SUBJECT: FORMULA RECORDS - REACTOR MANUFACTURED PRODUCTS

DEC 2 1969
E.T.M.

PURPOSE: To set forth instructions for preparing and processing formula records on Reactor Manufactured Products so that a uniform system will prevail throughout the Company Laboratories.

LIMITATIONS:

Manufactured formulations which must be recorded on "Reactor Manufactured Product" Form 70281 Sherwin-Williams Formula Record as described in this bulletin are as follows:

1. Intermediates (6-Digit)
   a. Clear Varnishes and Vehicles (cooks)
   b. Clear Varnishes and Vehicles (hot cuts)
2. Classified Sales Alphanumeric Rexes
   a. Clear Varnishes and Vehicles (cooks)
   b. Clear Varnishes and Vehicles (hot cuts)

All other formulations which are processed by a grinding (mill) or blending operation must be recorded on the "Paint and Lacquer Formula Record", Form 70246 described in R&P Bulletin No. 206.

GENERAL INSTRUCTIONS:

1. All Formula Records must be treated as "Company Confidential" matter. When discarded they must be destroyed by shredding or burning.

2. The formula reference used in this bulletin is the combination arrangement consisting of Form 70281 "Reactor Manufactured Product" Formula Record Offset Master and Form 70282 "Reactor Manufactured Product" Production Batch Slip Ozalid. This combination arrangement consists of the Offset Formula Record as the top sheet and the Production Batch Slip Record as the second sheet. Carbons are so arranged that in typing the Offset Formula Record, only the left-hand section showing composition, manufacturing instructions and testing information is picked up on the Production Batch Slip Ozalid. The reason for this arrangement is that the laboratory is not permitted to give Production Departments the Chemical Name of ingredients going into the formulation.

*Laboratories should use-up their stock of old form "Varnish Formula Record", 70247 and thereby R&P No. 126 dated 3-8-68 will still apply for that purpose.

4. Cleveland Technical Service Department is responsible for duplicating and distributing formula records for all Company laboratories. This only includes the Prime records as well as the Prime Alternates described under Caption Detail No. 2 on Pages 3 and 4. Local Variation formulas, described under Caption Detail No. 2 on Page 4, are duplicated and distributed by the formula issuing laboratory in the following manner.

1 White copy to Cleveland General Cost Department.
1 White copy to Cleveland Technical Service Department (Master File).
1 White copy to the Prime Formula Control Laboratory.
1 Salmon copy to Formulator issuing the record.
? White copies to satisfy local needs.

5. The laboratory which issues Prime or Prime Alternate Formulas sends the following records to Cleveland Technical Service for Processing:

A. Classified Sales Rexes.

1. Line Products - Identified with a Permanent Classified Alphanumeric Rex. Send the Offset Master Formula Record and the Production Batch Slip Ozalid or its Matte Foil.

2. Specials - Identified with an Experimental Classified Alphanumeric Rex which contains the Plant Alpha Code within the rex assignment.

Send only the Offset Master Formula Record. A copy of the Ozalid Production Batch Slip is given by the issuing laboratory to its local factory. If needed by other manufacturing points, they will contact the issuing laboratory directly for a copy.

B. Intermediates - Identified with a 6-Digit code.

Send only the Offset Master Formula Record unless it is known by the issuing laboratory that the intermediate is used in a major line or lines whereby a copy of the Production Batch Slip Ozalid tissue or its Matte Foil must also be sent to Cleveland.

For those used only at the formula issuing location, a copy of the Ozalid Production Batch Slip is given by the issuing laboratory to its local factory. If needed by other manufacturing points, they will contact the issuing laboratory directly for a copy.

6. Changes in this bulletin must be approved by the Formula Record Writing Committee. Contact Operations Services at Cleveland Technical Service.

0007-SWP-0059352

PROCEDURE: Normally, the formulator prepares for the typist a handwritten formula record by using a blank worksheet as on Attachment "A" (front and back sides). These worksheets are prepared and stocked by the laboratory or department office.

