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December 10, 1960

Miss Erma A. Hinek  
Consumers Research Inc.  
Washington, New Jersey

Dear Miss Hinek:

I hadn't time to write to you further on receipt of your letter of November 18th, but I laid it aside to remind me to write when I could find time.

Two points in your letter seemed to invite comment, the one concerning other products of Laurel Potteries than the yellow ware with a mat finish which we have tested; the other has to do with the subject of lead glazes in general, the use of which seemed surprising to you.

Concerning the first of these let me be quite clear so far as our own information goes. We have no direct information on any of the Laurel products except that referred to above. I have heard that the white ware is satisfactory, and that certain other colored ware is also satisfactory. I should expect this to be true, since the white ware is said to have a true (glistening or glassy) glaze. I should expect any other properly glazed product to be satisfactory. This I believe is not a question of the lead content, but the physical and chemical state of the glaze, which should be fired at a high enough temperature, with enough silica present, to convert all of the lead to the silicate.

I may be mistaken, for I do not have comprehensive information, but I believe your idea that lead glazes are no longer used on household ware is mistaken. I believe that lead glazes of a truly silicious type are satisfactory and that they are not uncommon. The difficulty in this case was not that this was a lead glaze but that, from the technical viewpoint, it was a very poor glaze (if glaze at all) not fired at a high enough temperature or in the presence of sufficient silica to make a glaze that would resist the solvent effect of dilute organic acids.

And Finally, I warn you not to believe everything you read with respect to the occurrence of lead poisoning in association with various household utensils. I thought I had seen nearly everything in this field in the course of the last thirty years, but this is in fact the first time I have encountered a case of lead poisoning in a relationship of this type. Certainly such cases are a rarity, and a fairly peculiar combination of circumstances is required to give rise to the intensity of absorption that occurred in this instance. Unless there is decisive analytical information with respect both to the source of exposure and

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Miss Erma A. Hinek

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a dangerous type), one cannot accept the conclusions arrived at in specific cases. The diagnosis of lead poisoning is often made erroneously, and even when it is correct the source of exposure is often inferred rather than proved.

Cordially yours,

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Robert A. Kehoe, M. D.

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# CONSUMERS' RESEARCH Inc.

Organized on a non-commercial basis to  
provide unbiased information and counsel  
on goods bought by the ultimate consumer.

WASHINGTON, NEW JERSEY  
November 18, 1960

Dr. Robert A. Kehoe  
University of Cincinnati  
Dept. of Preventive Medicine & Industrial Health  
The Kettering Laboratory  
Eden Avenue  
Cincinnati 19, Ohio

Dear Dr. Kehoe:

We greatly appreciate your writing us promptly about the recently reported cases of lead poisoning allegedly resulting from the eating of foods from Cerama-Stone dinnerware. We look forward to seeing your published account of the cases with the documentary evidence and, hope that you will keep us in mind when the published material is available for distribution.

Our immediate concern, you may know, is related to our test of dinnerware which was reported in our June 1960 Consumer Bulletin and which found the Cerama-Stone ware made by Laurel Potteries to afford good performance in tests designed to evaluate the serviceability of dinnerware. We have prepared for our readers an emendation to this report indicating that colored Cerama-Stone ware should be included in a different classification. If we understand the report from the California State Department of Health official, white Cerama-Stone ware is safe. We assume that this indicates that a lead glaze was not used on it.

It is a little surprising to us that lead glazes are still being used. There is a large body of literature concerned with this matter, as you know. One publication we have that lists papers on the subject as far back as 1889 is the Ohio State University Engineering Experiment Station Bulletin No. 125 by John Marquis, and the late H. J. Orlowski.

There have been previous instances of a somewhat similar nature involving other products. Over twenty years ago, there was a case related to the use of vivid colored dished (tangerine-colored particularly) from the glaze of which lead and copper were dissolved by weak acids. More recently, the AMA Archives of Industrial Health reported lead poisoning from brightly colored striped highball glasses from which alcoholic beverages or water dissolved significant amounts of lead.

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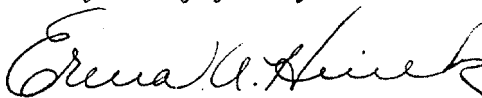
Dr. Robert A. Kehoe  
The Kettering Laboratory

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November 18, 1960

Thank you again for giving us the information that you have about this unfortunate case. We will appreciate your keeping us informed on the matter which is, of course, of considerable interest to consumers. We shall, of course, not print anything at all based on your own contacts with patients; we did need the information, solely as background, in order to be sure that there wasn't anything definitely erroneous or misleading about the newspaper accounts that were sent to us by our readers.

