NEWARK, NEW JERSEY
AUGUST 24, 1951

CONFIDENTIAL

DR. J. H. COOPER (3) A IIC-261 AJS - 25%

AQUEOUS MILLING CPC

Because of vacations and illness of an assistant, the work during the past four weeks has been very limited. A start was made on the investigation of agents other than Blancol in the grind, with a re-investigation of carboxy methyl cellulose. These products have not yet been tested. Several other agents will be tried as the work can be fitted in.

The use of Diphenyl Guanidine (DPG) as a precipitant for Blancol continues to give encouraging results in the markedly improved filtration rates after grinding with higher amounts of Blancol. It gives hope of utilizing the greater strength developed under these circumstances without facing impossible filtration problems. Samples of dispersed pastes of CPC-LB which are markedly stronger than BT-321-P have been prepared in this way with 10% and 15% of Blancol. The general evaluation of their properties remains to be done.

In the evaluation of a semi-works preparation of dispersed paste of CPC Green prepared with 5% Blancol and flocculated with DPG, a very peculiar phenomenon has been noted for which there is at present no ready explanation. By the normal testing method using 0.5 gm color solids to 20 gm TiO_2, this batch exhibits marked superiority in strength to BT-267-P standard (perhaps 35% strong). However as the amount of color is increased in relation to the TiO_2, the superiority in strength becomes less and with 5 gm color to 20 gms TiO_2 it appears distinctly weak. It has been demonstrated that this variation is reproducible but it is not clear which color is exhibiting the change. It is planned to investigate this phenomenon further, particularly as to whether it is also present when the extender is clay instead of TiO_2 and whether it appears in the Blue as well as the Green.

A sample of large crystal size CPC made by crystallizing Cl-free CPC crude in toluene is under preparation to be used in grinding studies in an effort to delineate true grinding as compared to dispersion.

A. J. STRATTON
CHEMICAL DIVISION

AJS:lg