

The silver and sodium ions are of approximately equal size (the radii are 0.95 and 1.13×10^{-10} m, respectively⁴⁵), but the compressibilities of the silver compounds are only about one-half those of the sodium salts at the same temperature (see table 5). The differences between the ΔV_A values are therefore consistent with the arguments advanced above. However, there is evidence that the fused silver halides do not have 100 % ionic character,^{46, 47} and probably the covalent contribution to the bonding is pressure dependent.⁴⁸ The application of the Rice-Allnatt theory in these circumstances is open to objection. Similar considerations would apply to the fused thallos halides.⁴⁹

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- ¹ A. F. M. Barton, B. Cleaver and G. J. Hills, *Trans. Faraday Soc.*, 1968, **64**, 208.
- ² B. Cleaver and P. N. Spencer, to be published.
- ³ J. Mayer, *J. Chem. Phys.*, 1933, **1**, 270.
- ⁴ S. A. Rice, *Trans. Faraday Soc.*, 1962, **58**, 499.
- ⁵ F. Stillinger, in *Molten Salt Chemistry*, ed. M. Blander (Interscience, New York, 1964), Chap. 1.
- ⁶ F. G. Fumi and M. P. Tosi, *J. Phys. Chem. Solids*, 1964, **25**, 31.
- ⁷ F. Birch, *Rev. Sci. Instr.*, 1939, **10**, 137.
- ⁸ F. Birch and R. B. Dow, *Bull. Geol. Soc. Amer.*, 1936, **47**, 1235.
- ⁹ G. J. Janz, *Molten Salts Handbook* (Academic Press, New York, London, 1967).
- ¹⁰ J. O'M. Bockris and N. E. Richards, *Proc. Roy. Soc. A*, 1957, **241**, 44.
- ¹¹ S. Sternberg and V. Vasilescu, private communication; also, *Rev. Roumaine Chim.*, 1970, **15**, 1665.
- ¹² E. R. van Artsdalen and I. S. Yaffe, *J. Phys. Chem.*, 1955, **59**, 118.
- ¹³ S. Zuca and M. Oltenau, *Rev. Roumaine Chim.*, 1967, **13**, 1567.
- ¹⁴ S. Zuca and L. Ionescu-vasu, *Rev. Roumaine Chim.*, 1967, **12**, 1285.
- ¹⁵ M. C. Bell and S. N. Flengas, *J. Electrochem. Soc.*, 1964, **111**, 569 and 575.
- ¹⁶ Y. Doucet and M. Bizouard, *Compt. rend.*, 1960, **250**, 73.
- ¹⁷ J. E. Bannard, *Ph.D. Thesis* (Southampton, England, 1969).
- ¹⁸ J. E. Bannard and G. J. Hills, *High Temperatures, High Pressures*, 1969, **1**, 571.
- ¹⁹ G. J. Janz, F. W. Dampier, G. R. Lakshminarayanan, P. K. Lorenz and R. P. T. Tomkins, *Molten Salts: vol. 1, Electrical Conductance, Density and Viscosity Data*, NSRDS-NBS 15, 1968.
- ²⁰ J. O'M. Bockris and G. W. Hooper, *Disc. Faraday Soc.*, 1961, **32**, 218.
- ²¹ R. Fürth, *Proc. Camb. Phil. Soc.*, 1941, **37**, 252, 276 and 281.
- ²² M. Blander, quoted by S. J. Yosim and H. Reiss, *Ann. Rev. Phys. Chem.*, 1968, **19**, 59.
- ²³ M. K. Nagarajan and J. O'M. Bockris, *J. Phys. Chem.*, 1966, **70**, 1854.
- ²⁴ J. O'M. Bockris, E. H. Crook, H. Bloom and N. E. Richards, *Proc. Roy. Soc. A*, 1960, **255**, 558.
- ²⁵ J. O'M. Bockris, S. R. Richards and L. Nanis, *J. Phys. Chem.*, 1965, **69**, 1627.
- ²⁶ B. J. Alder and T. Einwohnner, *J. Chem. Phys.*, 1965, **43**, 3399.
- ²⁷ M. H. Cohen and D. Turnbull, *J. Chem. Phys.*, 1959, **31**, 1164.
- ²⁸ C. A. Angell, *J. Electrochem. Soc.*, 1965, **112**, 1224.
- ²⁹ J. Naghizadeh and S. A. Rice, *J. Chem. Phys.*, 1962, **36**, 2710.
- ³⁰ S. A. Rice, *Phys. Rev.*, 1958, **112**, 804.
- ³¹ S. A. Rice and A. R. Allnatt, *J. Chem. Phys.*, 1961, **34**, 2144.
- ³² A. R. Allnatt and S. A. Rice, *J. Chem. Phys.*, 1961, **34**, 2156.
- ³³ B. Berne and S. A. Rice, *J. Chem. Phys.*, 1964, **40**, 1336.
- ³⁴ E. Helfand, *Phys. Fluids*, 1961, **4**, 1.
- ³⁵ B. Berne and S. A. Rice, *J. Chem. Phys.*, 1964, **40**, 1347.
- ³⁶ S. A. Rice, *Trans. Faraday Soc.*, 1962, **58**, 499.
- ³⁷ K. Ichikawa and M. Shimoji, *Trans. Faraday Soc.*, 1970, **66**, 843.
- ³⁸ M. Shimoji, *Nippon Kagaku Zasshi*, 1970, **91**, 505.
- ³⁹ K. Singer and L. V. Woodcock, *Trans. Faraday Soc.*, 1971, **67**, 12.

- ⁴⁰ L. V. Woodcock, *Chem. Phys. Letters*, 1971, **10**, 257.
- ⁴¹ D. Cubicciotti, *J. Chem. Phys.*, 1959, **31**, 1646.
- ⁴² M. L. Huggins, *J. Chem. Phys.*, 1937, **5**, 143.
- ⁴³ H. A. Levy, P. A. Agron, M. A. Bredig and M. D. Danford, *Ann. N.Y. Acad. Sci.*, 1960, **79**, 762.
- ⁴⁴ L. V. Woodcock, *Proc. Roy. Soc. A*, in press.
- ⁴⁵ K. H. Stern and E. S. Amis, *Chem. Rev.*, 1959, **59**, 1.
- ⁴⁶ L. S. Hersh and O. J. Kleppa, *J. Chem. Phys.*, 1965, **42**, 1309.
- ⁴⁷ L. S. Hersh, A. Navrotsky and O. J. Kleppa, *J. Chem. Phys.*, 1965, **42**, 3752.
- ⁴⁸ B. Cleaver and S. I. Smedley, *Trans. Faraday Soc.*, 1971, **67**, 1115.
- ⁴⁹ S. Hafner and N. H. Nachtrieb, *J. Chem. Phys.*, 1964, **40**, 2891.