



ACRYLIC POLYMER CRETE-MOD™

U.V. RESISTANT – WATERPROOFING – LOW ODOR
CEMENT MODIFIER/STRENGTHENER



PRODUCT
DATA
#5410

04/01/10

superseding: 10/07/09

PRODUCT DESCRIPTION:

CRETE-MOD™ is a low-odor acrylic polymer emulsion designed for modifying Portland cement compositions. The superior adhesion, ultraviolet light resistance, water resistance, and increased mortar strength properties provided by previous acrylic emulsions have been complemented by improved sprayability in a low-odor formulation.

Cement mortars modified with **CRETE-MOD™** are hard, tough, and durable to exterior exposure. Compared with unmodified mortars, acrylic polymer-modified mortars have superior flexural, tensile, and impact strengths, as well as excellent abrasion resistance and adhesion. These qualities are especially important in thin section applications (i.e. spray coatings, stuccos, and underlayments) and applications where excessive vibration and heavy traffic are encountered.

CRETE-MOD™ modified cement mortars have excellent adhesion to a variety of surfaces such as concrete, masonry, brick, wood, rigid polystyrene and polyurethane foam, glass, and metals.

CRETE-MOD™ modified mortars are uniform in color and resistant to yellowing or discoloration due to exposure to ultraviolet light. They also provide excellent water resistance to decrease spalling, cracking, and surface degradation caused by repeated freeze/thaw cycles. These mortars are also resistant to many industrial chemicals.

CRETE-MOD™ is ammonia-free, this low-odor feature is especially beneficial for interior construction or repair projects. **CRETE-MOD™** emulsion has also been optimized to provide a longer mortar pot life, an important feature for warm weather, low humidity application conditions. Further, the emulsion properties have been improved to enhance the flow characteristics of the modified cement for spray coat applications.

PRODUCT™ USES:

CRETE-MOD™ is a product with exceptional versatility. It can be used in a variety applications including: regular weight and lightweight spray-applied coatings, traditional trowel-applied stuccos, basement waterproof coatings, general purpose patching and repair mortars, floor resurfacing and underlayments, terrazzo, and heavy use industrial/commercial cement flooring. **CRETE-MOD™** also provides a superior binder for certain non-cementitious products such as one-package tile grouts.

APPLICATION PROCEDURE:

The general procedure for preparing **CRETE-MOD™** modified mortar for evaluation begins by thoroughly premixing the sand and cement. The **CRETE-MOD™** and water are blended together and added to the premixed sand and cement. The entire composition is mixed thoroughly for about two to four minutes. To avoid overly fluid compositions, a portion of the water should be withheld and added gradually to the modified mortar mixture until the desired consistency is obtained.

Although the procedures generally remain the same, the formulation varies according to the performance needs of the application situation. These formulations can vary in both the type and quantity of materials used. While numerous component relationships exist, some key formulation concepts are presented below:

- Choice of Filler – The type and particle size distribution of fillers are selected for reasons which include cost, density, color/texture of the final product, leveling characteristics and workability.
- Sand (filler)/Cement Ratio – For a typical modified mortar application, a 2:1 sand/cement ratio provides excellent mechanical strength properties. However, different ratios of filler to cement may be appropriate for applications with different performance requirements.
- Level of Water – Maximum density and strength are obtained when a minimum amount of water is used. This minimum water requirement refers to the lowest water/cement ratio which provides adequate workability.
- Level of Polymer Modification – An optimum balance of modified mortar properties (adhesion, tensile strength, flexural strength, compressive strength, impact resistance, water resistance and abrasion resistance) is obtained by incorporating 10 to 20 percent polymer solids, by weight, on cement. Higher modification will increase flexibility and water resistance. Lower levels of polymer will decrease the benefits of the polymer modification.

RECOMMENDED MIXING RATIO:

Cementitious materials should be pre-mixed to achieve a ratio of 2 Parts Sand and 1 part Cement. (Refer to the Data Sheet of the product to determine if sand is already in the mixture.) Use approximately 2 to 3 Quarts of **CRETE-MOD™** and 2 to 3 Quarts of Water to 50 pounds of pre-mixed cementitious material. Hold out some water to avoid an overly fluid mixture.

