PLAINTIFF'S EXHIBIT UC-461

UNION CARBIDE

Mr. C. E. Frankenberger
UCC - Linde Division
Speedway Factory
4801 West 16th Street
Indianapolis, IN 46224

March 29, 1977

Industrial Hygiene

P. J. Burtis
S. E. Hine
R. M. Neary
J. M. Cleverdon
A. D. Gullett, M. D.
P. W. McDaniel

Industrial Hygiene Survey
February 23, 1977

BUSINESS CONFIDENTIAL

Dear Mr. Frankenberger:

An industrial hygiene survey and consultation was held with Mr. S. E. Hine at Speedway on February 23, 1977. An inspection of all plant areas was done, as well as a review of the air sampling program under Mr. Hine's direction. From these observations and discussions I have a few recommendations:

1. Inspection of the asbestos shredder room revealed deficiencies in maintenance and housekeeping. One glove on the shredder box was not properly seated, permitting potential leakage of asbestos from within the shredder. Asbestos was loose on the floor, as was one empty bag. A push-broom present appeared to have been used to dry sweep asbestos, which should never be done. Only wet sweeping or vacuum-cleaning are permissible by OSHA. This operation should be subject to routine inspection to ensure good work practices and corrective maintenance.

2. We observed a housekeeping operation in the slurry-filling area wherein dried slurry was broken and swept up into a dumpster, generating substantial dust. Since this material contains asbestos and silica flour, it presents an exposure hazard not only to the cleanup operator but to all employees working in this area.

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This cleanup should be done only by dry vacuuming or wet cleaning, and the collected material disposed of in sealed, impermeable bags or containers. Depending upon the level of asbestos exposure in this operation, additional precautions may be required by OSHA. I have requested Mr. Hine to sample for asbestos at this operation if and when it is repeated.

3. Discussions were held with Mr. Hine and Mr. L. H. Pollert concerning the scope of air sampling done at Speedway. For the present time, this activity can be significantly expanded if a more sensitive analytical balance can be obtained, one capable of weighing accurately to 0.01 mg. We recommend that you obtain such a balance for the air sampling program. Additional plant areas were recommended for sampling of potentially hazardous air contaminants.

I thank you for the courtesies extended to me and the cooperation of all concerned. If I can be of additional assistance, please advise.

Very truly yours,

L. R. Andrews
Industrial Hygienist

LRA:nl

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UNION CARBIDE

Mr. S. E. Hine
Linde Division
Speedway Factory
P. O. Box 24501
Indianapolis, Indiana 46224

May 6, 1977

Industrial Hygiene

4

C. E. Frankenberger

Metal Fume Sampling Procedure

Dear Steve:

To confirm our phone conversation of today, please follow the following procedures for sampling fumes from soldering, brazing, and welding operations at Speedway:

1. Use 0.8u millipore filters for all such sampling; the 37 mm size pre-packaged in cassettes are preferred by the Edgewater lab. Use these open-face (cap off), and always tape the joint where the filter is seated before use. Shrinkable cellulose bands, available from MSA, are also good for sealing.
2. Flow rate is optional, but generally as high a rate as can be maintained for the prescribed sampling period is preferred. You should be able to draw 2.4-2.5 lpm through a 37 mm millipore with a Model G pump (recalibrate as necessary).
3. The minimum sampling times for operations to be sampled is as follows:

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Operation	Analyses Desired	Minimum Sample at 2 lpm
silver brazing	Ag, Cd, F	4 hrs.
soft soldering	Pb	4 hrs.
welding	Fe, possibly Ni, Cr (if stainless)	2 hrs.

Of course, as long a sampling time as possible, up to 8 hours, is preferred for any of these operations.

4. Send the samples with controls from the same lot of filters (one control per five samples) to the attention of Mr. John Kohut at Edgewater. Send me only a copy of the sampling data sheet, and request Mr. Kohut to send me a copy of the analytical results as well.

Eventually, we would like to have such samples analyzed for total fume prior to specific metal analyses, but this will require a balance accurate to 0.01 mg. We recommend that you obtain such a balance as soon as possible.

I think that covers it; if you have any additional questions, please feel free to call.

Very truly yours,

A21621

L. R. Andrews
Industrial Hygienist

LRA:lm

INTERNAL CORRESPONDENCE

UNION CARBIDE CORPORATION

270 PARK AVENUE, NEW YORK, NEW YORK 10017

To (Name)
Division
Location
Floor Number

Mr. S. E. Hine
Linde Division
Speedway Factory
P. O. Box 24501
Indianapolis, Indiana 46224

Copy to

C. E. Frankenberger

Date: May 6, 1977

Originating Dept.: Industrial Hygiene

Floor Number: 4

Answering letter date:

Subject: Metal Fume Sampling Procedure

Dear Steve:

To confirm our phone conversation of today, please follow the following procedures for sampling fumes from soldering, brazing, and welding operations at Speedway:

1. Use 0.8u millipore filters for all such sampling; the 37 mm size pre-packaged in cassettes are preferred by the Edgewater lab. Use these open-face (cap off), and always tape the joint where the filter is seated before use. Shrinkable cellulose bands, available from MSA, are also good for sealing.
2. Flow rate is optional, but generally as high a rate as can be maintained for the prescribed sampling period is preferred. You should be able to draw 2.4-2.5 lpm through a 37 mm millipore with a Model G pump (recalibrate as necessary).
3. The minimum sampling times for operations to be sampled is as follows:

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Operation	Analyses Desired	Minimum Sample at 2 lpm
silver brazing	Ag, Cd, F	4 hrs.
soft soldering	Pb	4 hrs.
welding	Fe, possibly Ni, Cr (if stainless)	2 hrs.

Of course, as long a sampling time as possible, up to 8 hours, is preferred for any of these operations.

4. Send the samples with controls from the same lot of filters (one control per five samples) to the attention of Mr. John Kohut at Edgewater. Send me only a copy of the sampling data sheet, and request Mr. Kohut to send me a copy of the analytical results as well.

Eventually, we would like to have such samples analyzed for total fume prior to specific metal analyses, but this will require a balance accurate to 0.01 mg. We recommend that you obtain such a balance as soon as possible.

I think that covers it; if you have any additional questions, please feel free to call.

Very truly yours,

L. R. Andrews
Industrial Hygienist

LRA:lm

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