

~~Dorothy — copy of everything here to WPM, also to~~
~~F.P.D. — Th. Bud 10/13/81~~



UNION CARBIDE CORPORATION
PERFORMANCE CHEMICALS AND POLYMERS DIVISION
2043 Steel Drive, Tucker, GA 30084
(404) 939-9327



RECEIVED
OCT 15 1981
W. P. Miller

To: C. H. Carder
cc: H. Mayfield
A. A. Mees
W. P. Miller
D. H. Reed
J. R. Salisbury

Date: October 6, 1981

Subject: UCAR 163 Roof Coating
Formulations

*File
MA 322*

Dear Bud:

I have attached several UCAR 163 formulations for your use. However, performance data on these formulations is lacking. You can see that these formulations contain not only UCAR 163, but blends of UCAR 163 with UCAR 366, UCAR 367, and UCAR 503. Blends are probably used to reduce cost, improve dirt pickup resistance, and in the case of UCAR 503, perhaps improve resistance to alkaline substrates.

Performance of UCAR 163 based mastics has been good over most substrates with the exception of new concrete. This type substrate requires a good primer before applying the mastic. Some people use epoxy esters and in the case of L and L coatings, a clear coating of UCAR 163 is used.

We have had a few minor complaints about the dirt pickup of UCAR 163. Dirt pickup is aggravated by the soft polymer, low PVC, and the use of plasticizers. Sometimes the roof mastic is topcoated with a high quality (30% PVC) paint to reduce dirt pickup. However, this can lead to coating failure due to differences in the elongation and hardness of the mastic and the topcoat.

I have also attached properties of L and L Coatings' mastic which is based primarily on UCAR 163.

Hopefully this information will help you to answer Pete Peterson's request. If I can be of further help, please call me.

Very truly yours,

G. W. Buttrick

G. W. Buttrick

QUALITY EMULSION POLYMERS



A23122

<u>Ingredients</u>	<u>Pounds</u>	<u>Gallons</u>
UCAR-163	722.0	80.2
Tamol 850	5.0	0.5
KTPP	2.0	0.2
Tergitol 15-S-9	3.0	0.4
Defoamer	2.0	0.3
Preservative	1.0	0.1
TiO ₂ R-960	125.0	3.8
Zinc Oxide AZO-55	50.0	1.1
Duramite	150.0	6.6
Mica	50.0	2.1
Celite 499	75.0	3.9
Skane M-8	2.0	0.2
Ammonium Hydroxide	5.0	0.6
	<u>1192.0</u>	<u>100.0</u>

PVC	27.3%
Weight Solids	74.0%
Volume Solids	64.0%
Viscosity	Spreadable Paste

A23123

This information is not to be taken as a warranty or representation for which we assume legal responsibility nor as permission or recommendation to practice any patented invention without a license. It is offered solely for your consideration, investigation and verification.

Formulation Suggestion
General Purpose Roof Coating
UCAR Latex 163

<u>INGREDEINTS</u>	<u>POUNDS</u>	<u>GALLONS</u>
UCAR Latex 163	709.3	79.4
KTPP	2.0	0.2
Tamol 850	4.0	0.4
Tergitol NPX	3.0	0.3
PMO-30	7.0	0.8
Nopco NDW	2.0	0.3
Zinc Oxide	25.0	0.6
Mica	50.0	2.1
Celite 499	75.0	3.9
Mini Fiber 13040F	10.0	0.6
Calcium Carbonate	200.0	8.8
ASP-400	50.0	2.3
Ammonium Hydroxide	2.0	0.3
	<u>1,139.3</u>	<u>100.0</u>

Properties

PVC	28.5%
Solids	72.2%
Wt. per gallon	11.4%

A23124

Formulation Suggestion 2-HFE-155
Interior/Exterior Textured Paint

<u>Ingredient</u>	<u>Lbs.</u>	<u>Gals.</u>
UCAR Acrylic 503	369.5	40.7
Water	238.9	28.7
Nopcosant K	3.0	0.2
KtPP	1.0	0.1
Tergitol 15-S-9	4.0	0.4
Skane M-8	0.5	—
Diethylene Glycol	25.0	2.6
Foamaster "G"	3.0	0.4
Titanium Dioxide	35.0	1.0
Mica	30.0	1.3
Zinc Oxide	25.0	0.6
Calcium Carbonate	250.0	11.0
Talc	100.0	4.2
Mineral Spirits	5.0	0.6
Ammonium Hydroxide	2.0	0.2
UCAR Latex 163	190.0	21.1
	<u>1281.9</u>	<u>113.1</u>
Perlite #1	64.0	
PVC = 35.0%		
Total Solids = 59.3%		

