

56000 - 56450 Fluorescent Pigments

These daylight pigments are organic fluorescent colorants dissolved in amino resins. The process of binding the pigments in this carrier resin reduces the damaging influences of, for example temperature, water and UV-radiation. The dosage is also easier as with liquid colorants. The fluorescence can be excited by day light as well as with artificial light sources. An extremely intensive fluorescence, e.g. for special effects, can be achieved with "black-light" lights which emit UV light. Not suitable for excitation are lights with long wavelengths (orange, rot).

Physical Properties

Contrary to "normal", not fluorescent pigments, which absorb most of the light and only reflect its own color, daylight pigments transform the shortwave of the impinging light into the wavelength (color) which they also reflect.

Specific weight:	1.4 kg/ l
Average particle size:	5 µm
Softening temperature:	+ 140°C
Decomposition temperature:	+ 300°C

Lightfastness: 4 ("Lightfastness-Wool-Scale" 1-8, 8= best result)

The lightfastness of daylight pigments is strongly dependant from the composition of the binders, the pigment concentration and the applied coating. For the tests the daylight pigments were mixed with an acrylic resin containing a solvent. The film thickness (wet) is 38µm.

The daylight pigments were tested according to the following conditions:

Test instrument:	Suntest CPS+ (Heraeus)
Light source:	Xenon lamp 500 W
Filter:	UV 290 nm
Radiant power:	550 W/m ²
Temperature:	55° C (continuous air cooling)
Radiant dosage:	150 MJ

According to these conditions, 2 MJ correspond to approx. 1 hour radiation time.

Hazardous components

Most daylight pigments do not contain any metal ions except zinc. The blue and green colors contain copper.

Daylight pigments do not contain:

- inorganic phosphorus
- radioactive substances
- components damaging the ozone layer
- Adsorbable Organohalogens (German: AOX)
- polychlorinated bi- and terphenyl (PCB, PCT)

Daylight pigments can be used for toys, finger paints and modelling clay.

The daylight pigments conform to EC Norm EN 71, part 3, 1994.

Application

The binding agents added should be as transparent as possible. The addition of fillers and standard pigments reduce the fluorescence. Daylight pigments should only be mixed with another if the colors hues are similar- for example, yellow and green, or two different red hues, but never blue and red hues, or yellow and red hues.