Monsanto

R. M. Kountz - General Offices

Wildlife

DATE: December 8, 1969

SUBJECT: PCB Incineration

REFERENCE:

TO : H. A. Vodden - RUABON

cc: R. A. Baxter - RUABON
D. S. Cameron - BRUSSELS
T. W. Dalton - WGK
D. B. Hosmer - GO
J. C. Landwehr - ANNISTON
H. L. Williams - ANNISTON
R. E. Howard - GO
W. A. Kuhn - GO

As a follow-up to W. A. Kuhn's letter of December 2, 1969, I can fill you in briefly on our activity in engineering for incinerating Aroclors.

Early last Spring, we began a survey to see what had been done and what could be done. From this we found:

a) Process Research and Design at W.G. Krummrich had experimented with a Quartz tube and they had shown that organics could be destroyed at temperatures about 800° C. Of course. the resultant products were Hcl, CO_2, H_2O and Cl_2. Larger amounts of excess air caused oxidation of Hcl and resulted in a higher content of free chlorine.

b) We then made a survey of potential vendors of incinerators, firms for contract incineration and potential land-fill operations.

As you would expect, there are many vendors of incinerator equipment. Some of the more promising ones were:

Union Carbide
Thermal Research & Engineering, and
Prenco

The most promising firm for contract incineration was Rollins-Purle, Inc.; however, their first plant was scheduled to start in late December. Rollins-Purle have since announced that they are planning to build 20 industrial waste collection and treatment plants in the states. Rollins-Purle said they plan to use the experience and technique of Purle Brothers Holdings,Ltd., of London who reportedly treat 65% of industrial wastes in the United Kingdom which may be of particular interest to you.

We also found a land-fill operator, but this is of little interest at this time.

c) We then sent some Aroclor samples to Thermal Research and Engineering for tests. They injected the material into a very small laboratory unit and reported that Aroclor 1242 will burn. However, additional fuel was needed to get and sustain ignition until an elevated temperature was reached.

IN 10 REV 11 6

Stack gas samples could not be obtained from the small laboratory unit. They required $500 per day to enter their larger testing unit where stack gas analyses could be made.

d) We then surveyed the business group and local plant and found that no one was interested in pursuing the problem further. Nothing was being collected at that time for incineration. Other than keeping abreast of developments, active work stopped on incineration.

Interest has been generated again in incineration and we have started tracing our own original steps.

We will be checking Rollins-Purle's status and schedule for bringing their plants on stream. We understand that Westinghouse has a small incinerator under construction at Sharon, Pa. Marketing has been requested to project the products, locations and quantities of materials for incineration. Unless we find that adequate test work has been done, we visualize the need of a test program to establish the temperature-retention relationship for the various products. We feel that fairly large systems will need Hcl scrubbing facilities which will substantially increase capital and operating costs. Small systems can possibly stack Hcl; however this may be dependent on state laws.

As we develop additional information, I will be glad to send you our developments if you wish.

R. M. Kountz

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