



WHAT IS AZO DYE MEDIA?

WHAT IS AZO-DYE MEDIA?

The success of any DVD depends on its dye layer. Among the dyes being commonly used are cyanines, subphthalocyanines, benzopyromethenes, oxonol and styryl but one has pushed out in front. This being Azo-dye.

So why has Azo-dyed media become so popular? Quite simply it's more reliable. If you've ever tried to record DVD media then you will know how temperamental it can be. Certain media fails on certain drives...you can end up wasting a lot of discs.

To understand how this dye technology is so effective, it's important to understand the role of the dye during the recording process.

When the laser is applied onto the dye layer, the dye absorbs the energy of the laser light. The dye turns the light energy into heat energy. When it reaches the decomposition temperature, the dye decomposes. By decomposition it does not mean that the dye "disappears". What happens is that some chemical bonding in the dye molecular structure breaks. The colour (or the absorbance spectrum) of a material depends on the electron cloud on its molecular structure. When the chemical structure changes due to the breakage of some bonding, the colour changes (so does the absorbance spectrum). The recorders or DVD players uses this difference in absorbance to determinate the signal.

The speed and quality of the DVD+/-R recording primarily depends on the thermo-optical properties of the dye used. These include the dye's thermal decomposition characteristics, as well as its absorption spectrum and refractive index in the range of wavelengths typical for lasers used in the currently available recording devices (650-660 nm). Most of the AZO dyes have a lower decomposition temperature in comparison to cyanine and other kinds of dye. This is the reason that AZO dye is easier to burn.

AZO is used to produce a recording layer with a greater sensitivity that ensures stability at faster recording speeds such as 4x and 8x. This recording layer is critical in maintaining the high success rate. This finely tuned dye layer increases the discs sensitivity and power margin, and therefore, the better its high-speed recording capabilities.

AZO recording dye is extremely durable. The DVDs are far more stable and their archival life is much longer. AZO discs are also more effective at resisting Ultra Violet light (UV) and maintain the best recording compatibility.

This is why LASER branded DVD media is becoming so popular...it now uses AZO-dye technology.

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