

Warone, Inc., Madison and Red
Bank Roads, Cincinnati, Ohio

Source: NuTone Incorporated, Madison and Red Bank Roads, Cincinnati, Ohio

Material: Air borne particulate matter collected at two soldering operations.

Date of Collection: July 13, 1961 by J. Cholak, Ch.E.

Required: Determination of concentration of lead in the air.

Results

<u>Analysis Number</u>	<u>Description</u>	<u>Time</u>	<u>Mg. Pb/M³</u>
61A-4410	At soldering booth in Spot Welding Department of Building #1.	9:35 AM - 9:45 AM	0.015
61A-4411	General Air - 15 feet from welding booth in center of spot welding line.	9:47 AM - 9:51 AM	<0.002
61A-4414	Same as 61A-4411 except sample taken 1 hour later.	10:48 AM - 11:00 AM	<0.002
61A-4412	At automatic soldering machine in Electronics Intercom Department of Building #6.	10:10 AM - 10:20 AM	0.011
61A-4413	Breathing Zone - Behind operator in center of hand soldering bench near automatic soldering machine (Building C).	10:22 AM - 10:32 AM	0.014

From The Kettering Laboratory in the Department of Preventive Medicine and Industrial Health, College of Medicine, University of Cincinnati, Cincinnati, Ohio

*Dr. Merton Wilson
Medical Director
NuTone, Inc.
Madison and Red Bank Roads
Cincinnati, Ohio*

July 13, 1955

Dr. Merton Wilson
Medical Director
NuTone, Inc.
Madison and Red Bank Roads
Cincinnati, Ohio

Dear Doctor Wilson:

A copy of the report dealing with the inspection of your plant on July 11, 1955 is enclosed with this letter. The report also contains a proposal for an analytical survey which will establish the potential hazards involved in the operation of the plant.

I trust that the material will be useful for your purposes.

Very truly yours,

J. Cholak

JC:ma

cc: Dr. R. A. Kehoe

Enc.

KE 0018811

N19748.01

*file
action, done*

COMMENTS ON AN INSPECTION OF THE PLANT OF NU TONE, INC., JULY 11, 1955

A number of the processes and operations in use at the plant of NuTone, Inc., Madison and Red Bank Roads, Cincinnati, Ohio, are recognized to be potentially hazardous to health. Occupations concerned with the cleaning, painting and polishing of metal parts, particularly, are likely to cause workmen to be exposed to harmful materials through direct contact or through inhalation of vapors or particulate material. The nature and extent of these hazards will depend upon the composition of the materials which are used, so that a list of the materials commonly used in the plant would be helpful in establishing the significance of the hazards of each operation. A preliminary inspection of the plant, on July 11, 1955, indicated that the following operations should be scrutinized with some care from the aspect of potential hazard.

1. The spot welding operation where sparks are produced.

These sparks are hazards to the eyes and may cause burns of the skin. The operation should be investigated to determine the best method for controlling the flight of the sparks, and consideration should be given to instituting a proper program for protecting the eyes of workmen in this and other areas of the plant.

2. Polishing, grinding and buffing -

(a) The grinding of brass tubes produces dust which contains lead. Therefore, the concentration of lead in the atmosphere of this area should be determined, and, if the results of such determinations justify the procedure, persons employed at this operation should be examined by appropriate means to learn

whether excessive absorption of lead has occurred.

(b) Buffing and polishing - Dust in the atmosphere should be analyzed to determine its content of free crystalline silica, and if the findings so indicate, X-Ray examinations (chest) may be found to be advisable.

3. Painting and lacquering - Any hazards which may arise here will depend on the nature of the pigments and thinners. If lead pigments are used, the concentration of lead in the atmosphere should be determined, and the group of spray painters should be examined to determine whether excessive absorption of lead has occurred. The spray booths in use should be checked for their efficiency in collecting the mist and vapors. In the lacquer-dip operation, a thinner of high volatility appears to produce excessive quantities of vapors. Serious hazards appear to exist in this area, not only from the aspect of the exposure of workmen to the vapors, but also because of the danger of fire.

4. The degreasing, cleaning and anodizing area should be investigated to determine the concentrations of trichloroethylene, nitrogen dioxide (nitric acid), sulfuric acid and other possible toxic materials present in the atmosphere. The performance of the ventilating systems at the various tanks should be investigated and improved if necessary.

5. The caustic dip operation used to strip paint from metal parts should be investigated with a view to improving the ventilation and the safety of the operation.

6. The use of personal protective equipment should be investigated in relation to operations which cannot be controlled by ventilation or where there are significant opportunities for contact of the skin

of workmen with injurious materials.

7. Consideration should also be given to the need for a preliminary survey of the noise levels in the metal stamping area. Such a survey would show up the operations which are likely to cause damage to the auditory apparatus and would also point out any areas which may require further and more detailed investigation.

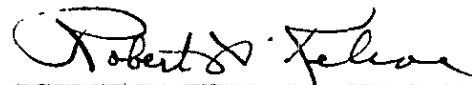
8. The assembly of chimes does not, in general, involve hazardous operations, but a considerable amount of soldering is done at a number of places. These locations should be investigated and if there is evidence of potential hazard, the individuals so employed should be examined to determine the degree of their exposure to lead.

More information can be obtained as to the potential hazards involved in the operation of this plant by sampling and analyzing the atmosphere in various areas. A screening survey of the entire plant can be completed in not more than 2 days at a cost not exceeding \$100 per day. In addition to this charge, based on the actual time spent in the plant, there would be a charge for the analysis of the samples collected. The cost of the analytical work would depend on the type and number of the analyses to be made and would range from \$5 to \$10 per sample depending on the type of analysis. A full report of the findings would include recommendations for the engineering and medical control of such hazards as may be found to exist.

From the Kettering Laboratory in the Department of
Preventive Medicine and Industrial Health, College of Medicine,
University of Cincinnati, Cincinnati, Ohio

Inspection and report by:
J. Cholak

Approved:


Robert A. Kehoe, M.D.
Director

Date: July 13, 1955

KE 0018814