There may be other means used by the various laboratories in getting formula records from the formulator to the typist. This is strictly left up to the discretion of the laboratory as to the procedure they want to follow.

Those laboratories which have success to a computerized program for bulking-out their formula are encouraged to handle such calculations in that manner.

It is recommended that typewriters with Elite type at twelve characters per inch and spacing of six lines per vertical inch be used in typing these records.

The formula record consists of four sections:

a. Left-hand section of front side is for recording testing information, composition in quantities of weight and volume and material code identity of the ingredients.

b. Right-hand section of the front side shows the Chemical Name for the formulation ingredients.

c. Left-hand section of the back side is designed to provide Production Departments the manufacturing instructions and cooking log.

d. Right-hand section of the back side is for laboratory use in recording information useful to technical personnel. This should not include any data of importance to the Production Department.

CAPTION DETAILS -(See Attachment A)

1. Rex - Enter the 6-Digit code or Classified Sales Alphanumeric assignment for the formulation. Refer to the Materials Register or R & P Bulletin #177 for information on the assigning of 6-Digit codes and the Product Classification Manual on the procedure for assigning Classified Sales Alphanumeric rexes. There is a definite pattern of spacing and bracketing the various characters of a 6-Digit and Classified Sales Alphanumeric assignment and this system must be followed.

2. Card No. - This will denote the specific card number for the formula being issued. Formulators will use Card No. 1 for original development work, increasing the numbers consecutively for revisions as they are needed.

Prime Formulas - These are formulas whose card number consists only of a numeric character such as Card No. 1, 2, 3, etc. The numeric character is not followed by any Alpha or other type of suffix.

0007-SWP-0059353

Prime Alternate Formulas - These are not Local Variations but are permissible formulae using different raw materials and/or different equipment as batch size may dictate and are coequal to the Prime Formula. Such Prime Alternate Formulae are issued only by the laboratory controlling the particular formulation. A Prime Alternate Formula can only be issued in conjunction with or after the Prime Formula is prepared.

The proper way to designate a Prime Alternate Formula is to use the latest Prime Formula card number followed by the abbreviation "Alt." and a capitol letter of the alphabet starting with "A" for each Prime Alternate Formula as issued. An example is Card No. 2 "Alt. A." In this case, both the Prime and Prime Alternate Formulas are considered to be active, and all production departments may use either one of them.

Local Variation Formulas - These are issued to satisfy local conditions such as raw material availability and/or use of equipment other than that specified in the Prime Formula or Prime Alternate Formula. (See Above)

Before a Local Variation formula is issued, the control laboratory responsible for the Prime Formula should be consulted so as to be assured that the anticipated change will not degrade quality, performance, etc.

The proper way to identify a Local Variation Formula is to use the latest Prime Formula card number, or if in existance, its Prime Alternate designation followed by the Alpha code assigned to your Plant and a numeric character beginning with 1, etc.

Examples of some possibilities in identifying Local Variation Formulas under the Card No. caption are as follows:

Card No. 3-N-1	(Newark Local Variation of Prime Formula Card #3.)
Card No. 3 "Alt. A" N-1	(Newark Local Variation of Prime Alternate Formula Card #3 "Alt. A")
Card No. 3-N-1 "Alt. A."	(Newark Alternate version of its Local Variation 3-N-1 where both the 3-N-1 and 3-N-1 "Alt.A" are coequal)
Card No. 3-N-2	(Newark Local Variation of Prime Formula Card #3 which would be used to revise or void all Newark's 3-N-1 formulas)

As soon as the control laboratory revises or voids the Card No. 3 formula under a Card No. 4 record, all of the Alternates, whether they be Prime or Local Variations, become obsolete.

