

C.W. Shay

J. O. GRAVES (23)
DIRECTOR OF PRODUCTION
F. & F., WILMINGTON

C. W. THEOBALD
DIRECTOR OF RESEARCH DIVISION
F. & F., WILMINGTON

R. N. SANGER (4)
TRADE SALES MANAGER
F. & F., WILMINGTON

CC: W. D. Lawson, F&F, Wilm.
G. T. Vaala, " "
F. D. Chapman, " "
J. C. Richards, " "
D. L. Herndon, " "
J. A. Klacsmann, " "
P. I. Poindexter, " "
O. H. Bullitt, Jr., Lab.
P. J. Graham, Exp'l. Sta.
G. I. Mulholland, Flint
G. R. Maher, F&F, Wilm.
A. B. Naselow, " "
L. S. Baker, " "

File: 3320

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 tellate (VD-5822), the drier, and sulfide fumes in the atmosphere. This reaction is countered 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:

<u>Code</u>	<u>Name</u>	<u>67-024</u>	<u>67-827</u>	<u>Change</u>
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.

8/2/69
Official Cost
0.82 mill cost
67-024 2.50
830-023 2.69
67-827 2.87
1000 gal in 1/2
G 400 39.49/100
all packaging
9 69.32/100 gal
note for LCM

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.

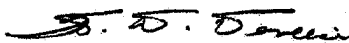
CONFIDENTIAL INFORMATION:

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

FORMULA CARDS:

Formulas for 67-827 and its base are attached.

MARSHALL DEVELOPMENT LABORATORY

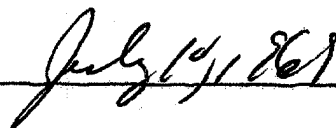

W. D. DEVEISE

WDD:hfm

APPROVED



DATE



APPROVED

DATE

101	CODE	67	827	NAME	FUME RESISTANT WOOD PRIMER	DATE	31069
202	CUST.	TRADE SALES			LOC	WILM	REG. B.O.
203	END USE	EXTERIOR WOOD			TEMP	COLOR	WHITE
204	FORM	J E OYLER			R.L. I.	N. B. & P.	8133-184
205	REVISER	W D DEVEISE/FRH			R. DIST.	PLANT	PHILA
206	PREV. R.	67-B-45044 11-8-65-P-OBS			T.C. DIST.	APPR	WFG
307	R.F.I.	REINSTATE-ASSIGN PERM CODE TO 67-B-45044					
208	S.T.P.				QUAL. STD.	67-827-P	COL. STD.
309	I	DRY TACK FREE TM-219-A 10 HRS. MAX // *HARD DRY TM-219-A 64					
310	N	HRS. MAX //					
311	T F	SAG TM-311-B 18 MM MAX BRUSH TM-365-H APPLY OVER GLAZED					
312	E O	CARDBOARD. TEST FOR ALL PROPS // *RUN AFTER THE FACT.					
	S R						
	T M						
	I A						
	N T						
	G I						
	O N						
420	VOL. SOL.	540	%	FIG. VOL.	%	WT. SOL.	676
	O						
	T I						
	H N						
	E F						
	R. O.						

WFG

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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.	957±0	ICC. INFO.
632	M	THIS IS A SULFIDE FUME RESISTANT PAINT-DO NOT CONTAMINATE					
633	I	WITH HEAVY METAL BEARING MATERIALS.					
735	N						
736	G						
737	R						
738	E						
739	F						
740	A						
642	D						
643	C						
644	T						
745	R						
	A						
	M						
	O						
	I						
	U						
	R						
	E						
	C						
	T						
	S						
	T						
	I						
	O						
	N						
	S						

INGREDIENT	* SC	ALT. #1	ALT. #2
39		687	
RC		85	
G		156	
VH	52	2	
H		2	
T		25	
8629			
TOTAL		957	

ADD MIX WELL. MAINTAIN THIN.

N42498.01

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