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E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE 19898

PLASTIC PRODUCTS AND RESINS DEPARTMENT

PERSONAL & CONFIDENTIAL

August 9, 1978

W. A. BOWER
WASHINGTON WORKS

MEDICAL SURVEILLANCE PROGRAMS

The attached letter response of August 3 from Dr. Karrh summarizes his recommendations applicable to both C-8 and Telomer-A at Washington Works. Copies of the July 24 and June 16 letters, to which he refers, are appended also. It is assumed that the plant physicians will contact Dr. Karrh directly with any questions and in connection with medical record reviews.

R. M. SHEPHERD
ENERGY & ENVIRONMENTAL AFFAIRS
MANUFACTURING DIVISION

RMS:ldb
Attachment

EID080236



E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE

EMPLOYEE RELATIONS DEPARTMENT

August 3, 1978

R. M. SHEPHERD
PP&R
D-12019

**C-8 EXPOSURE -- WASHINGTON WORKS
MEDICAL SURVEILLANCE PROGRAM**

Reference R.M.Shepherd to B.W. Karrh, July 31, 1978

I had received a copy of your letter to H. Moncure, and Dr. Foderaro had contacted Dr. Alvarado at Washington Works. The plan they agreed to was for Dr. Alvarado to review the medical records of employees who had been identified as previously having been exposed to C-8 compounds. He would be searching for any findings that could possibly be related to occupational factors. We have not heard from Dr. Alvarado nor have we followed up.

The Medical Division recommends that employees potentially exposed to C-8 at the Washington Works have the same medical surveillance program as was outlined in my July 24 letter to F. E. French. You will note this is our regular periodic examination and should be conducted at the same frequency, consistent with the Company's periodic examination program. There are no recommendations for special testing nor for an increased frequency of examinations for employees working with C-8. The only other recommendation is for those employees identified as having had potential exposure to these compounds ~~to~~ to have the blood test for fluorochemicals. However, these tests should not be done until we have established the background level of fluorochemicals present in the blood of nonexposed persons. We will do this in the Medical Division as soon as Jackson Laboratory can take our blood specimens.

You also inquire regarding my June 16 letter to F. E. French about the applicability and status of the recommendations for Du Pont employees whose jobs have potential for exposures to similar fluorochemicals. I recommend that Washington Works follow the same seven action points as outlined in that letter. However, you will recognize that Action Point 4 will be done by the Medical Division.

Please contact me should you have additional questions or comments.

EID080237

BWK/ag

Bruce W. Karrh
BRUCE W. KARRH, M.D.

THERE'S A WORLD OF THINGS WE ARE DOING SOMETHING ABOUT

000131

*Dr. French
re: letter to
Summary*

*No change
from present*

*For this
discovery
Karrh to
advise us*

*9/11
Fluorobenzene
examined
7/1/78*



E. I. DU PONT DE NEMOURS & COMPANY
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EMPLOYEE RELATIONS DEPARTMENT

July 24, 1978

F. E. FRENCH
CD&P

MEDICAL EXAMINATIONS FOR FLUOROchemical WORKERS

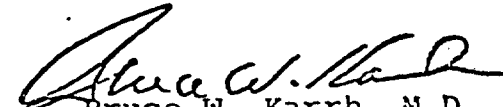
3M's physical examination program for workers potentially exposed to fluorochemicals was somewhat less extensive than our routine periodic examination with one exception. A few 3M employees, selected because their jobs had the greatest potential for fluorochemical exposure, received special x-rays of the pelvis to determine if there was thickening of the bones consistent with fluorosis. Incidentally, these x-rays were negative.

Our medical surveillance examinations for fluorochemical workers should be the regular Du Pont periodic physical examination consisting of

- o a health history questionnaire,
- o an examination by or under the supervision of a physician,
- o urinalysis
- o 12 blood chemistry tests (glucose, BUN, SGOT, LDH, alkaline phosphatase, bilirubin, total protein with albumin and globulin, calcium, phosphorus, creatinine, uric acid, cholesterol)
- o 7 hematology tests (white and red blood cell counts, hemoglobin, Hematocrit, and red blood cell indices,
- o vision test,
- o audiogram,
- o 14 x 17 postero-anterior chest x-ray,
- o Height, weight, blood pressure, and pulse,
- o Screening pulmonary function tests (FEV₁ and FVC)
- o Electrocardiograms at the routine intervals.

I recommend we not include special x-ray examinations.

BWK/ag


Bruce W. Karrh, M.D.

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T. W. Hanavan, Legal
H. Moncure, PP&R
S. Pell, ERD
J. Foderaro, M.D.
B. C. McKusick, CR&D

EMPLOYEE RELATIONS DEPARTMENT

June 16, 1978

F. E. FRENCH
CD&P
B 17264

FLUOROchemicals IN BLOOD

3M has reported finding FC143, plus other unidentified fluorochemicals in the blood of potentially exposed workers. As yet, no adverse health effect has been detected in these workers and the significance of these findings is unknown. These chemicals have also been detected by tests on the workers' urine, with good correlation with the blood test results but in very small quantities. Similar tests have not been done on the general population, although a few tests have been done on plant office workers.

The Medical Division recommends the following course of action for Du Pont employees whose jobs have potential for exposure to Telomer A and its non-polymeric derivatives.

1. Review all current operations and industrial hygiene controls to insure that the potentials for exposures are properly controlled.
2. Identify all employees who currently work or have worked jobs in which there is or was potential for exposure to fluorochemicals.
3. Review the medical records of all such persons still employed by Du Pont, looking for consistent or unusual health occurrences or trends.
4. Obtain blood fluorochemical levels on persons who have never had potential for occupational exposure to fluorochemicals to establish background levels for a baseline. These tests can be obtained on Wilmington office employees as a part of the periodic physical examinations given in the Nemours Medical facility.
5. Obtain blood fluorochemical levels on representative employees with various potentials for exposures to various fluorochemicals. If this is done at the same

Done

*Done
Report being typed*

*Wilmington
Medical*

*As soon as
test is ready*

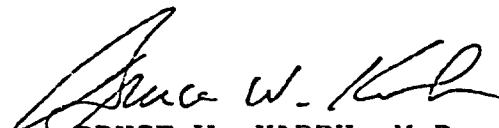
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time as the employee's periodic physical examination, a comprehensive examination should be done with careful documentation of the results. A urine specimen should be obtained for later analysis for fluorochemical level in the event the blood level is markedly elevated.

- 71 be determined
6. Review the physical findings of the workers examined for consistent or unusual health occurrences or trends. When such occurrences or trends are found and appear to be significant, consideration should be given to conducting similar physical and blood examinations on non-exposed controls for comparison.
7. If the period of potential exposure has been of sufficient duration and there is a sufficient number of employees, an epidemiologic study of the mortality of the cohort identified may be considered. A determination can be made of the likelihood of having a meaningful study after the number of previously exposed employees is determined.
- To be determined
would have been done by Dr. Bill Green

The Medical Division recommends proceeding with this study in order as presented. However, we will need at least two days to obtain proper supplies and inform our technicians of the study and how to discuss the study with the employees.

BWK/ag


BRUCE W. KARRH, M.D.
MEDICAL DIRECTOR