UV Spectrophotometer â€“ a New Dimension in Color Technology

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The science of chemistry is so vast that many aspects of the subject are still unknown and many might not have even discovered. Likewise, lot of people is unfamiliar with the knowledge that it is possible to measure the amount of light of a defined wavelength passing through a medium with the help of an instrument. Well the name of the device will be a bit difficult to pronounce and far more than this a bit tough to understand its function and use, but speaking in laymanâ€™s terms uv spectrophotometer is an electronic device which helps in determining the concentration in a solution and how fast the absorbance changes with concentration.

Consisting of a light source, a sample holder, a monochromatic and a detector, the Spectrophotometer uses a radiation source like light emitting diodes and Xenon lamps which radiates light of visible wavelength and covering also the ultraviolet and the infrared spectrum detected by photo diodes..

Electrons present within the atoms can change their electronic state when excited and hence solutions of transition metal ions are found colored. Mixing different solutions which are composed of different metal ions can affect a change in color which in turn changes the wavelength of the radiated light emitted by a uv spectrophotometer and hence the maximum absorption of the resulting solution can be determined.

This device can be used for detecting the performance of liquid chromatography which in other terms is known as HPLC. Manufacturers of printer cartridges, ink, dyes required for textile industry need data provided by UV spectrophotometer. The data provided by the equipment is used to test a new batch of colorant and this helps to determine whether the product has met the required ISO standards or not.

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