

A sample of molding sand from the American Crucible Products Company, Lorain, Ohio, was submitted for examination. The object of the examination was to determine the lead content of that portion of sand which would remain suspended in the foundry air following shaking out operations.

Procedure

A 10 gram sample of the sand was suspended in 250 ml. of ethyl alcohol. The sand was allowed to settle for 1 minute, then 100 ml. was pipetted off. The suspended material was then examined microscopically and the number of particles was roughly determined.

The sizes of the particles were only slightly larger than air-borne foundry dust as determined previously. A rough count gave 3500 million particles in the 100 ml. suspension. Based on previous experience with counts of foundry dust, this was calculated to be equivalent to about 233 cu. ft. of air.

The suspension was then taken to dryness and a lead analysis was made on the residue, following treatment with proper lead solvents. 0.66 mg. lead was found to be present. On the assumption that this was the lead equivalent to 233 cu. ft. of air, it was determined that the dispersal of equal quantities into the foundry air would give a lead content of 1.00 mg. per 10 cubic meters of air.

0.01 mg. lead in 10 cu. ft. air

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