July 9, 1971

Mr. P. B. Adams
Corning Glass Works
Corning, New York

Dear Mr. Adams:

LH 86--Lead Glazes for Dinnerware

I have just received a communication from the Food and Drug Administration regarding a change in their method for the determination of lead and cadmium in pottery. I believe the letter and revised test procedure are self-explanatory.

Sincerely,

J. F. Cole, Sc. D.
Director, Environmental Health

cg:

Enc.

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DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
FOOD AND DRUG ADMINISTRATION
WASHINGTON, D.C. 20204

July 2, 1971

JUL 08 1971

Dear Sir:

This is to inform you that the Food and Drug Administration has made a modification in its methodology for the determination of lead and cadmium in pottery.

The revised methods vary from the former only in that the level of acid fill is now standardized where previously it was left to the analyst's discretion. Henceforth, the Food and Drug Administration will use these revised methods to determine if products comply with the FDA interim guidelines of 7 ppm lead and 0.5 ppm cadmium.

You may feel free to duplicate the enclosed methods for use within your firm.

If you have any questions in regard to this subject, we would be happy to assist you.

Sincerely yours,

Thomas W. Brown, Director
Office of Compliance
Bureau of Foods

Enclosure

LIA-77003

N 1071.01

Determination of Lead in Pottery

Apparatus and Reagents

(a) Atomic absorption spectrometer - Perkin-Elmer Model 303 or equivalent, with the following operating conditions: wavelength 218 nm; slit 4; lead hollow cathode lamp; air acetylene burner (0.5 x 110 mm slit) with supply of air at 60 psi (flow meter 9.0) and acetylene at 10 psi (flow meter 9.0) for an aspiration rate of 0.8 ml/minute.

(b) Standard solution - Dissolve any soluble lead salt in 4% acetic acid to a lead concentration of 1 mg/ml. Dilute this standard stock solution with 4% acetic acid to obtain working standards with final concentrations of 10, 20, 30 and 40 µg of lead per ml.

Preparation of Sample (Leaching) Solution

(Individually analyze 6 units of each sample.)

Prior to analysis, wash all vessels with household detergent, followed by a thorough rinse with distilled water. Discard the water and dry the unit; then fill each unit with 4% acetic acid so that the acid comes within 1/4" of overflowing the container. Measure the volume of acid, by difference, as the units are being filled (use graduates or burets calibrated "to deliver"). Cover each unit with a watch glass or other suitable cover, being sure not to allow the cover to come in contact with the acid. Let stand at room temperature for 24 hours.

Determination

Stir sample (leaching) solution and determine absorbance by atomic absorption spectrometry, diluting if required with 4% acetic acid. Determine the absorbance of the standard solutions in a similar fashion. Prepare a standard curve of absorbance versus concentration. Determine the amount of lead from the standard curve. Calculate results as µg of lead/ml of leaching solution.

LIA-77004

A sample is considered violative if the average of the six units examined contains 7.0 µg lead/ml of leaching solution or more.

Issued by the Division of Compliance Programs, Bureau of Foods, Food and Drug Administration, June 30, 1971