

UNION CARBIDE CORPORATION
500 ROXBURY ROAD DANBURY, CONNECTICUT 06810
LAW DEPARTMENT

RECEIVED
JAN 18 1985
C. E. VAN DYK

January 18, 1985

C. E. Van Dyk
E2-289

Re: Coordination of Polyvinyl chloride cases

I will need a paralegal to do the following:

1. Check the law department monthly reports for cases involving polyvinyl chloride.
2. Review the relevant files and index them. I am interested in flagging Union Carbide's answers to interrogatories, medical literature and studies concerning polyvinyl chloride, deposition or trial transcripts or summaries of testimony by Union Carbide personnel, deposition or trial transcripts or summaries of testimony by medical experts.
3. The polyvinyl chloride cases that should be reviewed include: Edith Bumbarger, Eugene Maliko, Stanley Mikyska, Ross Hart, Catherine Hassey, Carol Stillo, Kenneth Grimm, Priscilla Lee, and Nicolina Sireci.

DRRT LANC

If you have any questions, feel free to contact me.

Very truly yours,

M.J.F.

Martha J. Friar

MJF:mh

cc: R. A. Butler - E3-262

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⑤ Amstar - California new opens
one

① Kenneth Hurin ^{did}

② Pussilla Lee ^{did}

③ Carol Stillo

④ Nicola Succi

have this for last
open cases
MTF -

Bunbarger
Maliko
Myksa

MTF's office -

make / data sheets
copy into file
in separate place

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UNION CARBIDE CORPORATION
OLD EDGEBURY ROAD, DANFORTH, ONTARIO
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3. The polyvinyl chloride cases that should be reviewed include: Edith Bumbarger, Eugene Maliko, Stanley Mikyska, Ross Hart, Catherine Hassey, Carol Stillo, Kenneth Grimm, Priscilla Lee, and Nicolina Sireci. *APPT LAMCO*

If you have any questions, feel free to contact me.

Very truly yours,

M.J.F.

Martha J. Friar

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cc: R. A. Butler - E3-262

The articles I need should appear to index if they are scientific or medically related to PVC. Tab each and check off list.

I also need UCC answers to interrogatories (except for Mikyska, Bumbarger, & Lee - already done)

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index is chronologically ordered - 3 categories

A. Health-related Effects of PVC/VC

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✓ Toth, Bela, "Tumorigenicity of B Phenylethylhydrazine Sulfate in Mice", Cancer Research, pp. 917-920, (1975)

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C. Depositions and Reports by Medical Personnel

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Sorin, Steven B., pp. 1-2, (August 31, 1982)

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Wheeler files

called secy to
wheeler

8-721-2164 } Martha Fran

9/12 Sent to Mrs. Van Dyke -
Vinyl chloride 11 boxes
9/10 - 3 boxes

Smith Transfer

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R-1

EXAMINATION OF FREON 22 as a FIRE SOURCE

I. Irving Pinkel

Introduction

The proposed test program explores the possibility that the Younkers fire may have been started by the Freon 22 leak discovered in the air cooling coils. Uncontaminated Freon 22 does burn. This inquiry explores the effect on the ignitibility of Freon 22 of the presence of crankcase oil and hydrogen produced by the reaction of hot Freon 22 with the system metals. The complicating effect of the presence of combustible lint fibers, dry or lightly oil coated, is explored.

In addition, it is desirable to determine whether or not a Freon 22 mist, dry or saturated with water, would generate electric potentials high enough to produce incendiary sparks that could ignite the hydrogen, lint, oil in the Freon 22 or the Freon 22 itself.

Since the possibility exists that the natural gas leak from plumbing in the adjacent Merle Hay Mall may have entered the fresh air supply drawn into the Younkers air system, the complicating effect of the presence of the natural gas mixed with some of the air should be included in such a study.

