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MAR 23 1966

MARSHALL DEVELOPMENT LABORATORY SUPPLEMENTARY
RELEASE LETTER #2013-C

CONVERSION OF DU PONT SPRAY PAINT GLOSS WHITE, FLAT WHITE
AND HUNTER GREEN FROM COMPETITIVE LACQUERS TO "DUCO*"
LACQUERS

RELATED RELEASE LETTERS #2013, #2013-A, #2013-B

SALES INVESTIGATION WT-29-65

COST CODE: 3350 - IMPROVE. OF ESTABLISHED BUSINESS

PROPOSAL AND EXTENT OF RELEASE:

The Du Pont Spray Paint Line is currently based on "Duco" nitrocellulose lacquers except the Gloss White, Flat White and Hunter Green which are based on nitrocellulose lacquers purchased from Lenmar Lacquers, Inc. by Sprayon Products, Inc. Sprayon custom loads the entire Du Pont Spray Paint line. This letter proposes conversion of the Gloss White, Flat White and Hunter Green to the "Duco" nitrocellulose lacquer quality. The adoption of this proposal will terminate the purchase of competitive lacquers for use in Du Pont Spray Paint. This proposal is being made by the Development Laboratory at the request of Marketing.

"*Registered Du Pont Trademark"

MANAGEMENT DECISION REQUESTED:

Management is requested to approve this proposal after taking into consideration the following factors:

1. Conversion of these colors to lacquers of our own manufacture will improve Du Pont earnings. (See Cost Information).
2. The "Duco" nitrocellulose lacquers offer a different balance of properties than the competitive lacquers. (See Technical Section).
3. Use of "Duco" nitrocellulose lacquers in lieu of the Lenmar lacquers will give Du Pont greater control of processing variables.
4. Satisfactory stability information in aerosols is limited to two (2) weeks at 120°F. Past experience has shown this to have good correlation with long term shelf stability.

TECHNICAL OPINION:

Although the proposed "Duco" Gloss White and Hunter Green are slightly inferior to the Lenmar Lacquers in gloss, adhesion and flexibility, no customer dissatisfaction is expected since a recent survey showed that hiding and drying time are the significant properties. The balance of properties offered including stability are believed commercially satisfactory. We favor approval of this release.

DESCRIPTION OF PRODUCT:

Although the proposed Gloss White and Hunter Green "Duco" nitrocellulose lacquers show slightly lower gloss than the Lenmar lacquers, they are at the same gloss level as the remainder of the Du Pont Spray Paint line. In addition, the hiding of the proposed colors is slightly better than the Lenmar lacquers. The consumer is more critical of hiding than gloss, adhesion or flexibility.

Again, the proposed Gloss White and Hunter Green are slightly poorer than the Lenmar lacquers in flexibility and adhesion but are equal to the remainder of the Du Pont Spray Paint line. The proposed Flat White is at a lower gloss level than Lenmar Flat White. Marketing has indicated that the lower gloss level is preferred. It is equal in adhesion and flexibility.

The following table shows a comparison of the proposed "Duco" lacquers, the current Du Pont Spray Paint and Krylon.

	<u>Lenmar Lacquer</u>	<u>"Duco" Lacquer</u>	<u>Krylon Lacquer</u>
Gloss White 60° Gloss-Aluminum	87	80	85
60° Gloss-C.R.S.	86	77	85
Hiding after 4 passes	Good	Good +	Fair
1 Wk. Impact-Aluminum*	4-9	5-8	6-8
" " Impact-C.R.S.	3-1	2-1	4-2
" " Conical Mandrel-Alum.**	0"	4"	0"
" " Conical Mandrel-C.R.S.	0"	4"	0"
Hunter Green -60° Gloss-Aluminum	99	85	76
60° Gloss-C.R.S.	84	75	71
Hiding after 2 passes	Good	Good +	Fair
1 Wk. Impact - Aluminum	5-9	6-8	7-6
" " Impact - C.R.S.	3-0	2-0	5-1
" " Con. Mandrel - Alum.	4"	0"	3"
" " Con. Mandrel - C.R.S.	4"	1"	0"
Flat White 60° Gloss - Aluminum	14	9	13
60° Gloss - C.R.S.	14	10	14
Hiding after 4 passes	Good	Good +	Fair
1 Wk. Impact - Alum.	3-8	3-7	5-8
" " Impact - C.R.S.	1-0	1-0	1-0
" " Con. Mandrel. - Aluminum	4"	4"	4"
" " Con. Mandrel - C.R.S.	4"	4"	4"

* -Convex-Concave; 10= no failure; 0 = complete failure

** -0"= no failure; 4" = complete failure across panel.

C.R.S. = cold rolled steel.