Very truly yours,



Erma A. Hinek

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ing popular custom. The wise housewife who wishes to give her family the best possible gelatin dessert will use the unflavored plain gelatins as a base, adding her own sugar and fresh fruit juices, etc. Typical analyses of ready-mixed gelatin desserts have shown them to be approximately 85% carbohydrates (sugar), 10% protein (gelatin), and about 2% tartaric or citric acid for flavor, and some artificial coloring matter. Desserts made from them all have about the same definitely artificial or soda-fountain-flavor taste, no matter what the color or so-called flavor. Making desserts with plain gelatin takes only a little longer than using flavored gelatins, and for any good cook there will be small reason for buying the ready-prepared packaged products. Desserts made with plain gelatin may cost one to five cents more per pint (depending upon the retail prices paid for the gelatins of the two types used). This price difference against the homemade dessert will be fully compensated for by the superiority of the resulting dish, both as to flavor and food value.

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The most important practical objection to the use of gelatin in any form is that it is an almost certain source of lead and arsenic. In the ordinary concentrations in which it is used, and as gelatin is as a rule an exceptional dessert rather than a type used daily or commonly, the amounts ingested in gelatin desserts would probably not be significant, but to the average consumer it seems nevertheless undesirable to add needlessly any known source of metallic contamination to the diet. The amount of lead contamination in different brands of plain gelatin tested by CR did not vary greatly and the gelatin desserts are so similar in composition that there is probably little need to try to choose between them. Hence, if you must buy any gelatin product, CR's advice is to purchase the cheapest until some manufacturer produces a thoroughly safe article guaranteed to be continuously and rigorously protected against metallic and bacterial contaminations, particularly those by metals, due to original materials or to processing.

## **THE POPULAR VIVID-COLORED DISHES**

### *A New and Unexpected Source of Metallic Poisoning*

**A**LTHOUGH many people are alert to the danger of eating food which has been contaminated with lead or arsenic while growing or during processing, one seldom thinks of the possibility of being poisoned by the dishes in one's home. Nevertheless, some of the colored dishes so popular these days owe their attractive appearance to use of pigments which are extremely poisonous. These can enter in small quantities the food with which they come into contact and in some instances the resulting contamination may be sufficient in amount to be hazardous. The greatest danger exists when the dishes are used for foods which are acid, such as apples, tomatoes, apricots, lemonade, orange or grapefruit juice, etc.

There is a tendency in some uninformed quarters to ridicule the danger of lead in food when it is present to the extent of only one part in a million. It is perhaps true that a person would not consume enough of a single food, cocoa, for example, to be harmed by so small a quantity of lead occurring in it. The hazard, however, consists in the sum total of the lead and other poisonous metals in all the foods and drinks consumed, and if several of these contain lead and other poisonous metals even to the extent of only a part per million or thereabouts, the hazard may be very serious. As CR has many times pointed out, although clear or visible symptoms directly traceable to lead poisoning may be absent, there may nevertheless be a serious general undermining of health for which no apparent cause exists.

A case of nausea believed to have been caused by drinking from a green cup, tea flavored with lemon juice resulted lately in an investigation by govern-

ment chemists of the health hazard presented by certain colored dishes. Tests were made on dishes of several different colors, principally tangerine, yellow, bright green, and cobalt blue, to determine the amount of copper and lead given up to acid food stored in them.

The results of the tests showed that most of the dishes probably offer no health hazard, and that the hazards can in most cases, though not in all, be reduced, provided manufacturers "exercise a modicum of care in their [the dishes'] preparation." The acid foods, however, absorbed quite dangerous amounts of lead from tangerine-colored dishes, and smaller, though in CR's opinion dangerous, amounts of lead from maroon and dark blue dishes. The report also stated: "There is reason to believe that the lead and copper dissolved by weak acids from many green glazes as they come from the kiln are a health hazard."

For the consumer, the results of these tests indicate that lacking dependable assurance of the absence of a health hazard associated with colored glazed dishes, one should take care not to use such dishes for any acid (sour) foods, particularly if the dishes are colored tangerine—and to a lesser extent, maroon, dark blue, or green. When buying new dishes, one will be safer in choosing the uncolored variety unless reliable assurance is given by the manufacturer in writing of the absence of lead, copper, and other dangerous pigments from the glazes which he used. (The dealer's statement on such a point is of no value, as he would not be in a position to know, having no facilities for making the refined type of analysis that would be required.)