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June 11, 1973

Royal A. Brown
Technical Director
National Paint and Coating Association
1500 Rhode Island Avenue, N.W.
Washington, D. C. 20005

Subject: Letter Report, MRI Project No. J729-8, "Lead Ingestion Study."

Dear Mr. Brown:

This is a preliminary report on the first 8 weeks of the lead paint study results. In review, rats are being fed one of the following substances mixed in purina rat mash at the concentration of 0.1%.

<u>Dried Paint Film</u>	<u>Lead Content in Feed</u> <u>(ug Pb/gm Feed)</u>	
	<u>Theoretical</u>	<u>Measured</u>
1. Without Lead	--	3.8
2. Containing 0.06% Lead Octoate	4.4	5.0
3. Containing 0.5% Lead Octoate	8.8	8.0
4. Containing 2.0% Lead Octoate	23.8	28.0
5. Containing 0.5% Lead Chromate	8.8	6.0
6. Containing 2.0% Lead Chromate	23.8	18.5
7. Containing 15.0% Lead Chromate	153.8	299.0
8. 64% Lead Carbonate	643.8	891.0
9. 12% Powdered Lead-Based Paint	118.7	138.0
(National Bureau of Standards)		

The first eight groups have been euthanatized and all chemical analysis should be complete by June 15. Group 9 will be euthanatized during the week of July 9th.

Tabulations of food consumption and body weight gain are not completed. Although there appear to be no gross differences between groups, we cannot draw any final conclusions until all the data are tabulated and tested statistically.

Of the various tests being performed, the following appear normal after 8 weeks:

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Hematocrit
 Hemoglobin
 Erythrocyte and leukocyte counts
 Reticulocyte counts
 Differential leukocyte counts
 Blood protoporphyrin
 Erythrocyte osmotic fragility
 Electrophoretic patterns of plasma proteins
 Urinalysis
 Urinary 6-aminolevulinic acid (ALA)
 Urinary coproporphyrin

Delta-aminolevulinic acid dehydrase (ALAD) activity was depressed approximately 50% at 4 and 8 weeks in the lead carbonate group (No. 8). ALAD activities were normal in groups 1 through 7. ALAD for group 9 at 4 weeks also appeared normal.

The tissue levels (blood, bone, kidney, liver and brain) of lead were similar in groups 1 through 7. In group 8, bone lead was elevated two- and threefold, while blood lead was at control levels. Lead tissue levels in group 9 have not been completed.

There have been no gross behavioral signs which are treatment-related. Likewise, no treatment-related differences were observed during necropsy.

We expect to finish all analysis and calculations on groups 1 through 8 in three more weeks. The final report will not be forthcoming until the latter part of July since group 9 still has 3 weeks remaining.

I sincerely hope this preliminary report is helpful. Do not hesitate to call if you want additional information.

Sincerely,

MIDWEST RESEARCH INSTITUTE

Approved:


 W. B. House, Director
 Biological Sciences Division


 Thomas R. Castles, Ph.D.
 Principal Pharmacologist

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