Functional Dyes Based on Phthalocyanine

박수열 오세화

염료염색가공센타, 응용화학부, 한국화학연구원

1. 서론

The majority of dyes belong to the chromophoric class known as phthalocyanine. The many phthalocyanines of organic or inorganic class have received a great deal of attention in recent years due to the potential applications of these materials in many fields such as electro-photographic processes, photoconducting cells and medical applications. Therefore, by suitable choice of terminal groups in the mother chromophore it is possible to displace the absorption band into the near-infrared regions. In this section, the properties of the such chromophores were studied and their various applications were considered.

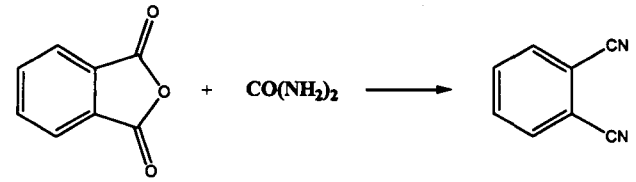
2. 결과 및 고찰

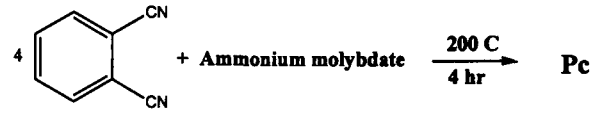
Preparation of the Metal-free Phthalocyanines

Phthalocyanine is one of the most stable and tinctorially strongest chromogen.

Melting point : 500 ℃

Two strong visible absorption: 699 & 664 nm





Properties of Metal Phthalocyanine

- Dark blue to green in colour.
- Absorbing in the visible region at 600 nm ~ 700 nm ($\lambda_{max} > 10^5$ $M^{-1}cm^{-1}$).
- Conducting and photoconducting properties and used in xerography.
- Oxidising them to phthalimides and used in photosensitisers.

3. 결론

- The phthalocyanine represent a branch of donor-acceptor chromophores.
- The phthalocyanines have been observed their properties and these chromophores could be useful as light-sensitive reagents for near-infrared areas