

AKG330

**EASTMAN**

Eastman Chemical Company  
P. O. Box 431  
Kingsport, Tennessee 37662



May 7, 1998 BEHQ-98-14177

BEHQ - 0598 - 14177

Office of Pollution Prevention and Toxics  
U. S. Environmental Protection Agency  
401 M Street, S. W.  
Washington, DC 20460

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Attention: TSCA 8(e) Coordinator

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Dear Ladies/Gentlemen:

This letter is to inform you of the adverse health effects that are expected to be associated with repeated exposure to cyclopropanecarboxylic acid (CPC Acid). This possibility is based on repeated inhalation toxicity studies, previously submitted to the Agency under TSCA §8(e), performed on a series of chemically related materials.



2516-33-8 Preliminary results from 28-day inhalation toxicity studies, performed on cyclopropanemethanol (CPMO) and cyclopropanecarboxylic acid, methyl ester, 2868-37-3 (MCPC) and from a 90-day inhalation study done on cyclopropanecarboxaldehyde 1489-69-6 (CPCA) indicated that significant effects might result from exposure to CPC acid.

In the 28-day studies, groups of male and female Sprague-Dawley rats were exposed to, respectively, 35 (24), 100 (122), and 350 (244) ppm of CPMO (MCPC). All treatment animals were found to have heart damage (muscle fiber degeneration/necrosis, vacuolization, and myocarditis). A no-observed-effect level was not determined. Liver effects (cytoplasmic vacuolization) were also noted in all treatment groups. The liver effect may be an adaptive response as indicated by the absence of the effect in animals allowed to recover for 28-days following a 90-day exposure to CPCA.

In the 90-day study, some evidence of testicular damage was seen in male animals exposed to the mid- and high-dose of test material. The no-observed-effect level was determined to be 35 ppm. These same effects were only seen in the high-dose males in the 28-day studies. Some evidence of bone marrow effects were observed in high-dose male animals and in female animals exposed to the mid- and high concentrations of test material. The no-observed-effect level was again 35 ppm. These effects were seen in female animals exposed to the high-dose in the 28-day studies.

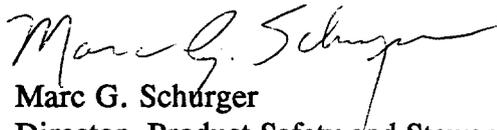
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From biochemical considerations, cyclopropanemethanol would be expected to be metabolized first to the aldehyde and then to the acid. The methyl ester would also be expected to be metabolized into the acid. Therefore, similar effects to those noted above would be expected to result from repeated exposures to CPC Acid. However, due to its corrosive properties of the acid, skin exposure would be expected to be minimal. The vapor pressure of CPC acid is low (0.29 mm Hg) in comparison to the alcohol, methyl ester, and aldehyde (4, 12.6 and 26 mm Hg at 20°C, respectively) and so exposure via inhalation would be less likely. Nevertheless, it is believed that CPC acid would have similar adverse effects to the substances tested.

Should you have technical questions about this submission, you should contact Karen R. Miller, Ph.D., of my staff, at (423) 229-1654.

Very truly yours,



Marc G. Schürger  
Director, Product Safety and Stewardship

cc: 8(e) file

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