October 19, 1960

Memo to: Drs. Davis
Miller
Kehoe

Subject: Lead experiment for the General Electric Company

From: T. Sterling

1. Not mentioned in Dr. Kehoe's letter but definitely implied is the expectation that lead absorption from the plastic will be trivial. I state this explicitly as the hypothesis under investigation because a small absorption of lead could not be detected without a lengthy experiment.

   Therefore the experiment will have as its purpose to determine whether or not the subject absorbs an appreciable amount of lead. An appreciable amount will be defined as one that can be detected in increased urinary excretion after a five day period of intake.

2. A number of control features will have to be built into the experiment. The first problem is that the subjects food intake may be affected by the inclusion of the plastic. The second problem is posed by the extreme daily variability of lead excretion.

3. To obtain comparable measures of food intake and excretion the following events should be initiated:

   a. The subject will start on a particular food item for lunch as soon as feasible. This food item could be a soup or mashed potatoes or any other item which can be used eventually for the intake of the plastic material.

   b. The subject will be given a plastic not containing lead for at least five days preceeding the actual experiment.

   c. The subject will be fed one dose of plastic containing lead and will be fed unleaded plastic for the following five days.

   d. The subject will be fed leaded plastic for five days. This will be followed by unleaded plastic for five days.

3. Dr. Davis has assured me that unleaded plastic can be obtained. If the subjects food intake should be affected in any way by the plastic material the results of the study cannot be of value unless the subjects food intake has been stabilized first.

4. Because of time lag in excretion and our experience on this type of analysis a single feeding experience may be inconclusive. However we do know that constant intake of a daily increment of lead fed by mouth can be detected in the urine within five days as long as this increment is at least of the magnitude of 3 milligrams of absorbable lead.