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Marshall Laboratory
July 1, 1969

MARSHALL DEVELOPMENT LABORATORY SUPPLEMENTARY RELEASE LETTER NO. 2042-B
RELEASE OF 67-827 GULF COAST 59-C WOOD PRIMER

RELATED RELEASE LETTERS - 2042, 2042-A

PROJECT 511124 CLASS "C"

PROPOSAL AND EXTENT OF RELEASE:

This letter proposes the manufacture and sale of a fume resistant modification of #49-C Blister Resistant Primer. The sale will be restricted to the Gulf Coast area. The sales forecast for the product is 36,000 gallons per year. This product will be used in those cases where sulfide stained paint films must be recoated or where the use of #51-C Latex wood primer would not be acceptable because of its susceptibility to sulfide staining. Sulfide staining will bleed through #53-C topcoats applied directly over it.

The release of this product has been requested by Consumer Paint-Marketing.

MANAGEMENT DECISION REQUESTED:

The following points are presented for management considerations:

(1) The sale of an alkyd product is not consistent with the "all emulsion" concept.

(2) Although very favorable, the exposure data is limited to one 24 month old series and five houses now three years old.

(3) Production experience is limited to one semi-works batch. Reproducibility has not been established, but no serious problems are anticipated.

(4) Present label directions recommend the use of #51-C Lucite® Latex Primer over staining woods, with no mention of previously stained substrates. Sale of this material requires label alterations.

(5) There is cost penalty of $1.12 per gallon versus #49-C Primer but a savings of $ .25 per gallon versus #51-Primer.

(6) A new raw material (Acryloid B67MT) will be required with the adoption of this proposal.

(7) Our existing paint systems are not satisfactory for repainting surfaces that are unsatisfactory in appearance due to either sulfide or wood staining.

TECHNICAL OPINION:

The Laboratory believes that the sale of 67-827 in the Gulf Coast Area is technically sound. When used with the #53-C topcoat, the complete paint system is fume resistant. The adoption of this system will provide a satisfactory repaint system for use over surfaces that have either sulfide or wood staining. A satisfactory repaint system is not available for sulfide stained areas with the present products. The Laboratory recommends approval.

DESCRIPTION OF PRODUCT:

The staining of #49-C Primer is the result of the reaction between lead tallate (VD-5822), the drier, and sulfide fumes in the atmosphere. This reaction is encountered in 67-827 by replacing the lead with manganese naphthenate. The manganese is not as effective as drier as lead. This necessitates incorporation of a solution acrylic modifier, Acryloid B67MT , to maintain drying characteristics. The staining of #51-C Latex Wood Primer is a result of sulfide fumes reacting with the basic silicate of white lead used in the product to control wood staining over cedar, redwood, etc.

Stability:

Shelf stability of 67-827 (67-B-4809 made for tests in 1965) was excellent after 24 months.

*Rohm and Haas

Durability:

67-827 (as 67-B-48094) has been on exposure on five houses in Houston and Beaumont, with #53-C topcoats, for over three years and was exposed 24 months on the test fences in Delaware, Florida, and Texas. No adverse durability differences have been noted.

COMPETITIVE SITUATION:

A cursory examination of three major competitors in the Gulf Coast Area indicates that Sears, Roebuck offers a "mildew-resistant" alkyd primer which is non-mercurial; no mention of sulfide stain appears on the label: both Sherwin-Williams and Dutch Boy offer lead drier containing alkyd modified oil primers; Dutch Boy identifies mercury as the fungicide. In recent house tests both the Sherwin-Williams and Dutch Boy system have shown sulfide staining. We do not know what policy Sherwin-Williams and Dutch Boy uses to handle sulfide staining complaints, but the availability of a sulfide staining and mildew resistant system should give us some competitive advantage in the Gulf Coast Area.

