11-13-75  Attempts at Extraction of Aflatoxin Adduct

**Purpose:** The chromatographic behavior of the adduct indicates it may be a lipophilic yet somewhat polar molecule. I will try water saturated ethyl acetate and butanol to remove it from the aqueous phase.

**Procedure:**
- Thaw sample 11-3-1 (65°C hydrolysis sample).
  Observation: The sample looked creamy, but it appeared that the creaminess was caused by small droplets of CHCl₃ forming micelles in the aqueous phase. Significant but not total cleaning occurred in time.
- Add 0.5 ml water-saturated ethyl acetate.
  Observation: Two clear phases—implies that the problem was emulsion.
- Draw up and quickly release both phases for a minute or so—got what appeared to be good phase co-dispersion.
- Let the phases separate and remove the bottom (aqueous) phase after sampling.

Samples: 1. aq. = 20 µl aqueous phase
         2. EtAc = 50 µl organic (top) phase
    Count in 10 ml Aquasol.

- Take the aqueous phase and add 0.5 ml butanol—this is also lighter than the aqueous phase.
  Samples: 1. qaq. = 20 µl B%OH extract
            2. B%OH phase = 50 µl
1-13-75  Adduct Extraction: Results

1. Ethyl Acetate Extraction:
   aqueous phase: 876,813 counts/10 min/20 µl 18,474 cpm/µl
   organic phase: 24,207 counts/10 min/50 µl 484 cpm/µl

2. Subsequent Butanol Extraction:
   aqueous phase: 206,826 counts/10 min/20 µl 1024 cpm/µl
   organic phase: 281,970 counts/10 min/50 µl 564 cpm/µl