Experimental Factory Batches - Occasionally the laboratory considers it imperitive that a formulation must be production-proven before a formula record is issued for general distribution. Such formula records will not contain the Card No. designations shown above but instead are identified as Card No. Exp. A for the first attempt, Exp. B for the second attempt, etc., until a satisfactory production batch is attained. The issuing laboratory distributes such records only to those local offices requiring them. As soon as an acceptable production-proven record is ready, the standard pattern for Card No. entries will be followed.

3. Date - This should be the date the formulator prepares the formula record, and not the date the clerk types it on the formula master.

4. Name - If it is a "Line" product, the official name of the line as appears on the "Product Change" form or "Record of Product" should be so stated. On non-listed products use the name agreed to by the Sales Department and Development Laboratory. Refer to R&P Bulletin #124 for use of customer's names and trade marks on S-W Company products.

Intermediates under 6-Digit code assignments should be named as to composition according to the following pattern:

(a.) Oils - Polyols - Monobasic Acids - Dibasic Acids. Example: Soya Glycerol TME Benzoate Maleate Phthalate.

(b.) Monomer Modified - Oils - Polyols - Monobasic Acids - Dibasic Acids. Example: Acrylonitrile Methyl Methacrylate Styrene Modified Soya TME Crontonate Phthalate.

(c.) Resin Modified - Oils - Polyols - Dibasic Acid. Example: Phenolic Modified Soya Tung Glycerol Phthalate.

(In each class, materials are listed alphabetically.)

Trade names such as "Acryloid B-72 Solution," etc. are not to be used.

5. Qual./Spec./Customer - Enter here any government or customer's specification number or show a reference to a standard quality material and the customer's name if the formula has been developed for a specific customer.

If it is a "Line" goods development either as a Classified Sales Rex or 6-Digit Intermediate, show the applicable Sales Department such as Sherwin-Williams Trade Sales Division or Sherwin-Williams Chemical Coatings Division, etc. rather than Sherwin-Williams Company.

For those 6-Digit Intermediates going into several "Lines," show only the Sales Department which controls the major "Line". Do not identify a 6-Digit Intermediate as a Porch & Floor Vehicle, etc.

6. BSMS Code - This is the Branch Sales Management System numerical code assigned to all products sold by Sherwin-Williams Branches. It is imprinted on cartons, labels, and rings and used by Branch personnel in sales transactions. The code is assigned at the same time as the Classified Alpahnumeric Sales Rex and must be entered on the formula record.

7. Air Pollution Status - Enter the appropriate designation regarding Rule 66, Regulation 3 or any other similar air pollution controls which may be initiated. Questions regarding air pollution entries on formula records should be referred to the local laboratory Air Pollution Coordinator. He has knowledge as to the latest instructions which apply to air pollution entries.

0007-SWP-0059355

8. Test - This caption should be filled out as completely and precisely as possible so as to include all characteristics associated with the product. The characteristics which the formulator wants checked on every batch must be marked with an "X" alongside the characteristics in question. The Wt. per Gal. at 25°C and NVM, Wt. % must be entered for all formulations since it is needed as a parameter in computer programming.

Show one figure only in the "Minimum, "Standard", and "Maximum" columns of the various characteristics tested.

With the establishment of such a range, it is easy to classify the batch as being "in-spec." or "out-of-spec."

Tolerance from the "Standard" figure on the various characteristics are as follows:

Characteristics	Tolerance
Sp. Gr. @25°C	±0.005
Wt./Gal. @25°C (obtained as follows: 8.33 x Sp. Gr.)	
Visc. Gardner	(A5-V) ± 1 letter 10-1000 Stokes (W-Z10) ± 1 Stokes Tube
NVM Wt., %	(Up through 49%) ± 2% of total % from Std. (50% and above) ± 1% from Std.
Color, Gardner	2 numerals above Std.
Acid No., (NVM)	± 10%
Cure, Seconds	± 10%

In all cases the Institutional Test Method should be shown if there is one in existance. Whenever other test methods such as ASTM, Fed. Spec., etc., which are not assigned an Institutional Test Method No. are used, the correct designation should be entered in the Test Method column.

