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DOW CHEMICAL U.S.A.

October 22, 1979

LOUISIANA DIVISION
P. O. BOX 150
PLAQUEMINE, LOUISIANA 70764
504 389-8000

T. G. Prejean
TS&D
Building 2307

cc: C. N. Burnell, Bldg. 2307
Dr. M. F. Currier, Bldg. 2303
G. W. Daigre, Bldg. 2501
C. E. Halphen, Bldg. 2501
S. Kottle, Bldg. 2307
W. L. Young, Bldg. 2307

RESULTS OF AIRBORNE LEAD MONITORING AT TS&D

I have summarized the results of the personnel and area sampling for airborne lead at TS&D and a copy is attached for your reference. The sampling consisted of one personnel and two area samples taken for background lead on days when lead additives were not used, and three personnel samples taken during blending operations using lead containing formulations.

No lead was detected in any of the background samples or in the personnel sample taken during preparation of small "ice cream carton" batches which are mixed manually. However, the lead concentrations measured during operation of the ribbon blender were excessive. Personnel samples taken in the blender room while the ribbon blender was operating indicated exposures to airborne lead of 273 and 311 $\mu\text{g}/\text{m}^3$ of air. The permissible exposure limit for airborne lead, if 50 $\mu\text{g}/\text{m}^3$, averaged over an eight-hour period. For short-term exposure (15 minutes), up to 150 $\mu\text{g}/\text{m}^3$ are acceptable as long as the eight-hour time weighted average exposure is kept within the allowable limit.

Because the blending operation, which occurs only about once per month, has a duration of only about 30 minutes, it is unlikely that any employee could exceed the eight-hour permissible exposure limit. Of concern is the excessive short-term exposures which occur during the actual blending operation.

Currently, the person operating the blender wears a disposable dust respirator for protection and should continue to do so. The lead standard, however, says that single use respirators are not an acceptable means of compliance and are to be used only as temporary protection until engineering controls can be implemented. In the case of the ribbon blender, installing

some local ventilation would be an easy way to reduce the short-term exposures to an acceptable level. A suspended canopy-type hood could be placed over the entire blender or smaller slotted hoods could be used at specific points where dust escapes into the work area.

There is an existing ventilation exhaust system nearby which vents dust from the high intensity DIOSNA blender. It would probably be possible to tie into this existing system rather than have to install a separate fan and motor just to exhaust dust from the ribbon blender.

If I can be of any assistance in helping to design a vent system for the blender, please do not hesitate to contact me at Ext. 1809.

Bill

W. E. Ledford
Industrial Hygiene

Attachment

sb

DO 094900
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Industrial Hygiene

Date 10-3-79

Location TS&D

SURVEY REPORT

Calibrated YES

NO

[illegible]

10/2/79

Sample calculation of lead concentration:

#09299-1 Sample volume = $1.47 \frac{\text{liters}}{\text{min}} \times 90 \text{ min} = 132.3 \text{ liters}$
 $= 0.132 \text{ m}^3$

Amount of lead found = $< 0.5 \text{ Mg}$

Pb concentration = $\frac{< 0.5 \text{ Mg}}{0.132 \text{ m}^3} = < 3.8 \text{ Mg/m}^3$

Permissible Exposure Limit = 50 Mg/m^3
(8 hour TWA)

Action Level = 30 Mg/m^3

DO 094902
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THE DOW CHEMICAL COMPANY
LOUISIANA DIVISION
RESEARCH AND DEVELOPMENT

REFERENCE NO. 2026-50DATE THIS REPORT July 19, 1968CHARGE 393DEPT. R.D.D.

T. Campbell

REPORT OF ANALYSIS

DESCRIPTION Samples for Pb in Air (Micrograms / m³)
(AA)

DATE OF SAMPLE

Sample				ugr/m ³
# 57039-1 Fred Wallace (Research Asst.) operator blowing up a "pipe formation" to be extruded in main lab 10:30 10:57 152 ft/min DUST MASK 8710 7/2/68				273
# 7039-2 TS&D Wilson Howell Operator in dreading Room while another operator (Fred Wallace) was preparing a pipe formation 10:30 10:57 152 ft/min				311

DO 094903
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BY R. Barber

STARTED R. Barber



THE DOW CHEMICAL COMPANY
LOUISIANA DIVISION
RESEARCH AND DEVELOPMENT

REFERENCE NO. 2026-67DATE THIS REPORT Aug 14, 1977

CHARGE _____

DEPT. R & DT. CampbellREPORT OF ANALYSISDESCRIPTION T & D Air Samples During Blending & Mixing operations (pb (AA))

DATE OF SAMPLE _____

128

Sample	Pb ($\mu\text{g}/\text{m}^3$)
Ralph Lee's Room weighing & Benboring & Roll Milling of Elastomers (Not containing Pb stabilizers)	none detected less than 0.3 μg

129

Center of Blending Room	none less than 0.3
70° F inside TSD Bldg 7/25/79	

30

Over weighing area in Blending Room	none less than 0.3
70° F inside TSD Bldg 7/27/79	

DO 094904
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BY R Barber

SHAWCO

Alvin Gray



THE DOW CHEMICAL COMPANY
LOUISIANA DIVISION
RESEARCH AND DEVELOPMENT

REFERENCE NO. 2122-2DATE THIS REPORT Sept 6CHARGE 2193DEPT. R&DB. LedfordREPORT OF ANALYSISDESCRIPTION Dust Sample During Bleeding for Pb (total ugms)
(AA)

DATE OF SAMPLING _____

Sample08299-1Non detected but less than 0.5 ugmsDO 094905
CONFIDENTIALR. BarberWilliam R. ...