

LEAD INDUSTRIES ASSOCIATION

480 LEXINGTON AVENUE
NEW YORK 17, N. Y.

RED LEAD DIVISION

CONFIDENTIALSUBJECT TO REVISION

Also sent to Red Lead Producers

RED LEAD DIVISION

New York, N.Y.

July 10, 1945

A caucus of the manufacturers supporting the Red Lead Division Program was held in the Association's office on Tuesday, July 10, 1945, at 10 A.M.

PRESENT

M. M. Soller
P. E. Sprague
H. Wilke
R. L. Hallett
D. A. Merson
A. Stewart

REPRESENTING

Eagle Fisher Company
The Glidden Company
Hammond Lead Products Inc.
National Lead Company
National Lead Company
National Lead Company

F. E. Wormser, Secretary
R. L. Siegfeld, Assistant Secretary
L. L. Carrick

A brief summary of the present status of the Red Lead Research Program was presented by Dr. Carrick and is attached as Exhibit "A." The results were discussed by the group which agreed that the work had shown good progress to date and should be continued. It was observed that the U.S. Maritime Commission was preparing a specification based upon the recommendation of the Lead Industries Association.

Comment of the U.S. Maritime Commission to some members that it would be desirable to reduce the confusion generated by the multitude of different recommendations made by manufacturers was also noted. It was suggested that the members keep the Association fully informed on their collateral efforts.

It was pointed out that in dealings with the Navy, the toxicity of lead was still an important obstacle. It was felt that it was time for the lead industry to take a more militant stand in this connection. The group therefore recommends to the Board of Directors of the Lead Industries Association the desirability of the Association establishing a program, utilizing fact finding and public relations agencies of national reputation or other assistance on the lead toxicity problem.

It was further felt that this recommendation should be presented to the Board of Directors together with a specific program.

The Secretary stated that, in view of Dr. Carrick's future plans, he proposed to discuss with the Technical Committee at its meeting on July 20, the best means of carrying forward our program without interruption.



F. E. Wormser
Secretary

BRIEF SUMMARY OF THE PRESENT STATUS
RED LEAD COOPERATIVE RESEARCH PROGRAM

INTRODUCTION

Twelve different projects have been outlined. Of these twelve projects eleven have been approved by the Red Lead Technical Committee.

Ninety-three different pigmentations have been approved for test and are being checked on exposure.

Eighty-eight different vehicles are employed with these 93 pigmentations.

One hundred and eighty-nine different paint formulations have been approved and are at various stages of evaluation. These are distributed between the eleven approved research projects. Standards exposed with each project are not included in these figures.

STATUS OF RESEARCH PROJECTS

RESEARCH PROJECT NO. 1

PURPOSE: To develop a red lead primer paint to meet the price range and the drying schedule of the existing zinc chromate primer paint used by the U.S. Navy.

GENERAL: Twenty-five paints were formulated at a meeting of the Red Lead Cooperative Committee, held at the Research Laboratories of the Angle-Fisher Lead Co., Joplin, Mo., January 11-12, 1943.

RESULTS:

- A. The atmospheric exposures are not completed at this time.
- B. Tide-Range -- Only one paint stood the tide-range test for 7 months. Its final overall rating was 8, with 10 being perfect. This paint was rechecked in Research Project No. 2.
- C. The same formulation which was outstanding at tide-range was also the best for total submersion.

RESEARCH PROJECT NO. 2

PURPOSE: Formulations for submission to the U.S.N.C. for their test program.

GENERAL: Twelve primers were formulated at the Pittsburgh meeting of the Committee. These were sent to the U.S.N.C. August 9, 1943.

The above 12 primers were exposed by the Committee at:

- 1. National Lead Co. Test Fence Farm, Jayville, L.I.
- 2. San Francisco Bay, Calif.
- 3. Laboratory Accelerated Test by Durwin-Williams Co. at Chicago.

RESULTS:

- A. The atmospheric exposure tests have not been completed.
- B. Tide-range and Total Submersion Exposures -- These have been completed. At the end of 7 months they indicate that a red lead-zinc chromate multiple pigmentation under the existing exposure conditions was better than either a 100% specification red lead or the specification zinc chromate

- 2 -

standards or other combinations of pigment which did contain the red lead-zinc chromate mixture.

The pigmentation is:

Red Lead (97% grade)	50%
Zinc Oxide	10%
Zinc Yellow	10%
Iron Oxide	7%
Magnesium Silicate	10%
Diatomaceous Silica	8%

A vehicle composed of 40% alkyl resin solution and 60% LV-257 Varnish (8 gallon length, 50% cumar V-2-g and 50% RRP422 resin) performed best with the above pigmentation.

This pigmentation and vehicle have since been used as a standard.

The paint which did so well in Research Project No. 1 was found to be inferior to the best formulation of Research Project No. 2 given above. This was mostly due to the short painting schedule required.

RESEARCH PROJECT NO. 3

PURPOSE: To determine the best PV to employ in the formulation of the best paints developed in Research Project No. 2.

GENERAL: Forty-three paints were exposed at the National Lead Co. Test Basin at Bayville, L.I.

