

photoionization detector (in gas chromatography)

Radiation from an ultraviolet lamp ionizes certain species in the carrier gas. A potential difference is applied and the resulting ionization current is detected. The detector is only useful for substances with ionization potentials below about 11 eV. This makes it quite useful for detecting one component of a combined eluent when the other component, for instance nitrogen, has a high ionization potential. The detector has a small linear dynamic range and is capable of detecting substances below 1 ppmv.

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