sub>3</sub> AsO <sub>4</sub>	31	NH <sub>4</sub> Br-ZnBr <sub>2</sub>	16		
NaOH-Na <sub>3</sub> SbO <sub>4</sub>	31	MgCl <sub>2</sub> -CaCl <sub>2</sub>	29		
NaNO <sub>3</sub> -KNO <sub>3</sub>	2,3,12	AlBr <sub>3</sub> -ZnBr <sub>2</sub>	14		

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MOLTEN SALT DATA

Electrical Conductance, Density and Viscosity

by

George J. Janz, Anthony T. Ward and Roger D. Reeves  
Rensselaer Polytechnic Institute  
Department of Chemistry  
Troy, New York

ERRATUM

The coefficients of the density ( $\rho$ ) and equivalent conductance ( $\Lambda$ )  
equations given in Table 46, [LEAD (II) CHLORIDE], and Table 68, [LEAD (II)  
BROMIDE], are in error. The corrected forms of these equations, together  
with the appropriate values of  $\rho$  and  $\Lambda$  at 10°K. intervals, are attached  
herewith.

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TABLE 46 (Corrected Dec. 8, 1964)

LEAD (II) CHLORIDE

Eq. Wt. 159.00

m.p. 501 °C. (774 °K.)

$$\kappa = 18.093 \exp. (-3883/RT)$$

$$\rho = 6.112 - 1.50 \cdot 10^{-3} T$$

$$\Lambda = 668.4 \exp. (-4355/RT)$$

$$\eta = 72.9309 - 0.17501T + 1.39742 \cdot 10^{-4} T^2 - 3.59013 \cdot 10^{-8} T^3$$

T	$\Lambda$	$\kappa$	$\rho$	$\eta$
780	41.5	1.47 <sub>5</sub>	4.942	4.40
790	43.0	1.52 <sub>5</sub>	4.927	4.18
800	44.4	1.57	4.912	3.98
810	46.0	1.62	4.897	3.78
820	47.6	1.67	4.882	3.59
830	49.0	1.71 <sub>5</sub>	4.867	3.41
840	50.6	1.76 <sub>5</sub>	4.852	3.24
850	52.2	1.81 <sub>5</sub>	4.837	3.09
860	53.8	1.86 <sub>5</sub>	4.822	2.94
870	55.4	1.91 <sub>5</sub>	4.807	2.80
880	57.0	1.96 <sub>5</sub>	4.792	2.67
890	58.7	2.01 <sub>5</sub>	4.777	2.55
900	60.3	2.06 <sub>5</sub>	4.762	2.44
910	61.8	2.11	4.747	2.34
920	63.5	2.16	4.732	2.24
930	65.2	2.21	4.717	2.16
940	66.8	2.26	4.702	2.08
950	68.5	2.31	4.687	2.01
960	70.2	2.36	4.672	1.94
970	72.1	2.41 <sub>5</sub>	4.657	1.89

Density: 15, 40, 54.

Conductance: 7, 51, 72, 85, 96.

Viscosity: 8, 72.

TABLE 68 (Corrected Dec. 8, 1960)

LEAD (II) BROMIDE

Eq. Wt. 185.52

m.p. 575°C. (646°K.)

$$x = -3.4892 + 8.7490 \cdot 10^{-3} T - 3.7998 \cdot 10^{-6} T^2$$

$$\rho = 6.571 - 1.45 \cdot 10^{-3} T$$

$$\Lambda = 700.8 \exp(-4619/RT)$$

$$\eta = 4.245 \cdot 10^{-3} \exp(6964/RT)$$

T	$\Lambda$	x	$\rho$	$\eta$
650	19.30	0.592	5.628 <sub>5</sub>	
660	20.5 <sub>9</sub>	0.630	5.614	
670	21.8 <sub>6</sub>	0.667	5.599 <sub>5</sub>	
680	23.1 <sub>0</sub>	0.703	5.585	
690	24.3 <sub>5</sub>	0.739	5.570 <sub>5</sub>	
700	25.5 <sub>3</sub>	0.773	5.556	5.37
710	26.7 <sub>3</sub>	0.807	5.540 <sub>5</sub>	5.25
720	27.8 <sub>9</sub>	0.840	5.527	4.96
730	29.0 <sub>6</sub>	0.873	5.512 <sub>5</sub>	4.69
740	30.1 <sub>7</sub>	0.904	5.498	4.44
750	31.2 <sub>9</sub>	0.935	5.483 <sub>5</sub>	4.21
760	32.3 <sub>11</sub>	0.965	5.469	4.00
770	33.4 <sub>8</sub>	0.995	5.454 <sub>5</sub>	3.80
780				3.62
790				3.45
800				3.29
810				3.15
820				3.01

Density: 15, 54.

Conductance: 7, 72.

Viscosity: 8, 72.