

HAMMOND LEAD PRODUCTS, INC.

Lead Pigments and Chemicals

40 EAST MAIN STREET
CARNEGIE, PENN.
PHONE: WALNUT 2-3131

March 21, 1963

Mr. Don G. Fowler,
Director of Health and Safety
Lead Industries Association, Inc.
292 Madison Avenue
New York 17, New York

Dear Don:

Manager of Pittsburgh Testing Laboratory whose address is 850 Poplar Street, Pittsburgh 20, Pennsylvania. Also present in the meeting was Mr. William Walters, head of the Chemical Division of PTL. Our meeting was for the purpose of discussing the method for determination of lead extracted from glazed ceramic surfaces developed by our group in cooperation with Kettering Laboratories and our desire for them to arrange to run these tests in the future.

Needless to say they are quite interested in the matter and feel that they are quite competent to handle it. I left a copy of the procedure with them for review. They would like for us to send them three sets of samples containing one half dozen teacups in each set so that two sets can be run in triplicate for comparison purposes. They would like for one set to represent a very high lead release such as Ceramastone. The other two samples would represent approximately the high and low to be expected in the general run of production of the reputable dinnerware manufacturers. They expressed the opinion that they would like to have something already run by Kettering or to run parallel sets of samples with Kettering Laboratory for comparison purposes.

Since you will be in Cincinnati next week I would appreciate it if you will discuss this with Dr. Kehoe and arrange either for them to send the samples promptly to Mr. Walters at PTL or to arrange with Barney Merwin to get new samples from the East Liverpool area. These presumably would be Fiesta Red and one of the clear glazes from any source. Duplicate sets would in that event be sent to PTL and to Kettering. It is important that this be handled as promptly as possible since we will want Mr. Walters to attend our next meeting and be in a position to report on their work. They estimate, based on volume of testing, that their charge will run from \$20.00 to 25.00 per test. The greater the volume, the lower the charge.

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Mr. Don G. Fowler

March 21, 1963

On Tuesday afternoon, March 19, I met with the USPA Research Group at their headquarters in East Liverpool, Ohio for discussion of the methods recently released by Kettering and the report on the Lefton ware and Ceramastone refire. Lets take these one at a time.

1. Methods. We did not question the details of the preparation of solutions and the method of determining lead released by the dithizone process. Our interest was directed toward the steps which we have adopted for preparing a solution to be subjected to the dithizone for testing.

The method does not state specifically the quantity of calgon to be used in the rinse material. It says one ~~teaspoonful~~ per gallon but does not state whether this level, rounded or heaping. This should be stated, I believe, in grams per gallon so that we have a specific amount.

On Page 1 of the long method, Section 2, Line 2, 60°F should be changed to 60°C. The same error occurs in the report on the Lefton and Ceramastone, Page 2, top of Column 2.

With regard to the screening method, there is no specific statement with regard to how and where to obtain the kit.

We feel that Note B on Page 6 of the long method should be removed. We have not yet set a zone of tolerance and, in any event, this is not of concern to ASTM. They are concerned only with how the procedure is established and the lead leaching is determined. They are not concerned with what we do with those results after they are determined.

It is our opinion that with a tough test such as this that does not actually reflect use conditions, a zone of 1 to 2 ppm is unnecessarily restrictive. We feel that the 40, 50 and 90 ppm materials should properly be eliminated. None of the ware produced by the reputable manufacturers comes close to such a range. For this reason we favor a zone of 7 to 10 ppm as being adequate for the protection of the public interest and reasonable for the industry.

2. Lefton and Ceramastone refire. The committee recognizes the fact that the results obtained on the Lefton ware indicate that definite action should be taken to keep such material off the market. On the other hand, they also recognize the fact that if this information is not released and used with a degree

domestic ware as well as against this special type of Japanese ware. Consequently we express concern and the hope that it can be handled wisely by those who wish to make use of it.

