

MGC. HG-638

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August 11, 1944

To: C. E. Daniels
From: J. J. Nickson, M.D.

In re: Quality Hardware Company

After conversation with Dr. Stone, it was decided that complete terminal physical examinations will not be necessary on individuals who had worked less than 2 months on the canning process done by this company. The exception was made that any individual who worked in the slug preparation room should receive a complete terminal physical examination.

It was Dr. Stone's feeling that an examination of the blood and urine would be all that was necessary. This decision has been made because of the short duration of the work at this plant and because of the relatively low exposures to tuballoy dust.

On 8-4-44 the above plant was visited. Working conditions on inspection seemed quite satisfactory. The plant was clean, well cared for and well lighted. All individuals handling bare metal wore wearing leather gloves. Air samples were taken in the room in which the slugs are out-gassed in preparation for canning. The readings obtained were respectively 204 micrograms/cubic meter of air and 593 micrograms/cubic meter of air. The third specimen was taken in the caustic room where bare slugs are dipped into a hot alkaline solution. Here a value of 406 micrograms/cubic meter of air was obtained.

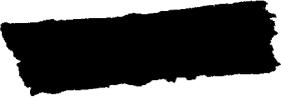
These values all are somewhat above tolerance. Insofar as the investigator could determine, the samples were taken during normal working conditions.

J. J. Nickson
J. J. Nickson, M.D.

isp

cc: R. S. Stone
L. O. Jacobson
John E. Wirth
Readers File (2) ✓

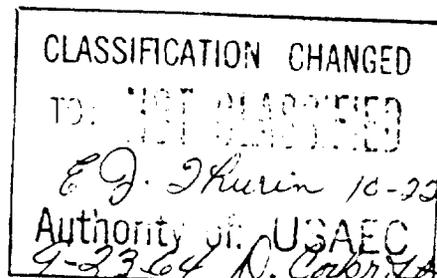
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June 28, 1944

Dr. S. T. Cantrell
P. O. Box 1991
Knoxville, Tennessee



In re: Visit to the Quality Hardware Company on 6-28-44.

On the afternoon of the above date the Plant was visited. No measurements were taken as to the actual amount of T dust in the air. These measurements will be taken at a later time. At the time of the visit, however, I would not expect much T dust to be present in the air. Inspection of the over-all Plant as it is set-up reveals over-crowding to an extreme degree. Hardly an inch of floor space is not covered by working equipment or by personnel. On the above afternoon I counted some 40 people in a building whose dimensions were approximately 25' x 40' x 15'.

The storage of metal here will shortly be in a separate building. This will improve the over-crowding markedly.

The bare metal is handled only by personnel wearing gloves. The process as it is now set up requires relatively little handling of bare metal by the personnel. The majority of the handling is done after the material is in alumina jackets.

A sand-blaster has been set-up for treating an estimated 25% of the slugs. This was not in operation on the above afternoon. It is planned to get samples in the near future from this machine while it is running. It appears that this machine will not actually be used as a sand-blaster but the sand-blaster housing will be used to contain an electric motor which drives a wire brush. The wire brush will be used to treat the metal bars. The entire housing is ventilated by a fan whose discharge is through the roof.

At the south end of the building near a large open window, a Blakeslee trichlorethylene degreaser has been installed. As background for evaluating the hazard of trichlorethylene I am sending to you a copy of MUC-HG-392. It will be noted that the material is quite toxic and that certain rules concerning the use of a vessel containing trichlorethylene should be adhered to. The location of the machine in general should not be where air current can pass over the open surface. Finally, it will be noted that the writer feels that the loss of trichlorethylene per 100 hrs. of operation is a significant figure.

The degreaser at the Quality Hardware Company is operated by personnel who have had no specific instructions as to the possible hazard of this material. Their rate of placing equipment into the trichlorethylene atmosphere and removing it from this atmosphere is not controlled in any way with the result that both dipping and removing are done at rapid speeds. Material comes out of the trichlorethylene dripping large amounts of the solvent. As mentioned above, the machine is located directly below a large open window through which air puffs come with considerable regularity. It is possible to get a heavy odor of trichlorethylene at these times. Mr. Judkins estimated that the daily loss of trichlorethylene from this vat is of the order of 5 gallons. Since the dimensions of the vat are approximately 2 x 4 ft.,

this would appear to be a trichlorethylene loss of about 6 gallons per square foot per hundred hours. This would appear to be a much greater rate of loss than is desirable.

In view of the known toxic effects of trichlorethylene, the following recommendations are made to Mr. Judkins to be placed into effect as soon as possible:

- a. Immediate improvement of the rate of air flow on the ventilation already provided on the degreaser.
- b. Installation of a baffle board between the degreaser and window in such a way as to prevent air currents from sweeping over the surface of the degreaser.
- c. Instruction of all personnel using this instrument as to its possible hazards and as to the proper way to raise and lower equipment going into the trichlorethylene atmosphere. If obtainable, a mechanical hoist geared to operate at 12 ft. per minute should be installed.

Dr. Paul Davis has continued to make pre-employment examinations on the personnel working in this division of the Quality Hardware Manufacturing Company. Physical examinations and laboratory studies, with the exception of the X-ray films, have been reviewed by me. It is my intention to review the films with Dr. Davis in the near future.

If you have any suggestions or comments to make concerning these or other recommendations which have been made at the Quality Hardware Company, I would be pleased to hear them.



J. J. Nickson, M.D.

JJK:dg

cc: C. E. Daniels
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