9. Composition - This caption covers instructions for entering the composition of the formula in the proper columns headed by "Pounds," "Gallons," and "Material Number".

Pound and Gallon figures must be shown by the decimal system using two decimal places. For liquids, both pound and gallon figures must be entered. For dry ingredients only the "Pounds" figure is necessary.

There are some occasions when pounds and gallons do not properly describe the quantity of material that is needed, such as in the case of reodorants, inhibitors, catalysts, etc. In such cases, the measurements should be stated in either the weight or volume column with description of the measuring division and then underlined to be sure that all know that the measurement is in grams, cc's, or fluid ounces. The "Pounds" and "Gallons" columns are distinguished with a divider line in order to enter the whole number to the left of the line and the decimal to the right. Alignment of whole numbers and decimals must be in good vertical arrangement for ease in observation and to help detect errors.

The material number column is self-explanatory. The 6-Digit code must be shown with a space between the 2nd and 3rd and also the 4th and 5th digits, such as 43 10 52. If the ingredient is a liquid or gas, the 6-Digit code must be enclosed in parentheses such as (37 32 10) whereas for dry ingredients, the paraetheses are left off. Whenever alternate ingredients are being shown, the standard material must be shown first with the alternate material directly below it. The alternate material must show the abbreviation "Alt" in the "Pounds" column for dry ingredients and in the "Gallons" column for liquid ingredients. The standard and alternate material numbers are then bracketed together. An example is as follows:

Pounds	Gallons	Material No.
1 75		43 10 52
Alt.		43 10 58
460 00	57 50	(35 38 51)
	Alt.	(35 39 20)

Arrangement of ingredients in the composition Material No. column is important. This order is to be selected by the formulator so as to obtain the results desired. For alkyds the ingredients are normally listed in the following order: Oils - Polyols - Dibasic Acids - Monobasic Acids. There may be instances where the order would be different.

10. Chemical Name - Formulators must enter the chemical name for each ingredient used in the formulation as shown in the Materials Register. If the ingredient is newly established and not as yet part of the Materials Register, the chemical name used must be exactly as set up by Cleveland Technical Service, since this is the identity which eventually will appear in the Materials Register.

11. Reason For Issuance or Revision - For Card No. 1 formulas, the reason for establishing the formula should be shown. Beginning with card No. 2 and upward, the major change or changes made in the formula and specific reasons why the changes were made must be shown.

12. Equipment - Formulators must specify one type of equipment which is suitable for manufacturing the formulation. Examples are: SS Dow Therm, SS Steam Heated, Zone Tank Resin Reactor, etc. The size of such equipment does not need to be shown since this equipment varies somewhat from plant to plant.

13. Mfg. Hrs. - The manufacturing hours figure is obtained from an actual factory-produced batch. This is important from the standpoint of cost estimating.

14. Filtered - Enter "yes" or "no". If material is strained through cheesecloth, etc., rather than filtered, the word "Strained" is to be entered.

15. Thinned - Enter "yes" or "no".

16. Parallels - All parallel assignments, whether they are Intermediates, under the 6-Digit, or Classified Alphanumeric Sales Rexes must be shown. If space is not available within this caption, the parallel assignments must be entered on the front side under "Additional & Special Tests". If this location likewise lacks space for such entries, the parallels must be entered on the back side under "Mfg. Instructions". An asterisk within the "Parallel" caption is to be used to direct attention to other areas of the formula record listing such parallel rexes. Any parallel rexes entered in this caption must be of exact composition as the rex assignment shown in Caption 1. Classified Sales Rexes can be assigned parallel Classified Sales Rexes only if they conform to instructions outlined in R&P #190. If there are no parallels, leave blank.

17. Container - Refer to the Container Code Bulletin published by the Can Coatings Lab and located in Volume III of the Formulator's Handbook. The minimum lining requirements must be recorded under this caption. An example would be a designation such as NIL-4 denoting a "new" drum with "interior lining" which is Ault & Wilborg 4A. Specific shapes and sizes of containers is the Sales Department's decision and is not to be entered within this caption.

