



PLAINTIFF'S  
EXHIBIT

UC-873

UNION CARBIDE CORPORATION 2326 LONNECKER DRIVE, GARLAND, TX 75041-1296  
COATINGS MATERIALS DIVISION  
Water-Borne Coatings Materials Plant

PHONE (214) 271-2451

February 23, 1983

RECEIVED

MAR 1 1983

W. P. Miller

Mr. J. H. Street  
Play-Rite Courts  
c/o Master Crete  
1413 West 11th St.  
Kansas City, MO 64101

Dear Mr. Street:

At the request of our Account Representative, Mr. M. E. Harmony, we are pleased to send you a suggested ~~tennis-court topcoat~~ formulation 4JG-177A based on two latex binders to approximate the durability and impact resistance of your current AC-635 binder.

Both are acrylic polymers known to have good durability in exterior coatings. UCAR Latex 163 is a low  $T_g$  type resin for better impact strength in tennis-court coatings.

A dust mask should be employed when adding the "CALIDRIA HPO FIBERS" at the end of the batch. You may wish to evaluate a synthetic fiber called "PULPEX E" from the LEXTAR Div. of Hercules Inc. (Dallas, TX.) (214) 669-3131; as a replacement for the asbestos-like CALIDRIA HPO FIBERS. I suggest about 15 LBS./114 gallon batch as a starter. You may have to increase the level of CELLOSIZ thickener to suit your type of product application (spray or Squeegee); or if water is used on the job for dilution.

Gallon samples of both UCAR Acrylic 515 and UCAR Latex 163 will be sent to your attention for evaluation in tennis-court coatings.

Thank you for your kind interest in our latex binders, and please contact Mr. Harmony if additional information is needed.

Attachments (3)

RP:rp

CC: Mr. M. E. Harmony (Home)  
Union Carbide Corporation

A23342

Very truly yours,

*R. C. Pierrehumbert*

R. C. Pierrehumbert

Coatings Scientist

QUALITY EMULSION POLYMERS





SUGGESTED  
DK. GREEN ACRYLIC TOPCOAT FOR  
TENNIS COURTS

4JG-177A

ADD THE FOLLOWING INGREDIENTS  
UNDER AGITATION:

|                                  | POUNDS | GALLONS |
|----------------------------------|--------|---------|
| WATER                            | 291.5  | 35.0    |
| CELLOSIZ QP-15000H               | 3.0    | 0.3     |
| ( MIX FOR 5-MIN., THEN CONTINUE) |        |         |
| TROY POLYPHASE ANTI-MILDEW       | 3.0    | 0.3     |
| TROYSAN 192 Preservative         | 2.0    | 0.2     |
| POTASSIUM TRIPOLYPHOSPHATE       | 1.0    | 0.1     |
| NALCO 2324 Dispersant            | 6.0    | 0.6     |
| NALCO 2300 Defoamer              | 0.7    | 0.1     |
| TERGITOL NP-40(70AQ)             | 3.0    | 0.4     |
| TEXANOL                          | 15.0   | 1.9     |
| PROPYLENE GLYCOL                 | 25.0   | 2.7     |
| ASP-400P                         | 75.0   | 3.5     |
| GOLD BOND "R" (Amor.Silica)      | 50.0   | 2.3     |
| CHROME OXIDE GRN.(G-6099)        | 75.0   | 1.8     |
| BLK. IRON OXIDE(BK-5098)         | 5.0    | 0.1     |

DISPERSE TO HEGMAN #3, THEN ADD WITH  
SLOWER AGITATION:

|                                 |        |       |
|---------------------------------|--------|-------|
| "RUFF-BUFF" FINE SAND           | 75.0   | 3.4   |
| UCAR ACRYLIC 515 (53%NV)        | 381.0  | 41.4  |
| UCAR LATEX 163 (58%NV)          | 58.0   | 6.5   |
| WATER                           | 62.5   | 7.5   |
| CALIDRIA HPO FIBERS(Add Slowly) | 45.0   | 2.0   |
| TERGITOL NP-40(70AQ)            | 2.0    | 0.2   |
| NALCO 2303 Defoamer             | 5.0    | 0.6   |
| AMP-95                          | 1.0    | 0.1   |
| WATER                           | 25.0   | 3.0   |
| A 23343                         |        |       |
| TOTALS                          | 1209.7 | 114.0 |

