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C. 03804

April 20, 1976

J. B. LYMAN
MAR. LAB

*Krivanek -
Please handle
(see p. 2). It sounds
like we have done a
lit. search & there is
nothing otherwise known,*

CALCINED METALLIC OXIDE PIGMENTS

We have had several inquiries as to whether nickel antimony titanate and chromium antimony titanate pigments (such as W-629 and W-694 for example) can be safely used as replacements for lead or zinc chromate pigments. Both are currently used but in relatively small quantities.

Toxicity data supplied by Shepherd Chemical, Siegle & Company, and Hercules has not been very useful. Siegle's statement that hot water extraction did not yield any hexavalent chromium proves nothing. I doubt that lead chromate would yield much hexavalent chromium under similar test conditions.

Haskell Lab has conducted a search and found nothing on the carcinogenic activity of these pigments. (However, the National Cancer Institute reportedly is testing nickel titanate.) An Ames mutagen test is not appropriate for heavy metals. An implantation study could be conducted but this would be expensive and of questionable validity. At the moment, it appears that the only way to determine the carcinogenic potential of these pigments is by a 2 year exposure study in animals. This would take nearly 3 years to complete and cost \$200-300,000. Perhaps the pigment manufacturers could be persuaded to jointly sponsor such a test.

In the meantime, we can only say that no evidence of carcinogenic activity has been found. Good industrial hygiene practices should be observed in handling these pigments.

E. E. Swain

EES/bjr

E. E. SWAIN

*but ~~not~~ the most
information but probably
no long term tests
done. I
guess the
last of on
p. 1 states
the case
OK.*

*Buy
4/25/76*

- 2 -

P.S. to B. C. McKusick - Haskell Lab

Do you see any need for restricting our usage of these and similar pigments? If so, please let me know promptly.

herald Cr

RECEIVED

APR 21 1976

HASKELL LAB.

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