18. Age Limit - If the formulation is of such nature that it is unusable within a period of less than three years, the usuable shelf-life period, in months, should be entered under this caption.

19. Freeze Hazard: Yes, No - Make proper entry as to whether freezing (32°F or lower) of the product will affect its stability, performance, or quality.

20. Label Analysis - Reference on this subject is R&P #105 which designates whether a label analysis is required for the product. When label analysis information is required, it is important that the identification of the label analysis be recorded. If no label analysis is required, show "no" or leave blank if information is uncertain.

21. Label Caution - The responsibility for informing the Production Department of the correct Label Caution has been delegated to the laboratories.

REDACTED FOR PRIVILEGE

22. Label: No Red ☐, Red ☐ - Formulators must fill in one or the other of these blocks. If the material is known to flash at 80°F or below, the entry would be Red and for a flash point of 81°F or above, the entry is "No Red". Flash Point is based on Tag Open Cup. (TOC).

23. Storage - Enter the special conditions under which the product must be stored. This includes any temperature limitations which are necessary in warehousing and shipping the product. If additional space is needed for special instructions, these should be indicated under "Manufacturing Instructions" (Caption 44).

24. Previous Rex - If the formulation previously had some other intermediate code, Classified Sales Rex, cost estimate "A" identification or other laboratory recorded assignment, that information is to be entered under this caption. Do not show the previous Card No., such as Card No. 1, 2, 3, etc., since this is not intended for that purpose.

25. to 28. Input & Output Lbs. and Input & Output Gals. - Captions are self-explanatory. All reactor processed formulations, whether they are intermediates under the 6-Digit code or Sales Classified products, must be calculated on a 1000 pound reactor input basis. This 1000 pound figure includes solvents charge into the kettle in solvent processing operations but does not include the thindown solvent when the batch is completed and reduced. Caption 25 on "Input Pounds" will thereby contain a figure of 1000 pounds (Reactor charge) plus solvents used in the thindown operation.

0007-SWP-0059358

Caption 26 on "Input Gallons" does not necessarily have to be filled in.

Caption 27 on "Output Pounds" will include weight of reactor product at batch completion (Reactor input pounds minus reaction loss) plus solvents used in the thindown operation.

Caption 28 on "Output Gallons" is based on Wt./Gal. of the finished product.

An example of such entries is as follows:

	Pounds	Gallons
Reactor Input	1000	
10% Mfg. Loss	100	
Reactor Output	900	
Thindown Solvent	900	
Total Input	1900	
Total Output	1800	257 (at 7.00 lbs./gals.)

29. Mfg. Loss Wt. % - Whenever possible, this should be based on a factory manufactured batch in order that it may be as reliable as possible. If the formulator feels that he must include a filtration loss at a reasonable figure, then this should be part of the manufacturing loss.

Solvents used in thinning of batches are considered to have no loss since most thinning tanks are equipped with condensers. This caption should be filled in for all formulations.

30. Storage Loss Vol % - Storage loss varies somewhat for types of storage tanks, containers, etc. but generally is of the following pattern:

Formulations being filled directly from equipment in which they were manufactured for shipment to customers in drums, tank trucks, etc. would have a 0% storage loss.

Formulations pumped into storage tanks for future use by Production Departments would have a 2% storage loss.

Formulations stored in drums for future use by Production Departments are assigned a storage loss of 4%.

This caption should be filled in for all formulations.

31. Net Yield - These are the gallons remaining after the Storage Volume Loss is subtracted from the total "Output Gallons" entered in Caption 28.

32. Royalty: Yes, No - Check yes when the product is being made under some patent or license agreement. Show the Accounting Department Bulletin No. as the reference and explain restrictions elsewhere on the formula record if needed. R&P Bulletin #232 applies to Royalties.

Check no if it is established that no royalty is required.