A23125

FORMULATION SUGGESTION 1-HFE-99

White Mastic and Roof Coating

UCAR Latex 163 and 366

UCAR-163 (59% N.V.)	469.0	52.7
UCAR-366 (55% N.V.)	247.0	27.5
Tamol 850	5.0	0.5
KTPP	2.0	0.2
Igepal CO-630	3.0	0.4
Defoamer	2.0	0.3
Preservative	1.0	0.1
TiO ₂	50.0	1.5
Zinc Oxide	50.0	1.1
Calcium Carbonate	200.0	8.9
Mica	50.0	2.1
Silica	75.0	3.9
Skane M-8	2.0	0.2
Ammonium Hydroxide	<u>5.0</u>	<u>0.6</u>
Totals	1161.0	100.0

PVC 28.8

% Solids

Weight 71.7

Volume 60.8

Viscosity Spreadable Paste

A23126



L&L Coatings Corporation

The Acrylic Mastic For Home and Industry

Why Use L&L Coatings?

1. L & L's Complete Water System eliminates costly thinners by using water to thin.
2. No mixing of components. Just open L & L 300 Mastic and use.
3. L & L 300 Mastic is FDA approved for indirect use around food products, coolers, storage bins, warehouses, etc.
4. L & L 300 Mastic comes in palm grade, spray grade, brush grade, and can be rolled. (Please specify grade desired when ordering).
5. L & L will supply your color selection. (Pastel colors at regular price).
6. L & L 300 Mastic can be applied at 25 mils thickness in one coat.
7. L & L 300 Mastic has excellent adhesion on galvanize, aluminum, urethane foam, calcium silicate, roof shingles, concrete, steel, block buildings, metal bldgs. and trailers.
8. L & L 300 Mastic has 200% elongation at 35°F and has been tested at -40°F.
9. L & L 300 Mastic will withstand temperatures up to 300°F consistently.
10. L&L 300 Mastic will withstand ultraviolet rays, sulfuric acid, hydrochloric acid, nitric acid, salt brine or spray, gasoline, diesel, jet fuel, bunker and motor oil.
11. L & L Coatings are completely washable, with a full year shelf life from purchase date.
12. L & L 300 Mastic can be used on metal without sandblasting by using two coats of our Mastic. (Use a scraper and/or wire brush to clean).
13. L & L 300 Mastic has a low flame spread index (13.0) ASTM-E 162. (Specify if low flame spread is desired.) This flame spread is well below federal spec. #00136A which is 35, and Class A roof of 25.
14. L & L 300 Mastic passes the rule 66 specification.
15. L & L 300 Mastic does not settle out or become hard when container is sealed.
16. L & L 300 Mastic is a breathing mastic perm 3.0 at 20 mil. ASTM E-398.
17. L & L 300 Mastic spray grade has 62% solids by volume.
18. Coverage is 20 sq. feet per gal. at 50 mil. over smooth surface (Preferably with two coat application).
19. L & L 300 Mastic is excellent for thermal insulation and chill water system, in cold storage buildings, as a top coat over polyurethane foam. (Please specify method to be used to apply material when ordering).
20. L & L 300 Mastic Passes the standard cup test.
21. To recoat or repair damaged areas of L & L 300 Mastic, clean damaged areas and recoat.
22. L & L 300 Mastic is a full acrylic weather barrier, water dispersible non-toxic, low odor, containing no lead, and has unlimited uses.

Equipment Necessary To Spray L & L 300 Acrylic Mastic

FOR LARGE VOLUME JOBS

- 30-1 Ratio Graco Bulldog Model 226-217 or Equal
- 80 LB Air Line Pressure
- Reverse-A-Clean Attachment
- 1/2" ID Material Hose
- .029 to .041 Tip Orifice 8-16" Fan
- 3 Gallon Per Minute Output

FOR LIGHT JOBS

- Graco Model EH-333 Airless
- .029 Tip Orifice
- 1 Gallon Per Minute Output

ACRYLIC WEATHER BARRIER

Non Volatile	=	62	+/-	2%
Volatile	=	38	+/-	2%
				100.00%

COMPOSITION OF PIGMENT BY WEIGHT

Titanium Dioxide	=	17.17%
Clay, Micas, Fire		
Retardants and Fillers	=	82.83%
		100.00%

ACRYLIC LATEX BINDER

100.00%

COMPOSITION OF BINDER BY WEIGHT

Volatile	=	45%
Non Volatile	=	55%
		100.00%