TO. F.C. STEWARD. 3-27-67

FROM. L.M.S.

TEST TO FIND THE SATURATION POINT OF CARBON WITH p-DIOXIN AND RELATED COMPOUND.

A 30 gr. Sample of powdered carbon was used to treat 31 consecutive 500 cc. aliquots of ~15% T.C.P. Periodic aliquots were analysed to determine the point of re-appearance of a contaminant and the point of saturation.

The analysis of the initial sample was:

1) - 2,3,7,8 TETRACHLORO DIBENZO p-DIOXIN ---- 66.0 ppm

2) - 2,3,7 TRICHLORO-8-METHOXY DIBENZO p-DIOXIN AND 2,2'4,4',5 PENTACHLORO-5'-METHOXY DIPHENYL OXIDE ---- 45.3 ppm

3) UNKNOW ------ 11.9 ppm

After passing 10 - 500cc aliquots of T.C.P. the 10th aliquot was analysed:

1 = NIL

2 = TRACE (< 2 ppm)

3 = TRACE (")

DS 00023319

The 19th 500cc aliquot was analyzed:

1) = NIL
2) = 5.9 ppm
3) = 5.6 ppm

The 20th 500cc aliquot was analyzed:

1) = NIL
2) = 7.8 ppm
3) = 6.9 ppm

The 29th 500cc aliquot was analyzed.

1) = NIL
2) = 15.9
3) = 9.4

The 30th

1) NIL
2) 18.1
3) 11.3

The 31th

1) NIL
2) 19.3
3) 11.9 - (saturated)

DS 00023320

after the 31st 500 cc aliquot was passed through the carbon I ran out of T.C.P.

Comments. - I suspect strongly that this test is not valid in regard to drawing conclusion about the adsorbtion of p-Dioxin and related compounds on carbon. Although carbon is a good adsorbant, it is also a very good filtering medium in the powdered form it was used in. Previous work shows that 15% T.C.P., when filtered through #1 Whatman paper with supercell is reduced to a concentration of p-Dioxin of less than 1ppm. I believe it would be helpful if a carbon adsorbant that is granular and had a high weight to surface area ratio were tested. This would clear up the question of what is removing the p-dioxin, filtering or adsorbtion on carbon.

L. M. Szendrey.

DS 00023321