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**Taube et al.**

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(54) **METHOD FOR PRODUCING PIGMENT NANO-PARTICLES**

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**B01D 7/02** (2006.01)

(52) **U.S. Cl.** ..... **95/227; 95/229; 95/230**

(58) **Field of Classification Search** ..... 95/149, 95/205, 227, 228, 229, 230; 96/322, 323, 96/329; 106/400, 401; 23/294 R; 261/DIG. 64  
See application file for complete search history.

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(57) **ABSTRACT**

Method for producing pigment nano-particles may include vaporizing a pigment precursor material; drawing the vaporized pigment precursor material into a precipitation conduit; contacting the vapor in the precipitation conduit with a collection fluid at a first location within the precipitation conduit, the contacting cooling the vapor and precipitating pigment nano-particles, the contacting occurring in the absence of a temperature change in the vapor at locations within the precipitation conduit that are upstream of the first location; and collecting the pigment nano-particles in a collection fluid.

**19 Claims, 5 Drawing Sheets**

