

T/F Insects Domestic
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Dr. E. W. Laake
U. S. Dept. of Agriculture
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Aroclors and MB-40

Dear Doctor Laake:

During a recent trip to Washington, we had opportunity to discuss with Dr. E. E. Knippling the work done with Aroclors at Orlando, Florida, as leucicides, miticides, larvicides and mosquito repellents given in the USDA Report E-733.

Particularly the lower chlorinated Aroclors, including Aroclor 1248, showed promising results. Our thoughts concern the possible use of liquid Aroclors as an auxiliary solvent for DDT and other insecticides in various formulations. Because of their unusual chemical stability, the Aroclors may give longer lasting value as miticides and larvicides than obtained from the other toxicants.

In accordance with Dr. Knippling's suggestions, we are sending you without charge one gallon each of Aroclors 1221, 1232, 1242 and 1248 and also one gallon of MB-40. Our laboratory is scheduled to determine the solubility of DDT in the various Aroclors and also check the similar solubility in MB-40. It is our understanding that MB-40 will dissolve about 20 percent by weight of DDT. MB-40 is considered to be relatively non-phytotoxic.

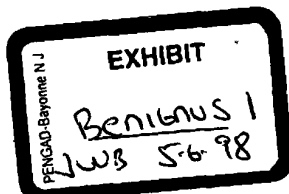
We are enclosing a copy of our Mammoth Technical Bulletin No. P-115 describing the physical constants of the Aroclors as given on pages 4 and 5 of this bulletin. We are also enclosing a copy of our Bulletin No. P-104, giving the physical constants for MB-40.

The following comments will indicate the toxicity of Aroclors and MB-40:

The toxicity of MB-40 when administered orally to rabbits and rats, is low and practically insignificant. Unpublished experimental results reported from reliable sources indicate that rats and rabbits survived single doses of 25 grams per kilogram of body weight. Rats survived the daily feeding of quantities

*HB 40
1221
1232
Armitage*

*1242
1248
Plans
B*



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equivalent to 6 grams per kilogram of body weight over a period of four months. However, the animals failed to gain weight at a normal rate, in indication of some deleterious effect from such large dosages of the material.

The toxicity of Aroclors appears to vary considerably with reference to the individual chlorinated biphenyl or terphenyl compound. From an industrial standpoint, the greatest concern deals with the vapors emitted from Aroclor when the materials are heated to higher temperatures. The vapors of the lower chlorinated Aroclors should not be breathed, and it is believed that about 0.5 mg. per cubic meter of air is the maximum amount permissible for safety in workrooms. However, in the case of more highly chlorinated Aroclors, such as Aroclor 1268 which is 68 percent chlorinated biphenyl, this material has been reported from reliable sources as being relatively non-toxic.

We have had occasion to study the possible dermatology of Aroclor 5460. It was determined by the skin patch test procedure given by Dr. Louis Schwartz and Dr. Samuel M. Peck in Reprint No. 2552 from the Public Health Reports, Vol. 59, No. 17 (April 28, 1944) that cotton fabric coated with Aroclor 5460 and an oil modified alkyl resin in such a manner that each square inch of fabric contained 10.5 mg. of Aroclor 5460, was neither a skin irritant nor a sensitizer.

As you probably know, millions of pounds of Aroclors are used annually in a wide variety of industrial applications. In this connection, when the Aroclors are used at normal temperatures we have not had any reports about toxicity hazards arising.

Believing that you will want to know about the selling price for Aroclors, we quote these products at 18 cents a pound in car lot quantity, f.o.b. Monsanto, Illinois or Anniston, Alabama.

MB-40 is quoted at 17 cents a pound in tank cars and 18½ cents in less car lot--drums, f.o.b. Anniston, Alabama.

Doubtless you and Mr. Knipping will have in mind some specific applications concerning the Aroclors and MB-40, and we will appreciate it if you will keep us posted along these lines and please let us know whether we can be of assistance to you with the application of these materials.

Yours very truly,

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F. G. Benignus
Development Department

c: Dr. F. I. Knipping
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