

Monsanto

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FROM: NAME & LOCATION:

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DATE: April 13, 1977

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SUBJECT:

REFERENCE:

TO: FILE

Summary of the Hearings at Michigan Department of Agriculture, April 12, 1977, regarding Dow Chemical's request for lifting the suspension on Dowicide EC-7 (purified PENTA) in Michigan.

The State of Michigan ordered a suspension of pentachlorophenol use on March 11, 1977, and on March 28, Dow requested a hearing to lift the suspension on their product, Dowicide EC-7. EC-7 is a purified penta in which the dioxin level and presumably other impurities have been reduced.

Dr. Donald R. Isleib chaired the hearing. At the outset of the meeting Dr. George Whiteheat, Michigan Department of Agriculture, presented a chronology of the problems associated with several herds of cattle which led up to their imposing the ban on penta. This presentation was very brief and could not be considered as a vigorous defense or justification for imposing the ban.

Dow then presented their case on why the ban should be lifted on EC-7. Dow's arguments were in four categories: Toxicology; Analytical; Use Technology; and Economic Consequences. They had separate witnesses present in each of these four areas. This main argument was that Dowicide EC-7 did not present an imminent hazard in the State of Michigan.

TOXICITY

Dr. Perry J. Gehring, Director of Dow's Toxicological Laboratory, discussed data on laboratory tests comparing the toxicity of technical versus purified penta, concluding that a level of 50 ppm maximum total dioxins in EC-7 type material eliminated any toxic response in their most sensitive laboratory tests - rabbit ears and chick edema. Dr. Gehring then related the observed effects noted in the LeMunyon herd to known effects of dioxins. This part of his presentation was strictly second hand, most obtained from discussions with the state investigating group who observed the LeMunyon herd. The overall thrust of this presentation was that penta with minimal levels of dioxin would eliminate the problems observed in Michigan cows. Dr. Gehring also remarked that the LeMunyon situation appeared to be an unusual case in that there was evidence of an oily film exuding from the treated wood and indicated that this is not typical penta treated wood. Regarding the 50 ppm limit needed for no effect levels, he stated that about 40 ppm was octachlorodioxins, .9 ppm was hexa, and the balance was hepta and furans.

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ANALYTICAL

Dr. Rudolph H. Stehl, Dow's Analytical Department, discussed analytical methods for EC-7. Dow uses GC for analysis of chlorophenols and LC for chlorinated dioxins. Dow analyzed milk samples from the six farms whose milk had been quarantined and, although one sample appeared "suspicious", the net conclusion was that they could not find either penta to a detectable limit of 5-10 ppb or dioxins to a detection limit of 20-25 ppt in any of the milk samples.

Dr. Stehl also discussed Dow's quality control procedures for dioxins in commercial EC-7 and indicated that they only analyze for dioxins and not for other impurities, e.g., furans. In answer to a question on which chlorodioxin isomers Dow used as standards, Dr. Stehl stated that their GC/MS method detects all isomers more or less equivalently; of the 10 possible hexa isomers, six had given equivalent response by this method. He also stated that they had been unable to find any tetrachlorodioxins in any penta, technical or refined, down to a level .5 to 1 ppb.

USE TECHNOLOGY

Dr. Robert L. Johnson, Senior Research Specialist for Dow, discussed the difference between Dovicide 7 and EC-7. EC-7 is essentially 100% chlorinated phenols, whereas Dovicide 7 is about 96%. EC-7 has a higher tetra chlorophenol content in order to insure solubility. Dr. Johnson discussed alternates to penta; creosotes, and arsenicals, indicating the deficiencies of each of these alternates. He also discussed the wood treating industry in general, mentioning that it was estimated that wood treating saved \$5 Billion per year and that treated wood would last seven years or more, compared to two years or less for untreated wood. He also discussed their analysis of wood from the LeMunyon farm in which they found 6 to 15 ppm octachlorodioxins, 6 to 7 ppm heptachlorodioxins and 0.5% penta; all based on the weight of the wood. On the basis of these dioxin contents relative to the penta content, Dr. Johnson maintained that the wood on the LeMunyon farm could not have been treated with EC-7.

Dr. Johnson stated that although Dow had a specification of 30 ppm maximum on octachlorodioxins, their product actually was far lower than this level. Regarding the solvents used with penta, Dr. Johnson indicated that Dow had no knowledge of the toxicity of most of the solvents which were highboiling petroleum products containing significant amounts of aromatics. He did indicate that Dow recommends the use of methylene chloride as a solvent and that its toxicity is known; but that most wood treaters used highboiling petroleum based solvents.

ECONOMIC CONSEQUENCES

Mr. Marvin E. Winquist, Dow's Business Manager for Penta, reported that Dow stopped producing Dovicide 7 in December '75, and since that time have only produced Dovicide EC-7. He stated that an additional step was needed to produce the EC-7 material and that this added approximately 10 to 15% to the cost of penta. He also said that very few people had been willing to pay extra for the purified product. Mr. Winquist reviewed the history of Dow's concerns about dioxins starting in the 1960's with the product 2,4,5-T. Dow's EC-7 plant has been on stream since mid 1973.

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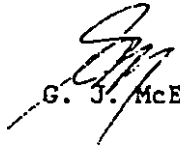
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He stated that Dow had previously expressed a willingness to license their technology for producing the purified penta to other penta producers, but that none of the other producers had indicated a desire to license. The other producers were mentioned as Reichhold, Vulcan and Monsanto. He estimated that it would probably take other producers two to three years to come on stream with a purified product, once they decided to produce such a material. He also indicated that Dow could supply enough EC-7 for all of the Michigan requirements.

Mr. James Tracey, an Attorney, represented Reichhold and Vulcan for the hearings. Both before and after the hearing, he contended it was inappropriate for the State to act on the petition of one producer, but that according to the statutes under which the State suspended penta on an emergency basis, they were required to hold a public hearing to present the reasons for imposing the ban. The State Hearing Officer held the hearing in any event, but will probably resolve the question of the State's obligations to present the case for the suspension. He did indicate to Mr. Tracey that he could request a judicial review of the hearing. The Hearing Officer concluded the hearing by stating that he would study the evidence presented by Dow and make a recommendation to the State Department of Agriculture on whether the ban should be lifted for an EC-7 type product. The hearing lasted from 1:00 P.M. to 3:40 P.M.


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