

To S. Blitzer, R. A. Kehoe, T. S. Taylor

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Subject: _____

I thought you might be interested in

this further bit of information on the toxicity
of inorganic manganese compounds.

From _____

H. Shapiro
H. Shapiro

Date 11/27/56

40-403

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ETHYL CORPORATION

INTER-OFFICE CORRESPONDENCE

TO Dr. A. S. Hawkes ADDRESS Detroit

FROM Rex D. Closson ADDRESS Detroit

SUBJECT Manganese Toxicity DATE October 24, 1956

The purpose of this memorandum is to give wider distribution to some information on manganese toxicity which Dr. T. H. Coffield picked up at the 130th ACS meeting at Atlantic City. The information as reported in his contact report from the meeting follows:

"Dr. George Coleman of Wayne State University gave some interesting information on manganese poisoning. A staff member, Dr. Albert Boyle (M.D., Ph.D.), has recently returned from Cuba where he conferred on poisoning of workers mining and handling manganese ore. Briefly, the ore dust is taken into the lungs and through body processes divalent manganese assimilated into the system. The assimilation is cumulative and after a sufficient period a slow paralysis begins. The final result is a complete paralysis. The mechanism of attack is presumed to be similar to that experienced with nerve gases. This would involve interference with the transmission of impulses at the nerve synapses by manganese ion.

Dr. Boyle is studying eliminating the paralysis through removal of the ion by chelating agents and has had some success. It is interesting to note that only divalent manganese, the ion used as starting material in our AP-3 synthesis, causes the poisoning."

R. D. Closson
R. D. Closson

RDC:deb

cc: W. G. Lovell
F. J. Schroeter
C. J. Sprunk
R. Sugimoto
Central Files

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