COMPETITIVE SITUATION:

The table above (under Product Description) shows property comparison versus Krylon the leading competitive aerosol paint. While the property balance in all categories does not favor the proposed composition, the key property of hiding is slightly improved. The service properties such as flexibility and adhesion are not readily perceived by the consumer. Therefore, we believe that our competitive situation will be slightly improved by the adoption of this proposal.

TABULATION OF COMPOSITIONS:

Compositions will not be shown here since they are shown in the attached formulae. In addition, the compositions of the Lenmar Lacquers and Krylon lacquers are unknown.

REPRODUCIBILITY:

We have no reproducibility data on these compositions. However, since these formulations are standard nitrocellulose quality we expect no reproducibility problems.

CONTINUING LABORATORY WORK:

All of our tests were performed on Du Pont packaged aerosol paints. After Sprayon packages these formulae we will again test them against the Lenmar and Krylon lacquers. Six month and twelve month stability of the Sprayon packaged aerosols will be run by the Development Laboratory. Sprayon runs 2 weeks at 140°F. stability tests on all formulae they package.

COST INFORMATION:

The proposed lacquers will be transferred to Sprayon at no charge. Sprayon will charge us packaging costs only. Investigation WT-29-65 requested mill costs of \$2.05 - 2.20 per gallon (drums - 1000 gal. batches). The mill costs as calculated by the Wilmington Cost Section are as follows:

243-64746	243-64747	243-64748
<u>Flat White</u>	<u>Gloss White</u>	<u>Hunter Green</u>

Mill Cost per gal. -
drums - 1000 gal.
batches

\$2.385

\$2.088

\$2.106

Our best estimate is that Du Pont will save approximately \$.03 per can by converting to the above formulas.

MANUFACTURING PROBLEMS:

No unusual manufacturing problems are associated with this release. No new raw materials are involved. This release will have no appreciable effect upon the consumption of established raw materials or intermediates. The new products will be made on conventional "49" Process equipment. No special equipment or contamination problems are associated with this release.

TOXICITY OR OTHER HAZARDS:

The toxicity hazard is not greater than the rest of the Du Pont Spray Paint line with the exception of the Hunter Green which contains more than 1% metallic lead based on paint solids.

LABEL INFORMATION:

The Gloss White and Flat White will require the same label information as the rest of the line. The Hunter Green will require a "Lead Warning" notice. A new label analysis will be required for each of these colors.

SIMPLIFICATION:

The net result of this release will be the addition of 3 supply codes to the 243-Line. No additional package codes will be required.

PATENT INFORMATION:

No patent complications are known to be involved in the proposed action to specify "Duco" nitrocellulose lacquers in place of certain purchased Lenmar lacquers packaged by Sprayon Products, Inc., under the label Du Pont Spray Enamel.

CONFIDENTIAL INFORMATION:

There is no confidential information associated with this Release Letter.

FORMULA CARDS:

Formula cards for the supply codes (243-64746, 243-64747, and 243-64748) are attached to the Production, Development and Research copies of this letter. The package codes 243-84497, 243-84491 and 243-84495 are being revised to show the "Duco" materials in place of the Lenmar lacquers.

