

EW

February 14, 1950

Dr. Louis W. Spolyar, Director  
Division of Industrial Hygiene  
Indiana State Board of Health  
1098 West Michigan Street  
Indianapolis 7, Indiana

Dear Dr. Spolyar:

I enclose an application bulletin on our Aroclors. On page 19, there is a summary of almost all our toxicology information on this compound.

If the case you refer to is in Brazil, Indiana, our company has had some contact with the problem. This particular installation used a temporary heat transfer system, and thus did not make the installation air tight. This is contrary to our expressed instructions when Aroclor is to be used at elevated temperatures. Upon hearing of the illness, one of our development engineers went to the plant and gave his recommendations, and then I called the plant physician to try to obtain some idea of what the illnesses were. As far as I could determine, two men suffered from gastrointestinal upset. I suspected the possibility that the Aroclor fumes might have caused liver damage, but was unable to obtain this information over the phone. I was also unable to contact the employee's physician.

The toxicology of Aroclors is somewhat confused. The experimental work was done by Dr. Drinker at Harvard about 12 years ago, and was done in connection with chlorinated naphthylene, chlorinated diphenyl, and chlorinated diphenyl high boiler. Both of these last two are Aroclors. In the particular work at Harvard, Dr. Drinker found that Aroclor 1263, which means diphenyl chlorinated to 68%, was of low toxicity. The confusion existed in his findings that Aroclor 1254, which is the diphenyl chlorinated to only 54%, was considerably more toxic on inhalation. We did not supply him with this material, and I was never convinced that some error might not have been made in the sample.

At any rate, we have advised protection against all Aroclor fumes when an elevated temperature is used. I will appreciate it if you will let me know the result of your investigation, if one is to be made.

Very truly yours

R. Emmet Kelly, M.D.  
Medical Director

RFK:rg

B CC: Mr. Paul Benignus  
St. Louis

M11678

From **MONSANTO CHEMICAL COMPANY**

At St. Louis

- 4 SEP 1953

Date September 1, 1953

To Mr. E. Mather

Reference Your memo to  
ATB - 8/11/53

At Ruabon

Subject **AROCLORS: TOXICITY**

cc Mr. T.K. Smith - 7  
Mr. A.T. Beaugregard - 7  
Mr. P. G. Benignus - 7  
Dr. J.W. Barrett - London  
Dr. J.A. Gardner, - Fulmer  
Mr. J.P. Stickleley - KKOK  
Dr. N.B. Dyson - Newport

Mr. Beaugregard has asked the Medical Department to comment on your letter referred to above.

As I am sure you know, Aroclors cannot be considered nontoxic. The interpretation of the toxic properties of a compound, however, determine whether or not there is any hazard associated with the specific use of a compound. To my knowledge, there is no hazard involved in the use of transformers containing Aroclors as a substitute for other materials. To my understanding, in the United States this application of Aroclors is widely accepted and has not resulted in any difficulty from a toxicological standpoint.

I cannot state whether or not a flash discharge might generate phosgene. I believe, however, that any phosgene so generated would be in a very small proportion to the total smoke and fumes resulting from the discharges. In instances where Aroclor, as a heat exchange medium, has been subjected to fire and high temperature after a leak in equipment, the clouds of breakdown products have been highly irritating but probably no more so than one would expect from the burning of any type of industrial oil or chemical.

I'm sure that Mr. Benignus will answer your questions relative to the effect of Aroclor on insulating materials, when he returns from his vacation next week.

As you indicated, we are watching the use of the Aroclors as plasticizers in emulsion paints. We do not recommend that they be used in paints which might be applied in confined or unventilated areas, particularly if the paints might be used on heated surfaces. As you stated, this is a case of worrying about the exposure of painters who might apply such materials day in and day out rather than the worrying about those who might occupy the room during or shortly after the paint has been applied.

*EPW*  
Elmer P. Wheeler

EPW:SMB

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EXHIBIT 12