

Reading File

May-June, 1976

UCC
062383



Mr. R. J. Bieliski
Films-Packaging Division
P. O. Box 198
Centerville, Iowa 52544

June 3, 1976

Medical Department

Mr. T. K. Bayles
Dr. C. J. Brounstein
Mr. J. M. Cwikla
Mr. J. W. Durkin
Mr. W. L. Ketner
Mr. E. W. Powell
Mr. J. E. Rausch
Dr. J. J. Welsh/Dr. K. S. Lane

Industrial Hygiene Survey
Centerville Plant, April 29, 1976

BUSINESS CONFIDENTIAL

Dear Mr. Bieliski:

An industrial hygiene survey was conducted at Centerville on April 29, 1976. Air samples were collected and analyzed for vinyl chloride monomer or total dust content. The results of these samples are shown in the attached tables of data.

The lateness of this report is due partially to the time required to obtain analytical results and partially to an exceptionally heavy travel schedule the past two weeks. I regret the delay.

The air sample collected on the person of the PVC Blender Operator did contain enough vinyl chloride monomer that it could be detected by the existing analytical technique. The 0.08 ppm, representing the exposure of this employee over five hours and three minutes of his work shift, represent the first positive result this office has ever obtained on any employee at Centerville. This probably relates to the fact that this is the longest term single air sample collected to date on any of these employees. However, this result is still well below even the existing action level for VCM in workroom air.

UCC
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Mr. R. J. Bieliski

-2-

June 3, 1976

The air samples, collected this time on the person of the Powdering-Machine Operator, gave a time-weighted average concentration of 15.7 milligrams of potato starch per cubic meter of workroom air over the 4 hours and 50 minutes duration of these samples. This result is above even the present standard for a nuisance-type dust. This OSHA standard is considered as too high for any dust exposure both by the American Conference of Governmental Industrial Hygienists and by this office.

The appearance of this Powdering Room reflected this unusually high concentration of airborne starch. There was much settled dust visible on all horizontal surfaces. This operation must be tightened to better contain the starch powder.

While no air samples were collected this time in the PVC Extrusion Room, it was observed that the No. 4 Extrusion Machine was smoking rather heavily. The existing exhaust ventilation system was unable to handle this smoke, and it did accumulate in this area.

Experience would indicate that such smoke probably consisted mainly of water vapor and vaporized plasticizer material, and that it would not be highly toxic. However, this is not a normal operating condition, and such equipment must be repaired as quickly as possible.

The solvent odor was very strong in the Printing Press Room. This would suggest that the exhaust ventilation system might need cleaning to restore it to peak efficiency.

I greatly appreciate the many courtesies extended to me during my visit. If I can be of further assistance, please let me know.

Very truly yours,

E. G. Brown,
Industrial Hygienist

EGB/eg
Enc.

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062385



TOTAL DUST
UNION CARBIDE CORPORATION
Films-Packaging Division
Centerville, Iowa

April 29, 1976

<u>Location</u>	<u>mg/M³* Total Dust</u>	<u>Remarks</u>
Powdering-Machine Operator	21.1	Personal Sample, 04/29/76, A.M. 2 hrs., 20 min.
Powdering-Machine Operator	10.7	Personal Sample, 04/29/76, P.M. 2 hrs., 30 min.

* Potato starch, the material used in this operation, is a material of low toxicity. As such, the American Conference of Governmental Industrial Hygienists classifies it as a nuisance particulate. The threshold limit value (TLV) for nuisance dusts is 15 milligrams per cubic meter of workroom air (OSHA-1975). However, both the ACGIH and this office recognize that 10 mg/M³ is a much more tolerable level for the human respiratory system.

UCC
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Vinyl Chloride Monomer
UNION CARBIDE CORPORATION
Films-Packaging Division
Centerville, Iowa

April 29, 1976

<u>Location</u>	<u>ppm*</u> <u>VCM</u>	<u>Remarks</u>
On person of FVC Blender Operator (O.P.)	0.08	Personal Sample, 04/29/76, A.M. & P.M. 5 hrs., 3 min.

