



Mr. W. J. Ziemia
Tarrytown Technical Center
Route 100C
Tarrytown, New York 10591

April 17, 1975

Medical Department

Dr. J. J. Welsh
Dr. K. S. Lane

Dear Mr. Ziemia:

Visits were made to the Tarrytown Technical Center on February 20 and March 18, 1975 primarily for evaluation of vinyl chloride exposures in the Silicones Bldg. Other areas where industrial hygiene questions had been raised were also investigated. The following is a summary of the findings.

SILICONES BLDG. - VINYL CHLORIDE

Personnel type and stationary samples were taken in the storage area, around the Banbury and Calendar operations, and the Brabender testing laboratory on February 20 and March 18, and on both occasions no vapors of vinyl chloride were detected. These areas were also checked in January with the same results.

Based on these findings it is not felt that a hazard from exposure to vinyl chloride vapors exists at these operations.

SILICONES BLDG. - FLAME RETARDANTS FOR POLYURETHANE FOAMS

The use of trimethylpropane and phosphorus containing retardants was discussed. It has been determined that some of the by-products of pyrolysis can cause severe toxic effects involving the central nervous system. This testing was done by the University of Utah's Flammability Research Center.

UCC
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Mr. W. J. Ziemia

-2-

April 17, 1975

Recommendations for personnel engaged in flammability testing were as follows:

1. Personnel routinely exposed to combustion by-products should wear a positive-pressure air supply respirator.
2. Others, who may have only occasional exposure to those potentially hazardous materials, should be advised to use a chemical cartridge, full-face respirator, with an acid gas, organic vapor, and particulate filter.
3. No studies should be conducted outside of a hood or properly ventilated area.
4. The test facility should be so ventilated that air circulation and exhaust systems remove the smoke gases from the immediate test area. The exhaust system should not contaminate any other air-conditioning system in the immediate vicinity.

It was also felt that any other personnel who might be exposed to these pyrolytic by-products (i.e. hot wire cutting, etc.) should take similar precautions.

It was felt that since only limited use of this type material would take place that it could be safely handled through use of the above precautions.

RESEARCH INSTITUTE BLDG.

The possibility of exposure to carbon monoxide during certain research projects was discussed. It was recommended that one of the commercially available constant monitors be installed in the area of use so that when levels of carbon monoxide above the threshold limit value were detected, an alarm system would be activated and steps taken to correct the situation.

CHEMICALS AND PLASTICS

Potential exposure to arsenic, selenium and tellurium in the laboratory atmosphere was discussed with Dr. Wolfe, and it was agreed that personnel

UCC
067808

Mr. J. M. Cvikla

-3-

April 17, 1974

samplers would be used to determine whether or not air-borne concentrations of these materials were present in the laboratory.

From a description of the activities, it was not felt that this would present an undue health hazard.

LINDE BLDG.
Lab L31

Operations being carried on in this lab use various quantities of benzene. Air samples were taken to determine the vapor concentrations. No benzene was found during periods of no pumping or transfer of material.

During the pumping cycle to fill the column concentrations ranged from 150 to 200 parts per million. With exhaust ventilation turned off, the levels were 300-400 parts per million at the drum pump. In the general area along the columns, 150 parts per million were detected.

Although the operators wore respiratory equipment during these periods, it is recommended that urinary phenol and/or blood counts be taken on a periodic basis so that personnel may be monitored. It is possible that low level exposure may be present on a routine basis, and this would be a means of detecting any effects on the personnel involved.

CRYOGENIC GRINDING

In discussing potential dust problems in this area, it was learned that considerable dustiness was present during the grinding of cinnamon bark.

Since this material contains various aldehydes, it can cause dermatitis and skin rashes. It can also cause irritations to the upper respiratory tract. In view of this exhaust ventilation control should be sufficient



Mr. J. M. Cwikla

-4-

April 17, 1975

to control dustiness.

MAIN EXHAUST DUST COLLECTOR

When this unit was cleaned recently, auto-ignition of the material occurred at the top of the collecting drums. It is felt that this was caused from entrapped hydrocarbons on the fine particles being released to the atmosphere and a possible exothermic reaction occurred through a copper or nickel catalyst. It was not felt that any nickel carbonyl would be formed.

Various procedures were discussed that should be followed to prevent a recurrence of this situation.

Thanking you again for courtesies extended, I remain

Very truly yours,

Leo J. LaFrance
Industrial Hygienist

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