Dr. R. L. Jenkins
Mr. F. A. Barker
Mr. W. L. Robinson

December 11, 1945

Dr. E. E. Hardy — 1080 TURBIDITY

A 50% water solution, slightly basic, of 1080 has a flocculent precipitate which makes it appear very turbid. In the lab, we have, by qualitative test, proved this material to be ferric hydroxide. Since all caustic contains some iron, and the 1080 always contains some NaOH, making solution basic, therefore, we will have this turbidity.

Turbidity is not the best way to describe the water solution of 1080. A better way would be to describe the insoluble as per cent insoluble.

The following suggestions should clear this trouble:

On each batch of 1080 that is analyzed, have Mr. Barker determine the per cent of insoluble material. (Dr. J. C. Ward asked if we would change the solubility specifications from a 10% water solution to a 50% solution.) The insoluble should be determined by dissolving 100 g. of 1080 in 100 g. of water at 40°-50° C and then filter. From the dry weight of the material on ~~crucible~~ insoluble he could determine the per cent insoluble. Then we should know what per cent of the insoluble is iron. The iron could be dissolved off the crucible with acid and iron determined.

This should be done on sufficient number of samples to be sure what per cent insoluble we have and the quantity of iron present. Over a number of samples we would know if the solubility of 1080 in water is 50% at 40°-50° C.

Caustic with a low iron content should be purchased in 100 lb. cans. The small cans would alleviate the caustic sitting around in a can which is open to the atmosphere.

James O. Harris
J. O. Harris

JOH:MLM

DSW 331112

STLCOPCB4077756