0007-SWP-0059359

33. Control Lab. - Enter here the name of the laboratory which controls the line or type of product. The Control Laboratory must issue (See Caption 38) only Prime and Prime Alternate but not local Variation Formula Records except as noted below. On Local Variation formulas, type in the name of the formulator responsible for the Prime formula. Enter this directly after the 'Control Lab' name. See definitions for Prime, Prime Alternate and Local Variation Formulas under Caption Detail no. 2, Pages 3 and 4. There is an exception whereby the Control Lab is permitted to issue a Local Variation on a formula which they control. This is for using up overstock materials held in inventory at their local plant. A reference source on product control by lab is the Product Technical Directory.

34. Formulator - The formulators' name must be typed showing the complete last name. He should then enter his handwritten initials following the typed name when he approves the formula.

35. Total RM Cost - The total raw material cost must be shown for the formulation as of the date the formula record is being issued. Such terms as 'same' or 'no change' are not acceptable. It is mandatory to show this information.

36. Oil Length, Wt. % NVM - Where an oil is part of the formulation, enter the percent weight of oil present in 100 pounds of the non-volatile portion of the formulation.

37. Volume Solids, % - Entry is mandatory for all formulations since it is used to calculate milage of coatings as well as a parameter in computer programming.

38. Issuing Lab. - Shown here is the name of the issuing laboratory for this particular formula. This may or may not be the "Control Lab." as indicated in Caption 33. Issuing Laboratory is permitted to issue all three types of formula records; namely, Prime, Prime Alternate and Local Variation.

39. Approved By - This is for the handwritten signature of the laboratory director or someone he has delegated to approve the issuance of formulas for each formulator.

40. Rex - Same as Caption No. 1.

41. Card No. - Same as Caption No. 2.

42. Date - Same as Caption No. 3

43. Log For ____ Lbs. Base Input & ____ Gals. Output - The formulator must show the Lbs. "Base Input" and Gals. Output" figures for the particular log outlined in the manufacturing instructions space.

44. Mfg. Instructions - All reactor processed products must include a complete log showing the order of ingredients charged into the kettle, time temperature, inert gas, as well as any tests such as cure, acid number, viscosity, etc. which must be performed during the course of the cooking operation.

45. FDA Approved, Yes, No - This indicates whether the formulation, under the rex shown in Caption 1, has or has not been approved by the Food & Drug Administration. The extent of approval or restriction should be shown under "Additional Remarks" (Caption 49). Refer to R&P Bulletin #223 for details.

0007-SWP-0059360

46. USDA Approved: Yes, No - This indicates whether the formulation, under the rex shown in Caption 1, has or has not been approved by the U.S. Department of Agriculture. The extent of approval or restriction should be shown under "Additional Remarks" (Caption 49). Refer to R&P #223 for details.

47. QPL No.- Show the Qualified Products Listing number and the date of the authorizing letter wherever applicable. Refer to R&P #211 for further details.

48. Calculated Output - This caption is to be used only for intermediates (6-Digit codes). Classified Sales Rexes do not apply.

Breakdown in the "Type" column is to include the name of the resultant products of chemical reactions, as well as solvents and other additives incorporated into the formulation. Weight percent of each constituent must be shown.

49. Additional Remarks - Any information about the formulation which is of importance to technical but not to Production Departments should be entered in this space.

50. Other Products Using This Sales Rex - This applies to Classified Sales Alpha-numeric rexes only and in most cases to Line products. The Product Control Laboratory, should at the time of formula issuance, make an effort to determine what other Allied Company products are being filled or contemplated to be filled under this same rex. Such Line name and Allied sales number should be shown in the appropriate space. Note that this caption is not to be used for showing parallel rexes carried by different sales departments. Such information is entered under "Parallel" Caption 16.

An example showing a properly completed "Reactor Manufactured Product" formula record is shown as "Attachment B."