TABULATION OF COMPOSITIONS:

The following table compares 67-024 (#49-C Primer) with 67-827 (#59-C Primer) and lists the ingredients on a basis of pounds per 100 gallons:

Code	Name	67-024	67-827	Change
G-400	Acryloid B67MT	-	156.77	(1)
H-173	Manganese Naphthenate, 6%	2.00	2.02	
H-262	Heavy Mineral Spirits	-	25.07	(2)
H-287	Aliphatic Hydrocarbon	37.40	-	(2)
H-607	Calcium Naphthenate, 4%	-	13.47	(3)
RC-141	Long Oil Linseed Alkyd	478.95	354.15	
VD-5822	Lead Tallate, 24%	18.20	-	(3)
VH-7552	Inhibitor Solution, 10%	2.00	2.02	
VM-7790	Soya Lecithin Solution	27.95	25.07	
T-8629	#200 Thinner	139.45	119.17	
W-185	Ti-Pure® R-902	100.05	89.58	
W-1003	Bentone 34	2.00	1.80	
W-1008	Aluminum Silicate	193.00	172.88	
Total		1001.00	962.00	
Gal. Wt.		10.01	9.62	
PVC		20.23	19.89	
Solids, Vol.		59.88	54.55	(4)
Solids, Wt.		72.09	67.61	

EXPLANATION OF CHANGES:

(1) Incorporation of Acryloid B67MT, to improve drying characteristics becomes part of the vehicle.

(2) Replace H-287 with H-262 to increase flash time for improved lapping characteristics.

(3) Replace lead drier with calcium drier to make product fume resistant.

(4) Lower solids to improve application characteristics.

REPRODUCIBILITY:

Production of 67-827 is limited to one semi-works batch made in 1965 as 67-B-48094. No manufacturing difficulties were encountered.

Uniformity of Acryloid B67MT has not been established.

CONTINUING LABORATORY WORK:

Laboratory evaluation and semi-works production of 67-287 are planned.

COST INFORMATION:

Mill cost for 67-827 in one gallon containers is estimated at 12¢ per gallon more than 67-024, #49 Primer and 25¢ per gallon less than 830-023, #51-C Primer. Mill costs for 67-024 is currently $1.86 per gallon; for 830-023 it is $2.24 per gallon.

MANUFACTURING PROBLEMS:

67-827 is manufactured in existing equipment using standard techniques; no difficulties are anticipated.

TOXICITY OR OTHER HAZARDS:

There are no new or unusual toxicity hazards involved in the use of the 67-827 composition.

LABEL INFORMATION:

New label analysis and directions will be required and label direction revision on #53-C House Paint to use #59-C.

SIMPLIFICATION:

This release letter will have an adverse affect on simplification in that one new finished product and one new raw material G-400, Acryloid B67MT will be required.

PATENT INFORMATION:

There are no currently known patents which would be in conflict with the manufacture and sale of the proposed wood primer composition designated as 59-C Wood Primer. This organic solvent-based primer contains a linseed oil modified alkyd resin and an acrylic resin as the principal film-forming components, a combination which is not new in the coating art. Lead drier is omitted from the formulation to enhance the resistance to sulfide staining of the resulting paint, calcium naphthenate being used in lieu of lead tallate.

CONFIDENTIAL INFORMATION:

This letter is classified "For Du Pont Use Only".

FORMULA CARDS:

Formulas for 67-827 and its base are attached.

MARSHALL DEVELOPMENT LABORATORY

W. D. DEVEISE

WDD:hfm

APPROVED _____ DATE July 15, 1963

APPROVED _____ DATE _____

101	CODE	67	827	NAME	FUME RESISTANT WOOD PRIMER	DATE	31069
202	CUST.	TRADE SALES		LOC	WILM	REG & D	WILM TRADE
203	END USE	EXTERIOR WOOD			TEMP	COLOR	WHITE
204	FORM L	J E OYLER		R.L. I.		N. B. & P.	8133-184
205	REVISER	W D DEVEISE/FRH		Rx DIST.	FP	PLANT	PHILA
206	PREV Rx	67-B-45044 11-8-65-P-OBS		T.C. DIST.	P	APPR	WFG
307	R E I	REINSTATE-ASSIGN PERM CODE TO 67-B-45044					
208	S. T. P.			QUAL. STD.	67-827-P	COL. STD.	W-67-827-P

