

Dr. Roush:

I have answered the questions raised by Mr. Levinson in the order that seems logical, rather than in accordance with their sequence in the letter.

R.A.K.

The concentration of lead found in the rust and scale on the inner surface of a tank used for the storage of leaded gasoline, after the removal of the fuel, water bottom and sludge, amounts to a few hundredths of 1 per cent. It is laid down in the rust and scale at the time the latter are forming, and is in the form of decomposition products of tetraethyllead; some of it, at least, is made up of tri-ethyl lead salts, and probably some is still further degraded. In any case, the tri-ethyl salts, dislodged in dry form in the air, even in low concentration are capable of causing paroxysmal sneezing, and if present in sufficient concentration, in contact with moist skin (sweat), will induce burning and itching which may be troublesome.

The concentration in air is too low, under ordinary circumstances, to cause persistent symptoms, although there may be some insomnia in association with a bout of a full day or several days of scaling operations. No serious illness has occurred so far as I know (or the record shows), but the first warning that was given us, in connection with the cleaning of storage tanks, was an episode in Canada, when a group of men went to work to clean thoroughly (in this respect) a group of several tanks that had been emptied and steamed out some months before. They were not thought to be clean enough to be used for the storage of a different product, and so were brushed and scaled. All of the men so engaged developed symptoms of the type described above in differing degrees of severity. Insomnia was prominent in one or two instances, as I remember the incident.

From the aspect of further contact with an irritant material (after completing the job of scaling), or of transmitting such material to ones household, coveralls should be used and laundered promptly. No danger is involved in the ordinary laundering, but, of course, shaking them out would suspend dust in the air and might well result in the irritant action spoken of above.

From the aspect of respiratory irritation, and also for the avoidance of the absorption of lead, which would have significance if it were to occur regularly or frequently, men should be equipped with an efficient respirator for the removal of dust. (The particles in this instance are relatively large, so that they can be trapped much more readily than in fume.)

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