IR - Sadtler Flavors & Fragrances (Vapor Phase) - Wiley

Spectra - 495

Description

This infrared database of 495 spectra provides a convenient spectral reference of pure organic compounds used in the manufacture of flavors, fragrances, and synthesized compounds. They are used in number of industries including food, beverage, bakery and confectionery, tobacco, nutraceutical, pharmaceutical, dietary supplement, personal care product applications, household goods industries, etc.

Additional Information

Each compound is listed by its Chemical Abstracts name together with frequently used common names. The chemical structure, molecular formula, molecular weight, and CAS Registry number is provided for all compounds. Pertinent physical and instrumental data, including cell temperature, is also included.

Technique

All spectra were measured in our laboratories on a Digilab FTS-14, -15 or -40 Fourier transform spectrometer and determined in the spectral region 4000 cm^{-1} to 450 cm^{-1} with a nominal resolution of 4 cm^{-1} being maintained across the entire spectral region. A Sadtler CIRA 101 chromatographic infrared analyzer was used to vaporize and trap the compounds for examination. The carrier gas was helium. The compounds were examined at temperatures ranging from 100°C to 280°C; the temperature used for each compound was based on the boiling point or melting point of the material, and its chemical stability. One microliter of liquid samples was injected into the CIRA 101 with the helium flow rate operating at 20 ml/min. at the selected vaporization temperature.

For samples that were solids at ambient temperature, 1 mg of sample was introduced into the system using the CIRA 101 Solid Sampling Accessory. For samples which were gases at room temperature, or low boiling liquids, 500 µl of the vapor at atmospheric pressure was injected into the CIRA 101. The sample was trapped within the CIRA cell when the interferogram, monitored in real time an oscilloscope, decreased in magnitude from the maximum to minimum level, therefore indicating maximum concentration of the compound inside the cell. The reference spectrum was then measured. After the spectrum was measured, the gas flow was restarted for 3 - 5 minutes to purge the sample from the system before proceeding to the next sample.

This collection has been subject to the Sadtler Data Review Protocol™ to provide you with the highest standard in spectral data today. These rigorous qualifying procedures start at data acquisition and continue throughout the database development process.