

LEAD INDUSTRIES ASSOCIATION

488 LEXINGTON AVENUE
NEW YORK 17, N. Y.

Pigments and Chemicals Division

November 10, 1954

SUBJECT: RED LEAD TECHNICAL
LETTER NO. 9

To Members of the Pigments and Chemicals Division:

Enclosed is a copy of the most recent Red Lead Technical Letter. This Letter has been mailed to approximately 12,000 individuals on the following mailing lists:

Paint Production Clubs
National Paint, Varnish and Lacquer Association
National Association of Corrosion Engineers
Agricultural Instructors, Engineers, and County Agents
Miscellaneous

You may want to distribute quantities of this latest Technical Letter to members of your Sales Department. We have several hundred copies available for this purpose.

Very truly yours,

Robert L. Zingler
Secretary



RED LEAD PAINTS
for
**GALVANIZED STEEL,
RUSTED, WEATHERED
or
TREATED NEW**

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Red Lead Technical Committee
LEAD INDUSTRIES ASSOCIATION
430 LEXINGTON AVENUE
New York 17, N. Y.

Foreword

THE formulations contained in this Technical Letter were developed by the Red Lead Technical Committee to meet the requirements for the protection of rusted or weathered galvanized steel as well as new galvanized steel that has been treated.

The problem created by the general practice of weathering galvanized steel until corrosion has commenced demands special paints to stop and to prevent further deterioration.

The Red Lead Technical Committee, after several years of exposures on many experimental coatings, has developed a number of red lead paints which it believes are superior for this service. They are versatile in that they serve as active anti-corrosive paints for rusted or weathered galvanized surfaces or as protective coatings for properly pretreated new galvanized steel. Depending upon selection they serve as decorative coatings as well.

The formulations contained in the Technical Letter are offered in two groups — one coat finishes and primers for use under selected compatible top-coats.

Inquiries on these formulations or on specific painting problems are welcome and should be addressed to the Lead Industries Association or to the designated individuals in the member companies listed below.

THE EAGLE-PICONE COMPANY

American Building, Cincinnati 2, Ohio

For technical information write Paul Whitford at above address.

Chicago, Cleveland, Dallas 26, Detroit, Kansas City 6, (Mo.), New Orleans, New York 17, Philadelphia 4, Pittsburgh 22. On the Pacific Coast: Associated Lead and Zinc Company, Seattle 4, Los Angeles 21, San Francisco 7.

W. F. FULLER & COMPANY

301 Mission Street, San Francisco 1, California

For technical information write P. J. Kellert at above address.

Baton, Baton Rouge, Fresno, Los Angeles, Oakland, Phoenix, Portland (Ore.), Sacramento, Salt Lake City, San Diego, Seattle, Spokane, Tacoma, Yakima (Wash.)

THE GILBERT COMPANY

1396 Union Commerce Building, Cleveland 14, Ohio

For technical information write G. F. Shobe at above address.

Atlanta, Boston, Minneapolis, New York, South Hackensack (N. J.), San Francisco, Adams & King Division, Chicago, American Paint Works Division, New Orleans, Campbell Paint & Varnish Division, St. Louis, Rubien Paint & Varnish Division, Chicago, A. Williams Company Division, Reading, Conoco Division, Tammany Chemical, Pigments & Metals Division, Baltimore, Colson-Pet (Ill.), Hammond, (Ind.), Eastern Lead Company, Scranton.

HAMMOND LEAD PRODUCTS, INC.

5331 Mohman Avenue, Hammond, Indiana

636 Lexington Avenue, New York 17, N. Y.

For technical information write J. G. Johnson at Hammond, Indiana.

NATIONAL LEAD COMPANY

111 Broadway, New York 6, N. Y.

For technical information write George Stithman at above address.

Atlanta, Buffalo 2, Chicago 2, Cincinnati 2, Cleveland 12, Dallas 2, Philadelphia 21, Pittsburgh 12, St. Louis 1, San Francisco 10, National Lead Company of Mass., Boston 2.

WESTERN LEAD PRODUCTS COMPANY

4430 S. Pacific Way, Los Angeles 22, California

1335 Fourth Street, Berkeley 2, California

For technical information write Thomas A. Shub at Los Angeles, California.

RED LEAD PAINT FORMULATIONS FOR GALVANIZED STEEL, RUSTED, WEATHERED, OR TREATED NEW

For One Coat Application

THE following three formulations are recommended for use where no additional coating is to be applied. Formulation 9-3 is included for use where a green finish is desired.

FORMULA 9-1

Composition	Pounds	Pounds	Gallons
PIGMENT: Red Lead, 97% Grade	25.0	201.0	6.0
Bismuth Iron Oxide, 98% PbO ₂	15.0	206.0	6.0
Aluminum Resinate	0.5	0.5	1.5
*Zinc Dust (Fed. Spec. TT-S-594)	54.5	1070.0	16.5
	100.00		
VEHICLE: Raw Linseed Oil	45.0	341.0	21.1
Alkyd Resin Solution (Fed. Spec. TT-S-594, Type I, Class A)	54.5	108.0	20.0
Mineral Spirits	15.5	70.1	11.7
Lead Naphthenate (54%)	0.9	4.4	0.5
Cobalt Octoate (5%)	0.4	2.0	0.3
	100.00	547.5	100.0

Pigment = 500
Vehicle = 500
Wt./Gal. = 16.9 lbs. (without zinc dust)
PV = 68.5

*Zinc dust is to be packaged separately and mixed with paint at time of use.

