

MCA

MANUFACTURING CHEMISTS ASSOCIATION

1825 CONNECTICUT AVENUE, N.W. WASHINGTON, D.C. 20009 (202) 483-6126

July 24, 1974

To: Technical Task Group on Vinyl Chloride Research

Subject: MCA Submissions for OSHA Hearing Record

Gentlemen:

In response to a number of requests made to industry witnesses at the vinyl chloride hearing, MCA has submitted for the hearing record, the documents itemized in the enclosed letter to OSHA.

Exhibit No. 10, the IBT status report presented by Dr. Torkelson at the New York Academy of Sciences meeting, is enclosed herewith. It will be published in the Annals of NYAS for that meeting.

Sincerely,



Kenneth D. Johnson, Ph.D.

Secretary

Technical Task Force on
Vinyl Chloride Research

KDJ/mb

Enclosures

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INTERIM RESULTS OF EXPOSURE OF
RATS, HAMSTERS AND MICE TO VINYL CHLORIDE

M. L. Keplinger, Ph.D.,
J. W. Goode, Ph.D.,
D. E. Gordon, D.V.M., Ph.D.
and
J. C. Calandra, M.D., Ph.D.

Industrial Bio-Test Laboratories, Inc.
Northbrook, Illinois

The following data are partial results of a study in progress at the Industrial Bio-Test Laboratories, Inc. The studies are being coordinated for sponsoring companies by the Manufacturing Chemists Association. The data are very incomplete but because of their significance were first presented to EPA, NIOSH and OSHA on April 15, 1974.

In this study which was designed to complement Maltoni's studies, 100 rats, hamsters and mice of each sex (600 total per exposure group) are being exposed to either 0, 2500, 200 or 50 ppm vinyl chloride vapor 7 hours per day 5 days per week. Mice will be exposed for 9 months and kept for an additional 9 months. Rats and hamsters will be exposed for 12 months and kept for an additional 12 months.

The rats are COBS Charles River; mice are CDI Swiss Charles River; and the hamsters are Golden Syrian from the same source. Food is removed during exposure, water is present and no bedding is used at any time.

Moribund and dead animals (when possible) receive gross autopsies and are photographed. The major organs of all animals are fixed for histological examination.

Only the tissues from a few animals have been examined so far. The table shows the results to date (about 8 months exposure).

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Note that no direct numerical comparisons can be made with the control groups as they have not been selected in the same way. Only mice with tumors have been examined in the exposure groups. No tumors have been observed grossly as yet in any of the control mice.

In addition to the tumors in mice a few tumors have been observed in rats and hamsters but because of autolysis the diagnosis at this time must be considered tentative. At this time it appears that angiosarcomas may have been observed in one male hamster and one male rat exposed to 2500 ppm and in one female rat exposed to 200 ppm. No tumors have been observed in rats or hamsters exposed to 50 ppm but one male control was found to have a dermal fibroma.

These tentative data need to be confirmed and will be reported in detail when the study is completed.

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INTERIM SUMMARY OF
TUMORS IN MICE EXPOSED TO VINYL CHLORIDE
FOR EIGHT MONTHS

EXPOSURE GROUP	NUMBER OF MORTALITIES WITH NEOPLASMS			LOCATION AND TYPE OF TUMOR			
				ALVEOGENIC ADENOMAS, LUNG	ANGIOSARCOMA, LIVER	ADENO SQUAMOUS CARCINOMA, MAMMARY	MAMMARY, WITH METASTASIS TO LUNGS
	TOTAL	MALE	FEMALE				
CONTROL	0	(7)	(2)	0	0	0	0
50 PPM**	4	1	3	2	2	2	2
200 PPM**	15	3	12	12	11	3	1
2500 PPM**	30	6	24	28	28	6	1

* 7 MALE AND 2 FEMALES CONTROL MICE HAVE BEEN EXAMINED HISTOLOGICALLY. NONE HAD TUMORS IN LIVER, KIDNEYS, HEARTS OR LUNGS.

** ONLY MICE WITH TUMORS HAVE BEEN EXAMINED HISTOGOGICALLY.

MICE WERE EXPOSED 7 HOURS/DAY, 5 DAYS/WEEK.

Preliminary Findings
from MCA Administered Study at
Industrial Bio-Test Laboratory

April, 1974