Monsanto

FROM (NAME & LOCATION): C. N. Keeney - Galt Labs - 1730

DATE: July 14, 1977

SUBJECT: ADHESIVE DEVELOPMENT PROJECT

REFERENCE:

TO: C. M. Rector
1180

CC:
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Clem, your letter of July 8, 1977 re the Adhesive Development Project is a good one and is the type of communication that is needed from the field in greater frequency. This type of communication gives us a better feel for customer needs and problems and, therefore, aids us in more effectively directing our research activities.

You mentioned three areas of investigation that might improve Santicizer 160 for use in packaging and construction adhesive applications.

1. Sulfonamides - The question was asked, "Are there any sidestream by-products off the sulfonamide unit that could be used to modify Santicizer 160?" This question was directed to Bob Radue who is involved in sulfonamide process work. He stated that there is no sidestream product off the sulfonamide process that could be used to modify Santicizer 160 for adhesive uses. There is, in fact, an ongoing program within Monsanto to change processes that have waste product sidestreams to processes that have little, or preferably no, by-product sidestream(s) at all.

2. Texanol Isobutyrate - The possibility of blending TXIB with Santicizer 160 was proposed in your memo, and it was stated that Ajax Adhesives blends it with Benzoflex 50.
The attached technical bulletin was recently received from Eastman which contains data showing properties that TXIB blended with either Santicizer 160, Benzoflex 9-88 or DBP impart to two different adhesives systems. The major benefit derived through blending TXIB with the three plasticizers is a reduction in plasticizer costs while properties such as viscosity, set time and dry film clarity are neither enhanced or harmed. It is thought, at this point, that the blending of Santicizer 160 with TXIB approach would fail to improve the performance of Santicizer 160 in PVAc emulsion adhesives outside of reducing cost.

3. Diethyl and Dimethyl Phthalate - It is planned to look at blends of Santicizer 160, DEP and DMP after programs currently in progress are completed.

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Regarding adhesives work that is underway now, two projects are beginning to reveal interesting results which favor Santicizer 160. One study involving viscosity stability of Santicizer 160 in Duracet 30 PVAc emulsion is revealing that there is no stability problem after three weeks aging at room temperature. Santicizer 160 is being compared to Benzoflex 9-88 and both plasticizers produce identical viscosities in Duracet 30, and show no upward drift in viscosity from one day to three weeks. The study is scheduled to extend through 35 days at which time a complete report will be issued. Also, a more exhaustive viscosity study will be initiated shortly where Santicizer 160 will be compared to major competitors in twelve different PVAc emulsions.

Another study which is currently underway is yielding data which gives clues to kinds of materials that can be blended with Santicizer 160 which will give rapid initial viscosity increase. The rapid increase in viscosity would enable manufacturers to add more water to their formulas in order to reduce cost.

As these projects are completed, reports will be written and issued. Cle, if you have further thoughts and ideas relating to adhesives, please call or write because your relevant input is needed and welcome.

C. N. Keeney

CNK/g1s
attach.

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