309 INFORMATION
310 TESTING
311
312

DRY TACK FREE TM-219-A 10 HRS. MAX //*HARD DRY TM-219-A 64 HRS. MAX // SAG TM-311-B 18 MM MAX BRUSH TM-365-H APPLY OVER GLAZED CARDBOARD. TEST FOR ALL PROPS // *RUN AFTER THE FACT.

WFG

MAR 11 1969

420	VOL. SOL.	54.0 %		PIG. VOL.	. %	WT. SOL.	67.6 %

OTHER INFO.

529	CODE	67	827	NAME	FUME RESISTANT WOOD PRIMER	DATE	31069
230	PAT. MAR.				VISC.	ST 67-71 KU	FINE.
231	CONT.	B-K-X			GAL. WT.	9.57±0.	ICC. INFO.	+150L

MANUFACTURING INGREDIENTS AMOUNTS AND DIRECTIONS

	INGREDIENT	*	SG	ALT. #1	ALT. #2
632	THIS IS A SULFIDE FUME RESISTANT PAINT-DO NOT CONTAMINATE				
633	WITH HEAVY METAL BEARING MATERIALS.				
735	39 5108			687	
736	RC 141			85	
737	G 400			156	
738	VH 7552		S2	2	
739	H 173			2	
740	T 8629			25	
642					ADD & MIX WELL. MAINTAIN THIN.
643	RATIO.				
644					
745	TOTAL			957	

N42498.01

DUP030022593

	CODE	[illegible]	NAME	WHITE DISP[illegible]
	[illegible]	INKSO[illegible]		CON. S.D.
203	[illegible]		TEMP	COLOR: WHITE
204	[illegible]	1 E OXI[illegible]	[illegible]	[illegible]
205	[illegible]	1 E OXI [illegible]	[illegible]	[illegible]
206	[illegible]	39-8-9[illegible]-3-69	[illegible] 0	[illegible]
207	[illegible]	ASSIGN[illegible] CODE TO 39-8-9844		
	S.T.P.			

TESTING INFORMATION

320	VOL.SOL.	5323	[illegible]	4060	WT. SOL. [illegible]

321 OTHER INFO. P/L = .374 // % P/L / IP = .24// IP = 1.32 //
322 P/B = 84.25 COMPUTER PROGRAMMED //

329	CODE	[illegible] 5108	NAME	WHITE DISPERSION
330	[illegible]		V.O.C.	[illegible] MAX
331	CONT.		[illegible]	10.8 [illegible]

		[illegible]	#	LC	ALT. #1		ALT. #2
332	[illegible] SS[illegible] // FUME RESISTANT FORMULA DO NOT CONTAMINA[illegible]						
333	WITH [illegible] MERCURY						
335	[illegible]	[illegible].29			13	62	
[illegible]	[illegible]	262			3	63	
[illegible]	[illegible]	141			18	55	
[illegible]	[illegible]	7790			3	63	
[illegible]	[illegible]	[illegible]07			1	95	
[illegible]	[illegible]	[illegible]			0	26	
[illegible]	[illegible]	[illegible]	[illegible]		25	03	
343	[illegible]	[illegible]			12	97	

ADD IN ORDER WITH AGITATION
345 [illegible] INS.// MAINTAIN THINNER RATIO

[illegible]	[illegible]	141			20	36

ADD WHILE MIXING MIX 10
[illegible] GRIND AT PROCESS GRIND TEMP 120-140 DEG F.
SAND CATCH RATIO 50/50 // GRIND RATE 200-250 GPH IN
[illegible] GAL. UNIT // CHECK FINENESS

[illegible]	TOTAL	1 100	00

DUP030022594