Three different pigmentations and three different vehicles were involved.

The exposures are at tide-range, total submersion and in the atmosphere about two feet above high tide range.

RESULTS: The exposure is not sufficiently progressed to draw conclusions. Will require three months to complete total submersion, 6 months for the tide-range.

RESEARCH PROJECT NO. 4

PURPOSE: To determine the best red lead-mica-lith-O formulation for use in tide-range and total submersion anti-corrosive primer paints.

GENERAL: Twenty-nine different formulations and standards embracing water-ground mica and micronised mica are on exposure.

These are exposed as tide-range and total submersion tests at the National Lead Co. Marine Test Basin, Bayville, L.I.

RESULTS: It will be 3 to 6 months before definite conclusions may be drawn.

RESEARCH PROJECT NO. 5

This project was never approved.

RESEARCH PROJECT NO. 6

PURPOSE: The development of low-cost red lead-multiple pigmented primers to meet the cost of Maritime 62-MC-28 and the Navy 62-P-18 and at the same time have better protective value than the two above mentioned specifications.

GENERAL: Ten low-cost primers were checked against five different standards. The exposure was by the North Florida Test Service, Daytona Beach, Fla.

RESULTS: Two different primers were decidedly better than the standards. They are L.I.A. paints Nos. 111 and 104.

The red lead-sine chromate-multiple pigmentation of this project (similar to that of Research Project No. 2), combined with U.S.M.C. 52-MC-21 alkyd resin vehicle is being written into a specification by the U.S.M.C. It should be returned for our inspection during August, 1946.

RESEARCH PROJECT NO. 7 (This project is divided into four subprojects.)

Subproject (a)

PURPOSE: To check the effect of replacing RSP432 in Vehicle 13 (V-13) with Dyphene 13080.

GENERAL: Six paints are involved in this subproject. The exposures are: tide-range and total submersion at the National Lead Co. Marine Test Basin, Sayville, L.I.

RESULTS: No definite conclusions may be drawn until the completion of the test about February, 1946.

Subproject (b)

PURPOSE: To check the ideas of the U.S.M.C. for modification of L.I.A. Vehicle 13 (V-13).

GENERAL: Six paints are involved in this subproject. Those were prepared by the National Lead Co. and submitted to the U.S.M.C. Panels are also on exposure by the L.I.A. at the National Lead Co. Marine Test Basin at Sayville, L.I.

RESULTS: The exposures will not be completed until early in 1946.

Subproject (c)

PURPOSE: To check the advisability of employing a low or high polymerised phenolic vehicle with red lead-sine chromate multiple pigmentations.

GENERAL: Nineteen paints in addition to the standards were prepared. The panels are on exposure at the North Florida Test Service, Daytona Beach, Florida. Exposures are at tide-range and total submersion.

RESULTS: It will be September 1st before definite conclusions may be noted.

Subproject (d)

PURPOSE: To determine the proper oil modification of phthalic anhydride resin solution to use with red lead-sine chromate-multiple pigmentations.

GENERAL: Sixteen paints in addition to the standards have been delivered to the National Lead Co. Research Laboratory by the Glidden Co. and are in process of being applied to panels for exposure to the atmosphere, tide-range and total submersion conditions at Sayville, L.I.

RESULTS: No results can be expected for 8 to 10 months.

- 4 -

RESEARCH PROJECT NO. 8

PURPOSE: To study red lead paints for gasholders and oil storage tank.

GENERAL: Fourteen paints have been approved. They have not been prepared to date.

RESEARCH PROJECT NO. 9

PURPOSE: To study the proper balance between alkyd resin solutions and LV-257 varnish of various oil lengths.

GENERAL: Nine paints were prepared by the Glidden Co. and delivered to the National Lead Co. in readiness for the application to exposure panels. These paints are in process of being exposed at Sayville, L.I. to atmospheric, tide-range and total submersion.

RESULTS: No results to date.

RESEARCH PROJECT NO. 10

PURPOSE: To study the proper method of application and to try and improve red lead primer paints for galvanized iron.

GENERAL: Seven formulations have been approved by the Red Lead Technical Committee. The paints are being prepared and will be applied September 1. The exposure is to the atmosphere in the Cleveland area, Joplin area and the New York area.

RESULTS: Must await completion of exposures.

RESEARCH PROJECT NO. 11

PURPOSE: To develop a red lead primer paint for the lock gates of the Upper Mississippi River Dams.

GENERAL: Six primer paints are being prepared and should be delivered July 1 to the Upper Mississippi River Engineer in charge of the locks.

RESULTS: Must await reports of Upper Mississippi River Authority Engineer's inspections.

RESEARCH PROJECT NO. 12

PURPOSE: To further interest the U.S. Navy in red lead-multiple pigmentations of better quality and equal cost to the present used G2-P-18, zinc chromate primer.

GENERAL: Five definite recommendations based on the research completed to date by the L.I.A. Red Lead Technical Committee have been forwarded to the Philadelphia Navy Yard. These are to be checked by L.I.A. as part of a Florida exposure.

RESULTS: Reports must await exposure by the Philadelphia Navy Yard personnel.