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8EHQ-1177-0019

DOW BADISCHE

DOW BADISCHE COMPANY

WILLIAMSBURG, VIRGINIA 23185

8EHQ-0000-0019

November 7, 1977

Director,
Office of Toxic Substances (WH-557)
U.S. Environmental Protection Agency
401 M. Street SW
Washington, DC 20460

Dear Sir:

This letter reports new toxicity information which is being submitted in accordance with Section 8(e) of the Toxic Substances Control Act (TSCA) (Pub. L. 94-469, 90 Stat. 2029, 15 U.S.C. 2607).

The information attached has been sent to the agencies shown on page 2.

Please contact me if more details are desired.

Very truly yours,

vinyl bromide
(593-60-2)

L. G. Silverstein
Director
Industrial Hygiene

att.

LGS:tc

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2

88-7700019

DOW BADISCHE COMPANY
WILLIAMSBURG PLANT
WILLIAMSBURG, VIRGINIA 23185
703 887-6000

November 1, 1977

VINYL BROMIDE ANIMAL STUDY -- ONE-YEAR REPORT

When vinyl chloride was shown to cause a rare liver tumor (angiosarcoma), Dow Badische joined with three other companies to sponsor a two-year animal study on vinyl bromide.

The one-year progress report, recently received, shows some rats have developed the same type of tumor after exposure to high doses [1,250 and 250 ppm (parts per million VBr in air)]. No tumors have been found in rats exposed to lower dose levels (50 and 10 ppm).

The study has another year to run before conclusions can be drawn, especially on the effects of lower dose levels.

No changes in plant operations or work practices are needed because VBr exposures have for many years been many times lower than the OSHA Standard of 250 ppm. Exposures are below 0.1 ppm routinely.

Plant rules now in effect for acrylonitrile also minimize VBr exposure. Respirators must be worn as specified, leaks and spills must be corrected promptly, and plant ventilation must not be altered or turned off.

In summary, rats exposed to high levels of VBr have shown tumors, not seen at lower dose levels. This new finding does not indicate any significant risk because plant levels are many times lower than test levels. It does re-emphasize the need to minimize exposures by conscientious adherence to plant rules on personal protection.

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3

88-770009

November 2, 1977

MEMO TO: Dow
Dow Badische
Ethyl Corporation
Monsanto Company

FROM: VBr Task Force Committee

SUBJECT: Summary statement of vinyl bromide two year chronic toxicity study from the 12 month interim report

A jointly sponsored 24 month Inhalation study initiated in 1976 with Vinyl Bromide in Charles River Sprague-Dawley rats is being conducted at Huntingdon Research Center with exposure concentrations of 0, 1250, 250, 50 and 10 ppm on a 6 hour per day 5 day per week basis. The sponsoring companies are Dow, Dow Badische, Ethyl, and Monsanto.

Preliminary results from the 12 month interim report prepared by Huntingdon Research Center indicate several manifestations of vinyl bromide toxicity at the two highest exposure concentrations of 1250 and 250 ppm. These effects include increased mortality, decreased body weight gain and an increase in incidence of certain neoplasms including angiosarcoma of the liver and tumors of Zymbal's gland. There was a dose response in the occurrence of these effects. No adverse effects were observed at the exposure concentrations of 50 and 10 ppm at the 12 month interim.

88-770001?

DOW BADISCHE COMPANY

WILLIAMSBURG, VIRGINIA 23185

November 4, 1977

STATEMENT ON VINYL BROMIDE

New information on the toxicity of vinyl bromide (CAS Registry No. 593-60-2) is summarized in the memo attached. Please note that it is an interim report after one year of an ongoing two-year study.

The sponsoring companies agreed to report individually so that each could include specific information on actions taken.

Dow badische notified employees on November 1, 1977 (letter attached).

Vinyl bromide (VBr) is used in only one location, at Williamsburg, Virginia, as one of the monomers in the production of acrylic carpet fibers. There are currently thirty-two employees in the job classifications which involve routine potential exposure to VBr.

Measurements since 1972 have shown consistently, time-weighted average exposures of less than one-tenth ppm during normal operations.

Respirators are provided and employees are required to wear them during certain non-routine tasks, and for upset conditions such as spills and leaks.

The employees involved have received a medical screening examination this year. No job-related findings have been reported. There have been no miedical visits or treatments related to VBr.

In regard to VBr monomer in the finished products, its high volatility and process conditions (washing and drying at elevated temperatures), should drive off any free monomer. Limited laboratory tests (with a detection limit of two ppm by weight) have failed to detect any extractable VBr in products. Tests currently being done are expected to yield a detection limit of 0.4 ppm or less.

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5

88-770009

November 4, 1977

We will keep you advised as further information becomes available.

L. G. Silverstein

L. G. Silverstein
Director of Industrial Hygiene
Dow Badische Company
P.O. Drawer D
Williamsburg, VA 23185
Phone: 804-887-6766

cc: Dr. John Hilcken
Toxic Substances Information Bureau
State Health Department
109 Governor Street
Richmond, Virginia 23219

Dr. Eula Bingham
Assistant Secretary of Labor
for Occupational Safety & Health
U.S. Department of Labor
Third Street and Constitution Avenue NW
Washington, DC 20210

John F. Finklea, MD
Department of Health, Education and Welfare
National Institute for Occupational Safety & Health
5600 Fishers Lane
Rockville, MD 20852

Director,
Office of Toxic Substances (WH-557)
U. S. Environmental Protection Agency
401 M. Street SW
Washington, DC 20460

att.

LGS:tc

6

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: January 12, 1978

SUBJECT: Status Report 8E-1177-0019

FROM: V. J. DeCarlo, Supervisor
Special Actions, OTS (WH-557)

TO: Steven Jellinek, Assistant Administrator
for Toxic Substances, OTS (WH-557)

Background

1. Problem Preliminary data from a 2-year rat inhalation study indicate that vinyl bromide produces the same type of pathological lesions as vinyl chloride.

2. Toxicological Evaluation The results to date are not surprising. A limited evaluation was performed. The study in progress seems to be excellent.

3. Current Production and Use Vinyl bromide is produced in small quantities by five companies, with the largest producer reporting production under 1.5 million pounds per year. It is used as a flame retardant in acrylic, polyvinyl acetate, and polyvinyl chloride materials.

Recommendations

The final report will be available in 12 months. Considering the low level of production, no further analysis is warranted until the final report is received.

Future Actions

None at the present time.
(Signed copy of V. J. DeCarlo memo is in file; retyped for publication May 10, 1979.)

NOTE: This status report is the result of a preliminary staff evaluation of information submitted to EPA under Section 8(e) of TSCA. Statements made herein are not to be regarded as expressing final Agency policy or intent with respect to this particular chemical. Any review of the status report should take into consideration the fact that it may be based on incomplete information.

8EHQ-1177-0019

Responsibility for Section 8(e) of TSCA was transferred from Special Actions to the Assessment Division on February 15, 1978. The following Comments/Recommendations were contained in a memo dated March 28, 1978, from Frank D. Kover, Acting Director of the Assessment Division, to Warren R. Muir, Deputy Assistant Administrator for Testing and Evaluation, OTS.

Comments/Recommendations

A CHIP report on vinyl bromide is available from the Assessment Division. It is unfortunate that these results were not forwarded on a more timely basis to the old Hazard Assessment Group for CHIP consideration; as it was, HAG did not receive a copy until January 1978, over 2 months after Special Actions received the report. AD is presently considering testing vinyl bromide-based flame-resistant fabrics for residual vinyl bromide monomer content.