Ambient Temperature of 77°F and RH of 50%

TECHNICAL SPECIFICATIONS:

Rates & Times May Vary Beyond Specifications

POLYMER TYPE:	Acrylic Emulsion	ADDITIVE RATIO (approx.):	2-3 Qts. per 50 lbs. Cement
VISCOSITY:	25-500 cps	pH:	9.0-10.0
VEHICLE TYPE:	Polymer Emulsion	PARTICLE SIZE:	0.20 microns
SOLIDS by WEIGHT:	48% +/- 2%	Tg (Glass Transition):	10° Celsius
SOLIDS by VOLUME:	46% +/- 2%	SIZES:	1 Gal., 5 Gal. & 55 Gal.
V.O.C.'s (averages):	0 lbs./gal. • 0 g/liter	GALLON WEIGHT:	8.77 lbs./gal.

Information presented on this Data Sheet has been compiled from sources to be reliable, and is accurate and reliable to the best of our knowledge and belief but is not guaranteed to be so.

Information contained herein is meant as a guideline. Nationwide recommends users of this product to perform their own testing to determine the suitability in their application.



MATERIALS HEALTH, SAFETY AND ENVIRONMENTAL DATA SHEET

MSDS#:
5410

Product Identification	Product Name: CRETE-MOD™ Product Code #: 5410 General Usage: Cement Modifier General Description: Acrylic Polymer Resin C.A.S. Number: None Established; Mixture	
Manufacturer Information	Manufacturer's Name: Nationwide Protective Coating Mfrs., Inc. Address: 7106 24th Court East; Sarasota, FL 34243-3993 Emergency Telephone: 1-800-423-7264 or 941-753-7500 Information: 1-800-423-7264 or 941-753-7500 Web Site: www.nationwidecoatings.com E-Mail: info@natcoat.net Date Effective: October 1 st , 2009	
Chemical and Physical Properties	Color: Clear Physical State: Liquid Boiling Point: 212 Fahrenheit Specific Gravity (H ₂ O=1): >1 Vapor Presence: about same as H ₂ O Percent Volatile: 47-52% Evaporation Rate (Butyl Acetate=1): <1	Odor: Low Odor Odor Threshold: Unknown Melting Point: N/A Freezing Point: 32 Fahrenheit Solubility in H ₂ O: Soluble pH (undiluted): 5 Vapor Density (Air=1): <1
Fire Protection Information	Decomposition/Combustion: Flash Point: Recommended Extinguishing Media: Flammable Limits:	N/A N/A; Does Not Burn N/A N/A
Storage and Reactivity	Hazardous Polymerization: Storage Conditions: Toxic Products Which May Form:	Will Not Occur Keep from Freezing None
Transportation	Hazard Classes: Hazard Labels: Hazard Determination: Shipping Containers: Shipping Class:	None; Not Hazardous Not Required MSD Sheet Varies Class 55; Water Based Paint
Container Labeling	Explanation of Unique Labeling System: None Used	

Health Hazard Data	SHORT TERM EXPOSURE	
	Route of Entry: Inhalation: Skin: Eyes: Ingestion:	Precautionary Treatment Expected None Expected None Flush Immediately with large amounts of water for at least 15 minutes, holding eyelids open. Call a physician if irritation persists Call a physician if significant amounts have been Swallowed. Give patient large amounts of water or milk for dilution.
	LONG TERM EXPOSURE	
	Carcinogen: Target Organ Effects: Other Health Hazards:	None None None Known
Personal Protection	Respiratory Protection: Protective Clothing: Ventilation: Other Protective Measures: Eye Protection:	No inhalation hazard expected None Required Local None Safety Glasses
Spill or Leak Protection	Accidental Release or Spill: Neutralizing Chemical/Media:	Collect liquid or solidify with absorbent package for disposal N/A
Treatability	Biodegradability: With water prior to cure. Influence on Biological Wastewater Treatment: None Other Impacts on Wastewater Treatment: None Recommended Wastewater Treatment: Dilutable Constituents Interfering With or Not Amenable to Biological or Wastewater Treatment: None	
Recommended Waste Disposal	Dispose of in accordance with Federal, State and Local guidelines.	

EMERGENCY & INFO: 1-800-423-7264

Form based on O.S.H.A. Form 20. Information presented herein has been compiled from sources to be reliable and is accurate and reliable to be the best of our knowledge and belief but is not guaranteed to be so.

EMERGENCY & INFO: 941-753-7500