PHYSICAL CHARACTERISTICS

|                       |                               |
|-----------------------|-------------------------------|
| % PVC                 | 31.8(With only 1/2 Sand Vol.) |
| % TOTAL SOLIDS BY WT. | 47.8(with All Sand Wt.)       |
| PVC/CPVC RATIO        | 0.94                          |
| TYPICAL pH VALUE      | 8.0 - 8.5                     |
| APPROX. RMC/GAL.      | \$4.18                        |
| WT./GALLON            | 10.6 LBS.                     |

IMPORTANT:

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. Since your specific use application and conditions of use are beyond Union Carbide's control, you must determine the suitability of the products and the suggestions mentioned herein for your specific application.



## UCAR® Latex 163 For Water-Based Caulks and Sealants

UCAR Latex 163 is a high-solids all-acrylic binder designed for formulating high-performance water-based sealants. Sealants made with UCAR Latex 163 will bond to a variety of substrates without the need for a separate primer. They have low odor, are non-staining, and dry quickly with little dirt pick-up. They can be painted over with latex paints within an hour after application. Cleanup is easy with water. Package stability of over one year can be expected of properly formulated UCAR Latex 163-based sealants. Since these products set through loss of water, storage stability is maintained by prevention of that loss.

TABLE 1  
TYPICAL PROPERTIES

### Emulsion Properties

|                                      |                                 |
|--------------------------------------|---------------------------------|
| Polymer Type                         | Soft, self-crosslinking acrylic |
| Total Solids                         | 60%                             |
| Viscosity <sup>(1)</sup>             | 300 cP                          |
| pH at 25°C                           | 4.5                             |
| Apparent Specific Gravity at 20/20°C | 1.08                            |
| Average Weight per Gallon at 20°C    | 9.0 lb                          |
| Surface Tension                      | 46.0 dynes per cm               |
| Stability                            |                                 |
| Mechanical Shear                     | Excellent                       |
| Electrolyte                          | Excellent                       |
| Freeze-Thaw                          | Protect from freezing           |

### Film Properties

|                                                            |         |
|------------------------------------------------------------|---------|
| Ultimate Tensile Strength <sup>(2)</sup>                   | 320 psi |
| Ultimate Elongation                                        | 600%    |
| Glass Transition Strength (T <sub>g</sub> ) <sup>(3)</sup> | -7°C    |
| Polymer Flexibility                                        | Soft    |

(1) Brookfield Model LVT, Spindle No. 2, 60 rpm.

(2) On films cured 6 minutes at 300°F.

(3) Secant Modulus Method.

A 23344

# ...UCAR<sup>®</sup> ACRYLIC 515.

UCAR<sup>®</sup> Acrylic 515 is a terpolymer that can be formulated into paints with improved adhesion to glossy and weathered substrates. The exterior durability is comparable to UCAR Latex 503, which has been proved by eight years of exterior durability testing. While designed for exterior application, UCAR Acrylic 515 can also be used for interior flat and semi-gloss paints.

- Rapid development of wet adhesion.
- Excellent exterior durability.
- Resistance to chalking and dirt pickup.
- Excellent exterior tint retention.
- Improved pigment binding and scrub resistance.
- Chalky-surface adhesion.
- Improved flow and leveling.
- Good gloss

**Table 1- Typical Properties of  
UCAR<sup>®</sup> Acrylic 515**

|                                                |              |
|------------------------------------------------|--------------|
| Total Solids                                   | 53% by wt    |
| pH                                             | 8.5          |
| Brookfield Viscosity at 60 rpm                 | 250 cP       |
| Minimum Filming Temperature                    | 10 °C        |
| Glass Transition Temperature (T <sub>g</sub> ) | 11 °C        |
| Average Particle Size                          | 0.5 micron   |
| Weight Per Gallon                              | 9.10 lb      |
| Bulking Value of Dry Solids                    | 0.101 gal/lb |

\*Differential Scanning Calorimeter Method.

A2334  
A23345

D I S T R I B U T I O N

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H. MAYFIELD

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