

TABLE 4. THE EFFECT OF PRESSURE ON THE IDEAL RESISTIVITY OF POTASSIUM

$T$ (°K)	$-\partial \ln \rho_i / \partial p$ ( $10^{-6} \text{ atm}^{-1}$ )	$-A$ ( $10^{-5} \text{ atm}^{-1}$ )	$B$ ( $10^{-9} \text{ atm}^{-2}$ )	$-C$ ( $10^{-13} \text{ atm}^{-3}$ )	$\partial \ln \rho_i' / \partial \ln V$
Specimen K (2)					
15.4 <sub>0</sub>	24.1 ± 0.4	23.2 ± 0.3	37 ± 5	60 ± 100	8.5 <sub>5</sub> ± 0.15
20.3 <sub>5</sub>	22.8 ± 0.3	21.9 ± 0.2	29 ± 5	12 ± 100	8.1 <sub>5</sub> ± 0.1
29.8	20.6 ± 0.2	19.6 <sub>5</sub> ± 0.2	23 ± 2	11 ± 38	7.3 <sub>2</sub> ± 0.1
61.1	17.0 ± 0.2	16.0 ± 0.2	17 ± 1	12 ± 29	6.0 <sub>2</sub> ± 0.1
78.0	16.7 ± 0.2	15.7 ± 0.2	19 ± 2	15 ± 20	5.7 <sub>4</sub> ± 0.1
116.7	16.9 <sub>5</sub> ± 0.2	15.9 <sub>5</sub> ± 0.2	17 ± 1	5 ± 18	5.7 <sub>0</sub> ± 0.1
196.6	18.1 ± 0.1	17.0 ± 0.1	23 ± 2	17 ± 38	5.6 <sub>4</sub> ± 0.1
273.7	19.0 ± 0.1	17.9 ± 0.1	22 ± 1	11 ± 41	5.7 <sub>5</sub> ± 0.15
308.8	20.1 ± 0.2	18.9 ± 0.2	27 ± 1	18 ± 20	5.6 <sub>0</sub> ± 0.15
308.8*	—	—	—	—	5.7 <sub>2</sub> * ± 0.05
Specimen K (5)					
4.2 <sub>0</sub> †	30 ± 3	—	—	—	10.7 ± 1
20.4 <sub>0</sub>	22.8 <sub>5</sub> ± 0.2	21.9 ± 0.2	28 ± 5	-9 ± 100	8.1 <sub>0</sub> ± 0.1
36.5	19.7 ± 0.2	18.8 ± 0.2	25 ± 2	23 ± 40	7.0 <sub>3</sub> ± 0.1
79.2	16.8 ± 0.2	15.8 ± 0.2	19 ± 2	13 ± 50	5.8 <sub>0</sub> ± 0.1
273.1 <sub>5</sub>	19.2 ± 0.1	18.1 ± 0.1	26 ± 1	21 ± 41	5.5 <sub>0</sub> ± 0.15
Bridgman (1921, 1925)					
273.1 <sub>5</sub>	20.4 ± 0.5‡	—	—	—	—
298.0	19.6 ± 0.5	—	—	—	—
333.0	21.1 ± 0.5	—	—	—	—

\* This point corresponds to the density at 308.8 °K.

† A large correction was necessary for the effect of pressure on residual resistivity.

‡ Estimated error.

TABLE 5. DETAILS OF THE SODIUM SPECIMENS

specimen	$R_{4.2 \text{ °K}} / R_{273 \text{ °K}}$	comments	source of material
Na (1)	6.9 × 10 <sup>-4</sup>	—	laboratory stock
Na (2)	7.1 × 10 <sup>-4</sup>	—	
Na (3)	4.0 × 10 <sup>-4</sup>	specimen in glass capillary*	N. V. Phillips, Eindhoven
Na (4)	2.0 × 10 <sup>-4</sup>		
Na (5)	2.9 × 10 <sup>-4</sup>		
Na (6)†	3.0 × 10 <sup>-4</sup>	—	Messrs A. D. Mackay & Co., New York
Na (7)	3.8 × 10 <sup>-4</sup>		
Na (9)	7.3 × 10 <sup>-4</sup>	—	laboratory stock

\* We are grateful to Dr S. B. Woods for the loan of this specimen.

† The absolute resistivity of a specimen from this stock was 4.7<sub>5</sub> × 10<sup>-6</sup> Ω cm at 22.0 °C (corrected for residual resistivity). The precision of this result is about 1%. Previous values at this temperature are 4.7<sub>0</sub> × 10<sup>-6</sup> Ω cm (Hackspill 1910) and 4.8<sub>4</sub> ± 0.1 × 10<sup>-6</sup> Ω cm (Bradshaw & Pearson 1956).