

# Tables of wavenumbers for the calibrations of infra-red spectrometers.

## Butterworths - TABLES ON WAVENUMBERS FOR THE CALIBRATION OF INFRA

| Parameter         | Wavenumber (cm <sup>-1</sup> ) | Precision | Interferences   |
|-------------------|--------------------------------|-----------|---|
| Oxidation         | Mineral Oil - 1750             | +/-2%     | Oil impurities, dispersants   |
|                   | Organic Ester - 2540           |           | Heavy acetates  |
|                   | Phosphate Esters - 2115        |           | Contamination   |
| Sulfation         | 1150                           | +/-2%     | Sulfuric additives (DOP, anhydrous phosphoric EP, some rust inhibitors)   |
| Nitration         | 1130                           | +/-2%     | Oil impurities, dispersants   |
| Soot              | 2000                           | +/-1%     | Particle size/ density, engine type (for example, multi-cylinder)   |
| Water             | Mineral Oil - 3440             | +/-2%     | Excessive soot, detergent additives, glycol, antioxidant, other biostatic, severe oxidation, free vs. dissolved water |
|                   | Organic Ester - 3635           |           |   |
| Glycol            | 800, 2400, 1940, 1800          | +/-5%     | Water, antifreeze, oxidation byproducts   |
| Fuel              | Diesel - 800                   | +/-5%     | Varying fuel aromatics, fuel vaporization   |
|                   | Gasoline - 750                 |           |   |
|                   | Jet Fuel - 1750-175            |           |   |
| Phenol inhibitors | 1650                           | +/-5%     | Misture, glycol   |
| ZDP               | 900                            | +/-2%     | Aromatic impurities, lead, silica (felt)  |

Description: -

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### Wavenumbers for Calibration of IR Spectrometers

The calibration tables are illustrated by infrared spectra obtained under a variety of conditions. Tables of Wavenumbers for the Calibration of Infrared Spectrometers, Second Edition is a compilation of tables of wavenumber values for the calibration of infrared spectrometers. It makes the best use of high resolution results and integrates the far infrared data with the higher frequency values.

### Wavenumbers for Calibration of IR Spectrometers

Data from these complementary techniques include the best Fourier transform measurements available.

### Tables of Wavenumbers for the Calibration of Infrared Spectrometers: International Union of Pure and Applied Chemistry: Commission on Molecular Structure and Spectroscopy (Iupac Publication) 2, Cole, A. R. H.

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### Wavenumbers for Calibration of IR Spectrometers, Atlas and Wavenumber Tables

This book is organized in two parts, one for high to medium-resolution spectrometers used by physical chemists and physicists, and the other for medium to low-resolution instruments employed by organic and inorganic chemists.

### **Wavenumbers for Calibration of IR Spectrometers, Atlas and Wavenumber Tables**

Tables of Wavenumbers for the Calibration of Infrared Spectrometers, Second Edition is a compilation of tables of wavenumber values for the calibration of infrared spectrometers.

### **Wavenumbers for Calibration of IR Spectrometers, Atlas and Wavenumber Tables**

The second part includes vapor, liquid, and solid phase calibrants for small spectrometers. The first part includes tables of wavenumber of infrared absorption lines in spectra of gaseous molecules as well as procedures for using the tables, including the calibration-curve method, the method of overlapping orders superposition method , and atomic line method. Since a limited number of absolute frequency measurements have been made, additional data from measurements using other techniques are used to determine frequency differences within each band.

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