

MONSANTO CHEMICAL COMPANY
Texas City, Texas

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Storage of Uninhibited
Vinyl Chloride Monomer

TO: R. J. Green
St. Louis, Missouri

cc: R. L. Browning
J. M. Chamberlin/W. R. Nisbet
C. L. Gilmore
J. G. McQuarrie/55% Shirley
J. L. Price
G. T. Ryan
W. F. Zimmermann/
J. W. Kongable

Your memo of February 9 stated that F.I.A. had asked what information we had developed which assured us storage of uninhibited VCM was safe. F.I.A. indicated their particular concern was that "violent polymerization" might occur in our storage tanks if they were exposed to a fire.

Frankly, we feel that there is no hazard as regards a violent uncontrolled polymerization. Based on Monsanto research and experience, VCM simply is not sufficiently reactive for this to occur. We have had no indication that temperature alone will cause even a significant increase in polymerization. Our Research Department has run tests of VCM storage at 122°-127°F for up to eight weeks with no sign of polymer formation. Other tests here at 212°F for shorter periods indicated no deleterious effects. These tests were run on high purity product which has, relatively speaking, a very high polymerization rate.

Further, our VCM storage spheres have adequate pressure relief protection. In case of fire, maximum internal pressure developed would be 120 psig, and probably less since the valves would start relieving at 100 psig. At 120 psig, the boiling liquid temperature would be about 134°F.

In view of the above, I believe you can see why we are not concerned about runaway polymerization of uninhibited VCM in storage or in shipments. In fact, our tests were made because of concern for product possibly going out-of-specification in storage - - - not because we had any fear of a polymerization hazard. Incidentally, we are informed that storage and shipment of uninhibited VCM has been common practice in Europe for years.

Please excuse the delayed answer, but as I told you by phone, we were delaying a reply in order to run the tests at 212°F.

If there are any questions, please let us know.

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E. R. Hendrick
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