With regard to the Ceramastone we are unanimously of the opinion that the results obtained are contrary to previous experience and to reasonable expectation based on all we think we know about ceramic chemistry. As a result we

KE 0000367

Mr. Don G. Fowler

March 21, 1963

questioned Mr. Merwin with regard to the details of the refiring procedure which he used. Mr. Merwin stated that the cups were placed in a laboratory globar kiln whose temperature was programmed with a cone 5 cam. The maximum temperature reached was 1840°F. The cups were placed in a relatively triangular pattern with the thermocouple between them. The time at the peak temperature was one hour. Mr. Merwin stated that the appearance of the cups before refire was mat as was their appearance after refire.

In questioning the reasons why we did not have a drastic reduction in lead release obtained during Pemco's test, several points were brought out. Pemco's test was run at slightly higher temperature, 1860°F. While this was not a large difference, some phase changes taking place in ceramic melts take place at critical temperatures. This could be a factor. Mr. Thiemecke brought up what perhaps is a more likely point in pointing out that regardless of the use of the cone 5 cam, the schedule of the lab furnace would not be directly comparable with a production furnace where the warm-up period, the soaking period at maximum temperature and the cooling off period would be three to four times as long as that involved in the laboratory furnace. Therefore, the time-temperature factor would be much less in the lab furnace than would be expected in a commercial run. For this reason even if 1840 is a suitable temperature for a production run, that could not necessarily be the conclusion as applied to the laboratory run since time and temperature are both important factors in the heat work which is to be done. For this reason it would be expected that in a commercial kiln operation a given amount of heat work could be accomplished at a lower temperature than could be expected in a laboratory kiln with a shorter time.

We believe that we do not dare allow this Ceramastone refire question to stop at this point for the reasons given above. We suggest that this test be repeated starting with new samples if available.

3. Sampling. We discussed a matter brought up by Pittsburgh Testing Laboratories with regard to the question of who is going to do the sampling when this matter of testing becomes a regular procedure. The reason for the question is obvious. In our discussion today we are in agreement that the reputable dinnerware manufacturers have too much at stake to send phony samples for testing. We are not so certain about the fringe group who are most likely to be the offenders in any event. We simply discussed this matter and put it in the record here that we have considered it and leave it for future discussion and determination. Certainly the Public Health Services are going to have to be considered in this matter.

4. Next meeting. We suggest Thursday, May 2, 1963 starting at 9:30 A.M. in the Penn-Sheraton in Pittsburgh. This will not interfere with any of the meetings of the American Ceramic Society and will probably be most convenient for those involved.

We suggest that the USPA group, the LIA group, Dr. Kehoe, Milton Burdick, the Srit group including Pemco, Hommel and Ferro, Mr. William Walters of the Pittsburgh Testing Laboratory and representatives of the dinnerware manufacturers. We do not believe that we want at this time to invite representatives of any other groups. This will certainly be a large enough attendance, possibly

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Mr. Don G. Fowler

March 21, 1963

Among the questions to be discussed would be:

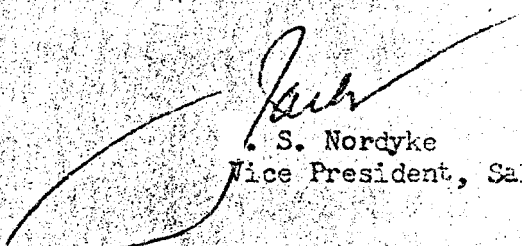
1. The comprehensive report for Dr. Einert.
2. Further discussion of tolerance.
3. Further discussion of backstamp.
4. Review of results at PTL and comparison with Kettering Laboratory results.
5. Discussion of how ware to be submitted to PTL shall be sampled and by whom.
6. Frequency of testing.
7. Some general discussion of what our relations with state and federal health agencies should be and how they should be handled.
8. What to do about high release imports.

There may be other matters developing in the meantime but this essentially covers the developments of the last two days.

I was pleased to have the opportunity for a brief discussion on the telephone yesterday and I hope that you can get some prompt action on the matter of samples for PTL.

Sincerely,

HAMMOND LEAD PRODUCTS, INC.


S. Nordyke
Vice President, Sales

JSN:pl

cc: Mr. Byron W. Merwin - Hall China Company

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