IR - Sadtler Minerals & Clays - Wiley

Spectra - 425

Description

This collection contains 425 infrared spectra of minerals and clays that can be used in the identificaton, classification, and verification of spectra. Special care was exercised in the selection of spectra in order to determine if impurities such as quartz, calcite, or gypsum were present.

No attempt is made in this database to assign the nature of the frequencies observed in minerals. It is possible to determine the type of spectrum expected based on the symmetry of the unit cell of the mineral. From this information a factor group analysis is possible and verification of the prediction can be made by performing both infrared and Raman spectroscopy. In a few cases some minor absorptions due to impurities are retained.

The spectra are classified according to an increasing order of complexity of the mineral. The classification scheme follows:

- Binary Compounds
- Diatomic Ions
- Ions of the XO3 Type
- Ions of the XO4 Type
- Silicates

Such a system offers users an opportunity to view minerals within a family, and also allows for ready intercomparisons to be made.

Additional Information

The name of the mineral, its composition (if available), source of the sample, and method of sample preparation are presented. The following additional information is also be supplied when available: chemical composition, technique, crystal system, occurrence, and impurities.

Classifications

Binary Compounds - 24
Halides - 3
Oxides - 21
Diatomic Ions - 8
Ions of the XO3 Type - 55
Minerals Containing Pyramidal XO3 Ions - 10
Minerals Containing Planar XO3 Ions - 45
Ions of the XO4 Type - 121
Silicates - 137
Ortho and Ring Silicates - 59
Chain Silicates - 32
Sheet Silicates - 46
Framework Silicates - 46
Miscellaneous Silicates - 29
Uranium Minerals - 4
Organic Minerals - 1