

## Phthalocyanine Based Pigments and Application Fields in World

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Presentation/Paper Type: Oral / Abstract

**Abstract-** The first phthalocyanine compound in the class of macrocyclic compounds was obtained as a dark blue colored byproduct during the synthesis of o-cyanobenzamide from acetic acid and phthalimide in 1907 [1]. 20 years later, the first copper metallophthalocyanine compound was obtained as a blue colored and insoluble product while heating dibromobenzene with copper cyanide in pyridine at 200 °C in oil by Diesbach and Van Der Weid, but the structure was not elucidated [2]. In 1928, a blue-green colored impurity was observed in the reaction medium when phthalimide were industrially produced with the reaction of phthalic anhydride and ammonium in the Scottish Dyes Ltd. company. This impurity was found to be a by-product of phthalimide with iron and a very stable, insoluble pigment feature. The structure of the phthalocyanines was illuminated by the work of Linstead and his group from 1929 to 1933 [3]. Metallo phthalocyanine complexes, especially copper phthalocyanine, are produced in large quantities (about 110,000 tonnes per year) and are used as pigments.

These pigments are not produced in Turkey, but is widely used in industry and completely imported. The commercial names of the molecules used as the common blue pigment are 15: 0, 15: 1 and 15: 3. On the other hand, there are derivatives of these molecules with green color, and known with Green 7 code in industry. These pigments are used in the production of masterbatches, inks, injection, extrusion, construction and industrial dyes both in our country and world. Especially 15: 1 coded blue pigment is used in masterbatch for the yarn industry too much.

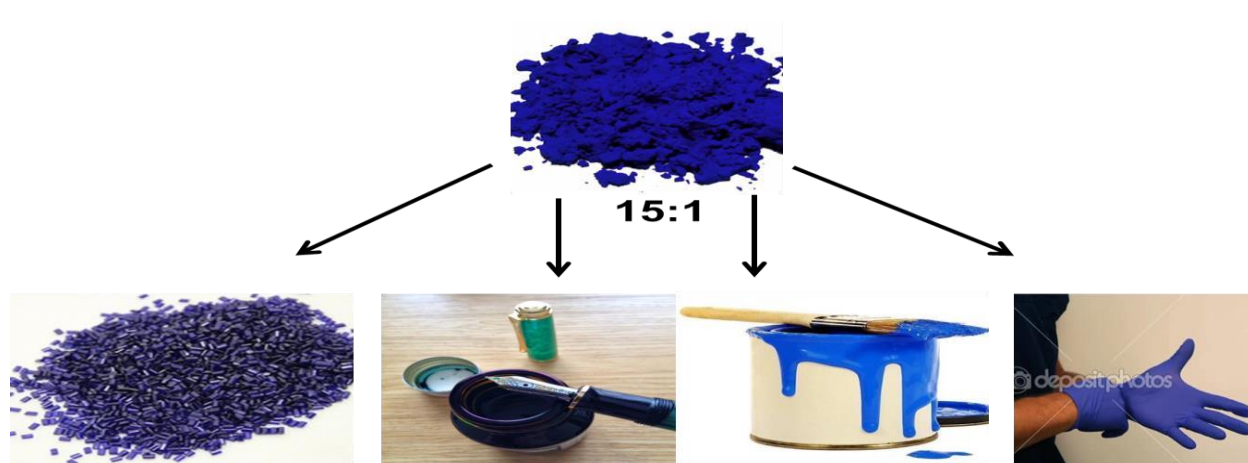


Figure 1. Some application areas of blue pigment (15:1).

**Keywords-** phthalocyanines, pigments, 15:1.

### References-

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