

EG0700360

**8th ARAB INTERNATIONAL CONFERENCE ON
POLYMER SCIENCE & TECHNOLOGY
27 – 30 November 2005, Cairo-Sharm El-Shiekh, EGYPT**

Preparation of Precipitated Barium Sulphate from Egyptian Baryte Ore and its Application in Paints

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Precipitated barium sulphate (Blank fixe) was prepared and evaluated as an extender pigment, making use of the naturally occurring Egyptian baryte ore. X-ray diffraction patterns, transmission electron microscope, thermal gravimetric analysis, color measurements, specific gravity, oil absorption, bulking value, bleed resistance, hydrogen ion concentration, permanence for light and heat and chemical resistance were different methods used for characterization and evaluation of the prepared pigment. Medium oil alkyd resin, melamine-alkyd and epoxy resin were used as different binding media for the application and testing of the prepared pigments as an extender- in some paint formulations, this was done in comparison with a commercial imported blank fixe sample and the Egyptian baryte ore that it was prepared from. It was found that; a white bright fine powder of precipitated barium sulfate could be successfully prepared from the locally abundant Egyptian baryte ore. It has a suitable properties as an extender pigment. Paints pigmented with blank fixe offered favourable rheological and protective properties exceeding that of the imported commercial sample and the ore that was prepared from.