MARSHALL DEVELOPMENT LABORATORY

W. T. Clark
W. T. CLARK

WTC:mtar
3/18/66

APPROVED: *W. T. Clark* DATE: 3/22/66
APPROVED: _____ DATE: _____

203	DATE	10-03-65	REL	2013 WT-29-65	REL	8162-104
204	FORM	W F CLARK/JCB	PROD	FUP-31	PROD	PARLIN J
205	REVISION		REVISION		REVISION	CWS-WFG
206	REL	NEW // RL-2013C WT-29-65	REL	243-64748-J	REL	0162-7
207	SOLIDS	TM-42-A 10.1-43.5% //				
208	GLOSS	1 COAT POUR OVER BARE ALUM. AIR DRY 30 MINS.				
209	FORCE DRY	20 MINS. AT 60 DEG C. GLOSS VALUE 60/80 NIK.				
210	E O					
211	S O					
	T O					
	I A					
	D T					
	C T					
	O					
	N					
420	Net Sol.	277 %	Net Sol.	96 %	Net Sol.	415 %
321		SOLIDS INCRD. = PX 5.6 // G-608 3.1 // RL-233 6.4 //				
322	O	PLAST. 1.7 // PIC. 10.4				
323	T F	ANY RX. CHANGES WILL REQUIRE NEW LABEL ANALYSIS CALC.				
324	H L	BY DIV. PLAN. GROUP PHILA. PLANT.				
325	E F	DO NOT REVISE WITHOUT CONSIDERING AEROSOL RX. NOT				
326	R C	TO BE USED FOR OTHER THAN EXPERIMENTAL PROD. UNTIL				
327		RL-2013-C APPROVED THIS FORMULA CONTAINS LEAD //				

529	COAT	243	64748	DATE	HUNTER GREEN "DUCON" LACQUER ENAMEL	REL	31066
230	PREP. COAT			WTS	100 40-50"	REL	
231	COAT	DRUMS		WTS	842 40"	REL	1 BOL
733	I	H	49	S2	53:16		
734	I	RL	233		55:13		
735	I	G	608		51:30		
736	I	PX	7420		26:46		
737	I	PX	7400		40:61		
638	I	T					ADD WHILE MIXING. + MIX 1 HR.
739	I	W	679	S1	69:88		
640	I	H					ADD WHILE MIXING. + MIX 2 HRS.
741	I	H	6	S2	35:59		
742	I	H	35		44:26		
743	I	H	44		15:02		
644	I	A					ADD WHILE MIXING. + MIX 2 HRS.
745	I	RL	233		22:15		
746	I	H	22		2:24		
747	I	HE	111		12:41		
748	I	H	145		12:78		
749	I	H	35		34:52		
750	I	H	49	S2	16:86		
751	I	H	6	S2	27:63		
752	I	H	44		24:58		
753	I	VH	5379		4:92		
654	I	D					ADD MIX 1 HR.
755			249	0582	259:93		

756		253	050	31:78			
657							SHADE TO STD. + MIX 30 MINS.
758		TOTAL		842:00			

N42512.01

DUP030022123

01	FORM	243	64747	NAME	GLOSS WHITE "DUCON" LACQUER ENAMEL	REV	3	666
02	MANUFACTURER	SPRAYON PRODUCTS, INC.			LOC	35-45"	FORM	
03	PRODUCT	AEROSOLS			REV	1	0122	
04	FORM	W T CLARK/JCS			DATE	12-29-85	REV	102
05	REVISION				PLANT	PARLIN-J	APP	CWS-WFG
06	PREP				DATE			
07	R.F.C.	NEW // RL-2013-			DATE			
08	S.T.P.	70			DATE	1-0122		
09	I	SOLIDS TM-42-A 43.0-47.45 //						
10	H	GLOSS 1 COAT POUR OVER BARE ALUM. AIR DRY 30 MINS. FORCE						
11	Y F	DRY 20 MINS. AT 60 DEG C. GLOSS VALUE 60/75 MIN.						
	E O							
	S R							
	Y E							
	I A							
	U T							
	G I							
	D							
	W							
20	VOL SOL	28%			Vol Vol	173%	Vol Sol	452%
21		SOLIDS INCRD. = PX 7.4 // G-608 3.7 // RL-233 9.4 //						
22	O	PLAST. 1.9 // PIG. 19.0						
23	T I	ANY FORMULA CHANGE WILL REQUIRE NEW LABEL ANALYSIS CALC.						
24	H F	BY DIV. PLAN. GROUP PHILA PLANT.						
25	E F	DO NOT REVISE WITHOUT CONSIDER. AEROSOL FORMULATIONS.						
26	R O	NOT TO BE USED FOR OTHER THAN EXPER. PRDD. UNTIL RL-2013-C						
27		IS APPROVED.						