Ignition of the Freon 22 mist that reaches electrical fixtures, heaters, motors, etc. exposed to the plenum atmosphere is a possibility explored in the proposed program. Such movement of Freon 22 into the plenum could occur through improperly connected sections of ducting or an inadequately supported section of ducting that separated from the rest when the support failed. Rusting of a supporting strap over the 20 year period is one possibility for support failure, for example. This program includes an evaluation of the spark and hot wire ignition potential of Freon 22 mist, plain and contaminated.

The Younkers fire occurred after the building had been in use for 20 years. At the time of the fire it is possible that a combination of circumstances developed during these years that started the fire. These circumstances might include:--

a. Accumulation of combustible dust (clothing lint, sawdust) in ventilator ducts and store plenums.

b. Duct-wall condensation of oily soot and tar from industrial smokes, tar roofing operations, tobacco smoke, oil base paints and cleaning/polishing agents used in the store. (Pre-fire photos show dark smudge around some air grills which indicate the presence of such oily soot.). *Dried Residue of Past Water/Boiler compound Spills, And Fresh Spill of Boiler Cleaning Fluid.*

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c. Crankcase oil and water contamination of the Freon 22 refrigerant which may increase its combustibility and aggravate its corrosive properties. (Leaks in copper tubing of the Freon/air heat exchangers may be an indication of heightened prefire corrosion.)

d. Gas leaks in Merle Hay Mall roof plumbing which were upwind of the air intake to the Younkers ventilating system on the day the fire occurred. While such leaks are too small to produce a combustible concentration in the total air flow circulating in the store ventilating system, such total mixing may not occur. Select stream tubes in the ventilating air flow may have enough natural gas to lie in the combustible range or be close to the lean limit. (Reports of natural gas odors in particular parts of the store suggest such channeling of the gas into select stream tubes which flow to corresponding store vents.)

By means of bench scale apparatus, the proposed program seeks to establish whether or not ignition of these combustibles can occur. Once the apparatus is assembled, conduct of the tests could be done in five days. The facility for this work should have the capability to withstand fire and an adequate ventilating hood to remove noxious gases and vapors. Reichhold's Sterling Forest Laboratories or the Stevens Institute of Technology laboratories would be suitable. The demands on facility services for electric power, air, gas, instrumentation and fabrication are quite modest.

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Proposed Program

- I. Pure Freon 22.
 - A. Objective: -- To establish the temperature at which a fine spray of Freon 22 spraying on aluminum in contact with copper will produce a flame.
 - B. Conditions:--
 1. Experiments with unmodified Freon 22.
 - a. Heat Freon 22 to 700°F.
 - b. Spray Freon 22 from fine orifice in copper tube to which is attached 10 mil aluminum sheet coupons in good electrical contact with the copper tube. (See Fig. 1)
 - c. Vary temperature and copper tubes temperature independently up to values of 400° for the tubes.
 - d. If ignition of Freon 22 occurs repeat with reduced Freon 22 temperatures until the minimum Freon/ tube surface temperature combinations are mapped.
 2. Repeat experiment with galvanized iron cup and parallel plates placed to intercept the Freon spray. (Arrangements of cup and plates are shown in Fig. 2.) Iron cup and parallel plates are to be electrically grounded to copper tubes as shown in Figure 2.
 - a. Repeat with a heavy layer of lint on aluminum fins, galvanized parallel plates and cup.
 - b. Repeat with lint attached to aluminum fins, cup and plates by lightly wetting these surfaces with
 - 1) Petroleum derived oil.
 - 2) Vegetable oil, such as linseed oil.
- II. Freon 22 containing various proportions of compressor crankcase oil.
 - A. Objective: To define the lowest ignition temperature of sprayed hot Freon 22/crankcase oil mixtures.
 - B. Conditions:--
 1. Repeat tests listed in item I, above.
- III. Freon 22 containing water and oil contaminant.
 - A. Objective: To define the lowest ignition for sprayed hot Freon 22/crankcase oil/water mixtures.
 - B. Conditions:--
 1. Repeat tests listed in item I above. Introduce water as a mist into Freon 22 spray.

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