0007-SWP-0059361

CARD NO. 2 | DATE 3 | BSMS CODE 6 | AIR POLLUTION STATUS 7

SHERWIN-WILLIAMS FORMULA RECORD
REACTOR MANUFACTURED PRODUCT

STD.	MAX.	TEST METHOD	POUNDS	GALLONS	MATERIAL NO.	CHEMICAL NAME
				9		10

SEE BELOW FOR INSTRUCTIONS

TS

VISION 11

INER 17 | INPUT 25 | 26 | DO NOT USE | TOTAL RAW MATERIAL COST 35

MIT 18 | MONTHS | OUTPUT 27 | 28 | OIL LENGTH, WT. % NVM 36

E HAZARD 19 | YES ☐ NO ☐ | MFG. LOSS WT. % 29 | VOLUME SOLIDS, % 37

LYSIS 20 | STORAGE | STOR. LOSS VOL. % 30 | NET YIELD 31

TION 21 | 23 | ROYALTY NO ☐ YES ☐ | BULL. NO. 32

RED ☐ 22 ED ☐ | CONTROL LAB. 33 | ISSUING LAB. 38

PREV. NO. 24 | FORMULATOR 34 | APPROVED BY 39

FORM 70281

ATTACHMENT "A" - R & P No. 126

TO BE DESTROYED BY SHREDDING OR BURNING WHEN DISCARDED

N15615.01

REX 40 CARD NO. 41 DATE 42

MFG. INSTRUCTIONS: 43

LOG FOR _____ LBS. BASE INPUT @ _____ GALS. OUTPUT

44

INERT GAS	TIME STD.	TEMP. °F STD.	TEST STD.	TEST STD.	TEST STD.

PERTINENT INFORMATION

FDA APPROVED YES ☐ NO ☐ 45

USDA APPROVED YES ☐ NO ☐ 46

OPL NO. SEE LETTER DATED 47

CALCULATED OUTPUT

WT. % 48	TYPE

ADDITIONAL REMARKS:

49

OTHER PRODUCTS USING THIS SALES REX

50

ACME:

LOWE BROS.:

W.W. LAWRENCE:

JOHN LUCAS:

MARTIN SENOUR:

SHERWIN-WILLIAMS:

OTHER:

0007-SWP-0059363

ATTACHMENT "B" - R & P No. 126

TO BE DESTROYED BY SHREDDING OR BURNING WHEN DISCARDED

REX (39 55 52) CARD NO. 2 DATE 2-28-68

BSMS CODE

AIR POLLUTION STATUS OK Rule 66K

NAME Soya Glycerol PE Benzoate Phthalate

QUAL/SPEC/CUSTOMER SW Trade Sales Div.

SHERWIN-WILLIAMS FORMULA RECORD
REACTOR MANUFACTURED PRODUCT

TEST	X	MIN.	STD.	MAX.	TEST METHOD	POUNDS	GALLONS	MATERIAL NO.	CHEMICAL NAME
WT./GAL. @ 25°C		7.13	7.17	7.21		350	45 69	(15 05 10)#1	Soya Oil, Alkali Refined
SP. GR. @ 25°C	X	.856	.861	.866	401.2				
VISC. GARDNER	X	13		16	427.0	132 7		04 72 00	Pentaerythritol, Pure
NVM WT. %	X	39.2	40.0	40.8	404.1	1 7		(09 03 52)	Lead Alcoholysis Catalyst, 10% Pb
COLOR GARDNER	X			8*	424.1				
CLARITY	X		Clear		426.1	155 4	20 29	(15 05 10)#2	Soya Oil, Alkali Refined
ACID NO.-NVM	X			8	507.0				
CURE, SECONDS						38 1	3 63	(04 62 10)	Glycerine
FLASH PT °F			135 (est)						
Theo % PA				30.4		291 9		07 65 20	Phthalic Anhydride, Molten
AIR DRY 77°F-50 R.H. TO TOUCH									
TACK FREE						30 2		07 30 00	Benzoic Acid
HARD									
RECOAT						1000		Base Input	
BAKE		SEE BELOW FOR INSTRUCTIONS				940		Base Output	
ADDITIONAL AND SPECIAL TESTS									
* Liquids 8 and below OK for white.						1410	225 6	(01 49 10)	Odorless Mineral Spirits
Liquids 9 and below OK for colors.									