229	FORM	243	64747	NAME	GLOSS WHITE "DUCON" LACQUER ENAMEL	REV	3	666
230	MANUFACTURER	COS			LOC	35-45"	FORM	
231	CONT	DRUMS			REV	1	0122	
	I A							
733	I H	49	S2	86	21			
734	G U	233		81	65			
735	R F	608		67	17			
736	E A	PX	7420	36	32			
737	D C	PX	7400	59	52			
738	I T					ADD	WHITE MIXING. + MIX 1 HR.	
739	E U	W	123	164	29			
740	H R	W	10	8	14			
741	T I					ADD	WHITE MIXING + MIX 2 HRS.	
742	S K	H	6	60	82			
743	G H	35		72	62			
744	A H	44		25	38			
745	D RL	233		39	59			
746	O H	22		6	75			
747	U R	HE	111	10	12			
748	E E					ADD	MIX 2 HRS.	
749	T G	H	145	19	05			
750	S T	H	35	45	34			
751	I H	49	S2	34	53			
752	A D	H	6	54	46			
753	H N	H	44	21	88			
754	D S	G	697	0	89			
755	V H		5379	9	13			

656						ADD	MIX 1 HR.	
757		243	0514		3	71		
758		253	0362		0	43		
759		253	0222			CE		
660							SHADE TO STD. + MIX 30 MINS.	
761			TOTAL		908	00		

01	CODE	243	64746	FLAT WHITE "DUCCO" LACQUER	DATE	31665
02	PROD	SEPARATION PRODUCT				NO
03	EXP. D.	AEROSOLS				PHILA
04	PLANT	W T CLARK/JCB		REL. NO.	2013-C WT-29-85	REL. NO. E162-107
05	REVISION			IS. NO.	FJPSY	PLANT PARLIN-J
06	PROD. D.			IS. D. NO.		APPR. CHS-WFC
07	R.F.L.	NEW // RL-2013-C INV. WT-29-85				
08	S.T.P.	70		REL. NO.	243-64746-J	REL. NO. I-0121-1
09	SOLIDS TM-42-A 47.4-51.8% //					
10	H GLOSS 1 COAT POUR OVER BARE ALUM. AIR DRY 30 MINS.					
11	T F FORCE DRY 20 MINS. AT 60 DEG C. GLOSS VALUE 60/15 MAX.					
	E O					
	S R					
	T E					
	I A					
	N Y					
	G I					
	O N					
20	VOL. SOL.	320 %		PIG. VCL	232 %	WT. SOL. 495 %
321	SOLIDS INGRED. = PX 7.2 // G-608 3.6 // RL-233 9.1 //					
322	PLAST 1.8 // PIG. 23.3					
323	ANY RX CHANGES WILL REQUIRE NEW LABEL ANALYSIS CALC. BY					
324	DIV. PLAN. GROUP PHILA PLANT					
325	DO NOT REVISE WITHOUT CONSIDERING AEROSOL RX.					
326	NOT TO BE USED FOR OTHER THAN EXPERIMENTAL PURPOSES					
327	UNTIL RL-2013-C IS APPROVED //					

529	CODE	243	64746	FLAT WHITE "DUCCO" LACQUER	DATE	31665
230	PROD.	CGS				REL. NO. 100 40-50"
231	PROD.	DRUMS				REL. NO. 940 40
						REL. NO. -1 80L
733	IN H	49	S2	86	67	
734	IN G	233		92	12	
735	IN R	608		67	41	
736	IN E	7420		36	65	
737	IN D	7400		59	92	
738	IN T					ADD WHITE MIXING. + MIX 1 HR.
739	IN U	123		165	29	
740	IN W	10		8	03	
741	IN I	1090	S1	45	48	
742	IN S	12		9	36	
743	IN G					ADD WHITE MIXING. MIX 2 HRS.
744	IN A	6	S2	62	45	
745	IN D	35		56	52	
746	IN O	44		25	68	
747	IN U	233		39	86	
748	IN E	22		6	96	
749	IN T	111		10	17	
750	IN S					ADD AND MIX 2 HRS.
751	IN I	145		19	26	
752	IN A	35		35	23	
753	IN U	49	S2	24	78	
754	IN D	6	S2	56	05	
755	IN H	44		21	96	
756	IN G	693	S3	1	07	
757	IN V	5379		9	10	
758						ADD + MIX 1 HR.
759		243	0514	-TRA	CE-	
760						ADD SHADE TO STD. + MIX 30 MINS.
761		TOTAL		940	00	