

Terpenes in Indoor Air

Terpenes are a class of organic compounds that have a wide diversity of molecular structure and are produced naturally by plants. Terpenes have excellent solvent properties that make them useful in a wide-range of consumer products. Two of the most common terpenes found in indoor air are alpha-pinene (CAS 80-56-8) and d-limonene (CAS 5989-27-5). Alpha-pinene is naturally found in the oils of conifers, such as the pine tree. It has a dry, woody, resinous-piney odor. D-limonene is found naturally in citrus rinds and has a characteristic citrus-like aroma. It is more frequently being used as a renewable source cleaning agent and also is used as a botanical insecticide. Both of these terpenes also have isomeric forms that are frequently found in indoor air. Beta-pinene (CAS 127-91-3) has a similar aroma as alpha-pinene. Alpha- and beta-pinene are the primary constituents in turpentine. Unlike the pleasant citrus scent of d-limonene, its isomer l-limonene (CAS 5989-54-8) has a musty, turpentine-like smell.

A future post will discuss the impact on indoor air quality of aromatherapy, which involves the use of essential oils containing terpenes and terpenoids for medicinal purposes.

About Prism Analytical Technologies, Inc.

Prism Analytical Technologies, Inc. is a leading consultative air testing laboratory in the United States that is devoted to the chemical identification and analysis of contaminants in the air. We are a recognized leader in the development and deployment of ambient air testing methodologies for Fortune 100 and 500 companies, industrial hygienists, and environmental consultants. Prism's science-based technologies and wide range of air testing support help clients solve indoor air quality, process control, industrial, and environmental challenges.