REASON FOR ISSUANCE OR REVISION Use 07 65 20 in place of 07 65 00 and (09 03 52) in place of (09 09 52)

EQUIP. SS Fusion Kettle	CONTAINER	INPUT 2410		DO NOT USE	TOTAL RAW MATERIAL COST $212.24
	AGE LIMIT MONTHS	OUTPUT 2350	327 75		OIL LENGTH, WT. % NVM 52.6
	FREEZE HAZARD YES ☐ NO ☒	MFG. LOSS WT % 2.5			VOLUME SOLIDS, % 31.2
MFG. HRS. 11	LABEL ANALYSIS	STORAGE	STOR. LOSS VO 2	NET YIELD 321 Gal	
FILTERED yes	CAUTION 1a	Normal	ROYALTY NO ☒ YES ☐ BULL.NO		
THINNED yes	NO RED ☒ RED ☐		CONTROL LAB. Cleve Tech Service		ISSUING LAB. Cleve Tech Service
PARALLEL V70 V N55, X70 V A35		PREV. NO (39 55)	FORMULATOR D.A. Kostansek PAK		APPROVED BY J J Back

FORM 70281

COMPANY CONFIDENTIAL - TO BE COPIED FOR COMPANY USE ONLY

0007-SWP-0059364

RDI (55 52) CARD NO. 2 DATE 2-26-68

MFG. INSTRUCTIONS:

LOG FOR 5000 LBS. BASE INPUT @ 1639 GALS OUTPUT

	INERT GAS	TIME STD.	TEMP. °F STD.	TEST VISC STD.	TEST AV STD.	TEST STD.
Under 5CFM IG blanket with agitation, heat (15 05 10) #1 to 400°F	5CFM Blkt	0:00	RT			
Add 04 72 00 and (09 03 52). Gain 450°	"	1:15	400			
Hold for clear	"	2:30	450			
Clear! Add (15 05 10)/#2 and (04 62 10)	"	3:30	450			
Add 07 30 00 then 07 65 20 at 150 Lbs per minute at 390°F max.	"	3:45	375			
Addition complete. Gain 400°F.	"	4:00	390			
Hold 1 hour.	"	4:15	400			
Gain 450°F.	"	5:15	400			
Hold ½ hour	"	6:15	450			
Start 10 CFM IG blow for 1 hour	Blow 10 CFM	6:45	450			
Increase IG blow to 15CFM.	15 CFM	7:45	450	G-H	18.5	
Increase IG blow to 20 CFM. Hold for 13-16 stoke visc @ 40% NV in (01 49 10) and AV of base at 8 max.	20 CFM	8:45	450	L	12.5	
Test Viscosity and AV.	"	9:30	450	Q-R	9.5	
Test Viscosity and AV.	"	10:15	450	U-V	8.0	
Test Viscosity and Av.	"	10:45	450	10-11	7.3	
Viscosity and AV standard. Drop into (01 49 10) to 40% NV and 13-16 stokes viscosity. Filter	"	11:00	450	Drop		

PERTINENT INFORMATION

FDA APPROVED YES ☐ NO ☒

USDA APPROVED YES ☐ NO ☒

OPL NO. SEE LETTER DATED

CALCULATED OUTPUT

WT. %	TYPE
21.1	Soya Oil
18.9	PE Glycerol Benzoate Phthalate
60.0	Odorless Mineral Spirits

ADDITIONAL REMARKS:

OTHER PRODUCTS USING THIS SALES REX

ACME:

LOWE BROS:

W.W. LAWRENCE:

JOHN LUCAS:

MARTIN SENOUR:

SHERWIN-WILLIAMS:

OTHER:

0007-SWP-0059365