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June 30, 1970

Hon. William F. Ryan
House of Representatives
Washington, D. C.

Dear Congressman Ryan:

This will serve to acknowledge your letter of June 18 referring to what you describe as Monsanto's unwillingness to deal candidly with the chlorinated biphenyl issue. I believe your implications to be entirely unwarranted and based on a complete lack of factual information.

Firstly, I would like to describe to you the actions which this company has taken and will continue to take to ensure that the chlorinated biphenyls present the minimum possible threat to the environment. Secondly, I will answer the individual points raised in your letter to ensure that you are fully aware of the current position.

At our meeting in your office last April, Mr. Pickard and I endeavored to clarify for you some of the misconceptions on which your earlier press release was based. At that time, we were unable to give you full details of many of our plans and actions as these involved several of our customers using chlorinated biphenyls and it was necessary to discuss details with them prior to public disclosure. Since that time, all of our customers have been contacted both verbally and by letter and I am now in a position to explain our plans and actions in detail.

Based on the findings of our own and many independent scientists, we believe that it is necessary to rigidly control the manufacture, use and disposal of chlorinated biphenyls to avoid build-up in the environment. We have, therefore, taken the position that as the manufacturer and distributor of a range of chlorinated biphenyls we have a responsibility to ensure that they are used only in applications where their unique properties are vitally important to industry and the economy and where usage and eventual disposal can be monitored and controlled.

How are we fulfilling this self-imposed responsibility?

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1. We have taken the decision that effective from the 30th of August we will no longer sell the chlorinated biphenyls to customers for use in general plasticizer applications where disposal of the end



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products cannot be controlled. This includes all the applications referred to in our bulletin O/PL-306. All of our customers who have used these products in the past for these applications have been advised of this decision both verbally and by formal letter. We are working closely with them to recommend suitable alternative products which present no danger to the environment.

2. In many of the applications where chlorinated biphenyls are used as hydraulic fluids, we are not satisfied that it is possible to control their usage and eventual disposal to ensure that there is no possibility of escape to the environment. We have therefore taken the decision to reformulate such fluids and we are currently working with our customers to change over to these new formulations. A substantial part of this program will be completed within the course of the next three months and in other areas where performance requirements are difficult to achieve with alternative products, we consider it will take until the end of 1970 to complete change-over.
3. In areas where the chlorinated biphenyls are used in closed system applications, e.g. transformers, capacitors, and heat transfer fluids, we will continue to sell the chlorinated biphenyls as their unique, fire-resistant properties are extremely important in ensuring maximum protection for the safety and well-being of the population of this country. As you should be aware, the major usage for the chlorinated biphenyls is as coolants in transformers where they have replaced such other materials as oil and have greatly reduced the risk of fires and explosions which in the past have often had disastrous results in terms of human lives. These closed system applications are such that by working together with our customers, we can avoid emissions to the environment.

Coupled with this decision to continue selling chlorinated biphenyls for closed system usage, we have established a service to collect spent fluids which are returned to our manufacturing sites for regeneration or destruction in a specially designed, high-temperature incinerator. This incinerator breaks down the chlorinated biphenyls into harmless materials, mainly hydrochloric acid which is scrubbed out of the waste gas stream, neutralized and passed through our waste treating facilities.

Although we are confident that we can achieve a very high degree of control in these closed system applications, we are not completely satisfied and we are working to develop modified chlorinated biphenyls which will be biodegradable. This means that even if minute quantities of chlorinated biphenyl are released to the environment by accidental spills and/or leakage, it will be possible to remove them from waste water streams in conventional secondary treatment facilities.

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In my opinion, Congressman Ryan, these actions and plans indicate that Monsanto is taking an extremely responsible attitude to this problem and is doing everything within its power to ensure a maximum degree of control to prevent the possibility of the chlorinated biphenyls escaping into the environment. I would remind you that these actions are being taken by the company on a voluntary basis and without direction either by federal or state government authorities.

I will now return to the individual questions raised in your letter.

You imply that Monsanto has not sought the opinions of men like Dr. Robert Risebrough. This is completely untrue! Surely you must remember at our April meeting I told you that three members of Monsanto, Dr. Robert E. Keller, Manager of Applied Sciences, Mr. William B. Papageorge, Manager, Environmental Control, and Mr. Elmer P. Wheeler, Manager, Environmental Health, Medical Department, all traveled to California especially to visit Professor Olcott and Dr. Risebrough at the University of California in Berkeley. They reported to me that they had a most useful exchange of ideas and opinions with Dr. Risebrough covering the toxicity of the chlorinated biphenyls, Monsanto's plans to develop substitute products, detailed discussion on analytical techniques and on the work carried out by Dr. Risebrough on the effects of the chlorinated biphenyls on birds and fish. At the end of the day, Dr. Risebrough expressed appreciation of Monsanto's approach and was glad to note that the company was taking a responsible position on the chlorinated biphenyl problem.

As you are well aware, there are many other workers in this particular field and during the last two weeks of May, the individuals referred to above visited Europe to meet and exchange information and opinions with the following:

- Professor Widmark - Sweden
(As you may be aware, Professor Widmark was the first worker in this particular field, identifying the presence of chlorinated biphenyl in birds.)
- Scientists of the Food & Hygiene Department of the Public Health Service - Sweden
- Dr. Korman
- Professor Van Gerderen
(Both of these gentlemen are from the University of Utrecht - Holland.)
- The Government Chemist - United Kingdom
- Fresh Water and Fisheries Laboratories - Scotland
- Nature Conservancy Scientists - England
- The Laboratories of Agriculture and Fisheries at Tolworth and Burnham-on-Crouch - England

In addition, as I advised you in my previous letter, Monsanto has held several meetings with various federal and state agencies to exchange information on the chlorinated biphenyl issue. During the month of July, Mr. Papageorge and Mr. Wheeler will make further visits to a number of government and state agencies to bring them up-to-date on the results of our latest toxicity studies on the chlorinated biphenyls and to make them aware of progress in implementing our plans to phase out of non-controllable applications and the development of substitute products. During these proposed discussions, we will welcome constructive criticism, comments and recommendations and if Dr. Risebrough or any other individual working in this field would like to meet with us, they will be extremely welcome.

You consider that our reply to your questions on possible emissions to the environment from our manufacturing operations is vague and that we avoided responding to specific questions concerning the type of controls in use. This is not the case and the following additional information should make this quite clear.

The process for the manufacture of chlorinated biphenyls is a relatively simple, high-yield reaction with no inherently difficult emission problems. There are no stack gasses or water streams which are in contact with the product during the manufacturing process. Control of emissions is therefore concerned with prevention of leakage and spillage and safe disposal of any material which may escape in this way. The following covers the major methods we use to control possible escape:

1. High priority is given to maintenance of pipes, joints, valves and pumps to avoid leakage.
2. Curbs and drip pans have been provided to collect any leaks from such equipment where trouble may possibly develop.
3. Continuing indoctrination of all plant personnel is practiced to be sure that they completely understand the importance of preventing losses to the environment. In our opinion, this is one of the key areas in any pollution control effort.
4. We are currently constructing catch basins in the main sewer of each of our chlorinated biphenyl plants as an added safety measure to collect any material which may pass the other safety devices.
5. Air emissions are virtually non-existent as the boiling point of chlorinated biphenyl is extremely high and it can, in fact, only be distilled under high vacuum. This means that vapors are easy to control and they are returned to the system by means of condensers.

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