

# JOURNAL OF PHYSICAL AND CHEMICAL REFERENCE DATA

CODEN: JPCRBU  
ISSN: 0047-2689  
URL: <http://ojps.aip.org/jpcrd/>

Periodicals Postage  
Paid at Huntington Station, NY  
and Additional Mailing Offices

Postmaster: If undeliverable,  
send notice on Form 3579 to:  
American Institute of Physics  
Suite 1NO1, 2 Huntington Quadrangle  
Melville, NY 11747-4502

---

Volume 31, No. 4, 2002

**Refractive Index and Dispersion of Fluorides and Oxides . . . . . 931**

*Robert D. Shannon, Ruth C. Shannon, Olaf Medenbach, and Reinhard X. Fischer*

Refractive index and optical dispersion data taken from a literature survey covering the period 1850–2000 for 510 oxides and 55 fluorides are given. The listed values include the refractive index, the molar volume, mean value of electronic polarizabilities, and the mean dispersion values.

**Electron Interaction With BCl<sub>3</sub> . . . . . 971**

*L. G. Christophorou and J. K. Olthoff*

In this paper we review and assess the cross sections for collisions of low-energy electrons with boron trichloride (BCl<sub>3</sub>). The only available experimental cross section data are for partial and total ionization and electron attachment, and the electron attachment cross sections are uncertain. Calculated values are available for the total elastic, differential elastic, and momentum transfer cross sections, and derived cross sections have been published for vibrational excitation and dissociation.

**IUPAC-NIST Solubility Data Series. 78. Acetonitrile Binary Systems . . . . . 989**

*Valerii P. Sazonov and David G. Shaw*

The mutual solubilities and liquid–liquid equilibria of acetonitrile binary systems with different compounds exhaustively and critically are reviewed. The compounds include water, inorganic compounds, and a variety of organic compounds (hydrocarbons, halogenated hydrocarbons, alcohols, carboxylic acids and esters, nitrogen and sulfur compounds) for a total of 353 systems.