* The threshold limit value (TLV) for
vinyl chloride monomer in workroom air is 1 part
per million (by volume) as an 8-hour, time-weighted,
average concentration (OSHA-1975).



Mr. R. E. Blackwell
Home and Automotive Products
P. O. Box 698
Ottawa, Illinois 61350

May 6, 1976

Medical Department

Mr. R. C. Andrews/W. Clevenger
Mr. R. Heward
Mr. R. Foster
Mr. F. McNabb
Mr. R. D. Todd
Dr. J. J. Welsh/Dr. K. S. Lane

Dear Mr. Blackwell:

An industrial hygiene survey was made at Ottawa on February 25-26, 1976. The lateness in this report is due to an extended delay in getting analytical results from the laboratory. The results for vinyl chloride and dust are shown on the attached tables.

With regards to vinyl chloride it is recommended that the Banbury operator on line 5 be rechecked since the level found was essentially at the limit. In the silo area leakage was noted at the covers, and doors were open so that exhaust ventilation patterns were not normal. The other locations checked were well below the limit for vinyl chloride.

Dusts in the vinyl production areas were quite noticeable and house-keeping could be considerably improved. The limits for total dust are based on the cristobalite content of the filler materials such as Silver Frost. It is expected that additional sampling will be performed to ascertain better exposure evaluation to lead and tin dust in air since we were not able to use the data obtained on this survey.

In other plant areas, there were some noise problems noted and current

UCC
062388



Mr. R. E. Blackwell

-2-

May 6, 1970

practices to reduce overall noise levels should be continued since it is probable that 85 dBA will be the limit before the year is out.

In extruder areas, if reduced ventilation rates are considered, it should be pointed out that ozone generated from treating could be a problem. Also, exhaust gases from a process area should not be exhausted to another work area.

The possible use of catalytic converters on fork trucks to reduce carbon monoxide in building areas was also discussed.

The probable restriction of use of various chrome containing compounds as colorants for various products was also discussed. If adequate control were possible, these materials continued to be used.

Thanking you for the courtesies extended, we remain

Very truly yours,

E. G. Brown
Industrial Hygienist

L. J. LaFrance
Industrial Hygienist

LJL/eg
Enc.

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Dust Concentrations
UNION CARBIDE CORPORATION
Home and Automotive Products
Ottawa, Illinois

February 25-26, 1976

<u>Location</u>	<u>Total Dust - mg/M³</u>	<u>Remarks</u>
Banbury operator Line 1	0.01 ⁽¹⁾	2/25 Personnel Sampler
" " Line 1	1.00	2/26 " "
" " Line 5	0.45	2/25 " "
Composite Blender Operator 3rd Floor	0.46	2/26 " "
Blender Operator 3rd Floor (Rowe)	1.50	2/25 " " A.M.
Blender Operator 3rd Floor (Rowe)	1.30	2/25 " " P.M.
Feed Operator VG Line Ground Floor	4.74	2/25 " "
Feed Operator VG Line Ground Floor	7.50	2/26 " "

(1) Operating problems were present during this sampling period and very little material was processed.

The limit for total dusts in this area would be 1.7 mg/M³ based on cristobalite content.

The limit for tin is 0.80 mg/M³ and for lead 0.15 mg/M³. All of these samples were analyzed for lead and tin, but due to apparent laboratory problems, they are not being reported.



Vinyl Chloride in Air
UNION CARBIDE CORPORATION
Home and Automotive Products
Ottawa, Illinois

February 25-26, 1976

<u>Location</u>	<u>Vinyl Chloride</u> <u>ppm</u>	<u>Remarks</u>
Calandar operator Line 1	< 0.0005	2/25 Personnel Sample
Calandar operator Line 5	< 0.0005	2/25 Personnel Sample
Banbury operator Line 5	0.94	2/26 Personnel Sample
Stationary Sampler - Top of silo	1.60	2/25 Pumping resin to silo
Stationary Sampler - Airveyor Room	< 0.0005	2/26 Pumping resin to silo

Limit for vinyl chloride is 1 part per million.

UCC
062391