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## A METHOD TO IMPROVE THE QUALITY OF IRON OXIDE PIGMENTS MANUFACTURED USING HYDRATED LIME.

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A study has been done in the laboratory and pilot plant scales to overcome the problems associated with the use of local hydrated lime to precipitate hydrated oxides of iron from waste pickle liquor (solution of  $\text{Fe}^{+2}$ ) in manufacturing red, yellow and black iron oxide pigments.

The lowering of quality due to the use of hydrated lime containing unburnt lime and other impurities and with low solubility has been avoided by the use of ammonia gas liberated by passing steam through a mixture of hydrated lime and an ammonium salt solution. The ammonium salt recovered as filtrate is recycled to liberate more ammonia.

The two counterposing problems of loss of ammonia under alkaline conditions and incomplete precipitations under acidic conditions have been solved by a suitable adjustment of pH and a combination of precipitation, filtration and oxidation steps.

Good quality gypsum has been manufactured as a by product with pickle liquor containing  $\text{FeSO}_4$  solution.

The pigments were of very high purity and good staining power.