FORMULA 9-2

Composition	Pounds	Pounds	Gallons
PIGMENT: Red Lead, 97% Grade	25.0	207.0	6.0
Bismuth Iron Oxide, 98% PbO ₂	15.0	106.0	6.0
Aluminum Resinate	0.5	0.5	0.5
*Zinc Dust (Fed. Spec. TT-S-594)	54.5	704.0	15.0
	100.00		
VEHICLE: Alkyd Resin Solution (Fed. Spec. TT-S-594, Type I, Class A)	55.0	207.0	40.5
Mineral Spirits	54.5	100.0	20.7
Lead Naphthenate (54%)	0.37	2.5	0.5
Cobalt Octoate (5%)	0.35	1.5	0.3
	100.0	1004.1	60.0

Pigment = 50.55
Vehicle = 20.45
Wt./Gal. = 12.1 lbs. (without zinc dust)
PV = 68.5

*Zinc dust is to be packaged separately and mixed with paint at time of use.

FORMULA 9-8

For use where a green finish is desired.

	Component	Grams	Pounds	Volume
PIGMENT:	Red Lead, 97% Grade	40.0	712.0	9.5
	Chromium Oxide	15.0	330.0	2.1
	Aluminum Powder	0.5	0.0	0.0
	*Zinc Dust (Fed. Spec. TT-S-588)	40.0	712.0	11.1
		95.5		
VEHICLE:	Raw Linseed Oil	47.5	105.0	8.2
	Alkyd Resin Solution (Fed. Spec. TT-S-588, Type I, Class A)	54.5	120.0	9.5
	Mineral Spirits	17.5	38.5	12.5
	Lead Molybdate (50%)	0.25	0.5	0.5
	Cobalt Oxide (50%)	0.25	0.5	0.5
		99.75	220.5	30.7

Pigment as TT-S-588
 Vehicle as TT-S-588
 Wt./Vol. as 12:1 by. (without zinc dust)
 PV as 50.0

*Zinc dust is to be packaged separately and mixed with paint at time of use.

To insure good adhesion and to obtain the most satisfactory protection from coatings applied to new galvanized steel, the surface should be allowed to weather for 3 to 6 months or, if time does not permit, the surface should be chemically pretreated.

The Technical Committee has examined a number of commonly known pretreatment procedures and found, for example, that treatments with copper sulphate, acetic acid, or hydrochloric acid are ineffective. However, phosphate treatments such as Lithoform effectively roughen the zinc surface and greatly improve the adhesion of the paint film.

For Application Where a Top Coat is to be Used

The following two formulations are designed as primers where a top coat is to be applied.

FORMULA 9-4

	Percent	Pounds	Gallons
PIGMENT: Red Lead, 97% Grade	80.0	1007.0	14.0
Aluminum Powder	0.5	0.5	1.5
*Zinc Dust (Fed. Spec. TT-S-594)	40.0	507.0	7.0
	120.5		
VEHICLE: Raw Linseed Oil	40.5	508.0	6.7
Allyl Resin Solution (Fed. Spec. TT-S-594, Type I, Class A)	50.75	634.0	8.5
Mineral Spirits	10.00	125.0	1.5
Lead Naphthenate (50%)	0.57	0.5	0.5
Cabot's Oxinate (65)	0.50	0.5	0.5
	102.0	1267.4	16.1

Pigment = 70.75
Vehicle = 50.25
Wt./Vol. = 12.4 lbs. (without zinc dust)
PV = 41.4

*Zinc dust is to be packaged separately and mixed with paint at time of use.

FORMULA 9-5

	Percent	Pounds	Gallons
PIGMENT: Red Lead, 97% Grade	80.0	715.0	9.7
Aluminum Powder	0.5	7.0	0.9
*Zinc Dust (Fed. Spec. TT-S-594)	40.0	715.0	12.1
	120.5		
VEHICLE: Allyl Resin Solution (Fed. Spec. TT-S-594, Type I, Class A)	57.7	508.0	6.7
Mineral Spirits	31.40	150.0	1.7
Lead Naphthenate (50%)	0.50	0.5	0.4
Cabot's Oxinate (65)	0.50	1.0	0.5
	100.0	660.0	10.0

Pigment = 71.25
Vehicle = 50.25
Wt./Vol. = 14.5 lbs. (without zinc dust)
PV = 41.5

*Zinc dust is to be packaged separately and mixed with paint at time of use.

Although the formulations contained in this Technical Letter have been established by our Red Lead Technical Committee through careful evaluation, no guarantee of results is made or implied. Users are urged to make additional confirmatory evaluations to meet their specific requirements.

The Lead Industries Association and its member companies will be glad to give further information on metal protection, paints or to assist on other paint problems.