

 **BASF**

We create chemistry

AQACeII[®] HIDE 6299 na

Opaque Polymer for
Architectural Coatings



AQACell[®] HIDE 6299 na

Reduce formulated cost without impacting opacity

AQACell HIDE 6299 na improves TiO₂ spacing and scatters light, enabling formulators to reach the same level of opacity with less TiO₂. By offsetting TiO₂, AQACell delivers a lower total cost of formulation without compromising performance. Further savings can be gained by using AQACell in conjunction with Acronal[®] PLUS 4670, our state-of-the-art 100% acrylic latex with superior TiO₂ efficiency.

Features

- Reduce formulated cost by replacing up to 10%-15%* TiO₂ and achieve equal hiding power
- Broad formulation latitude
- Interior/exterior
- Ammonia-free
- APEO-free
- Low odor

*Greater levels may be possible depending on formulating techniques

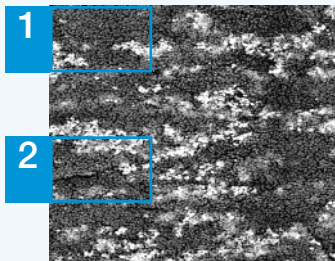
Properties

Dispersion type	Anionic
Solids content	~ 30 wt-%
pH value	8.1 – 9.5
Encapsulated H ₂ O	~ 22.2 wt-%
Solids by volume	~ 51.5%
Viscosity ¹	~ 10 – 50 mPa · s
MFFT	> 80 °C
Specific gravity (wet polymer)	~ 1.025 g/cm ³
Specific gravity (dry polymer)	~ 0.590 g/cm ³

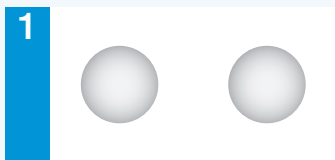
¹ DIN EN ISO 3219 (23 °C, 250 1/s)

Less TiO₂ needed for the same performance

TiO₂ inefficiency in standard paint formulations



TiO₂ clusters develop as paint cures

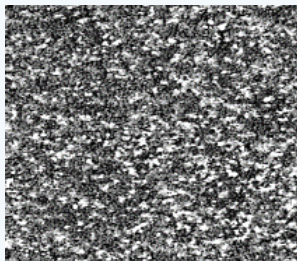


Areas with low TiO₂ concentration lead to reduced hiding power (blank spaces)

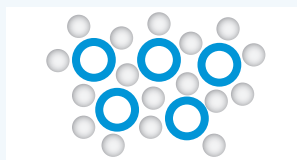


TiO₂ clusters create inefficiencies (crowding)

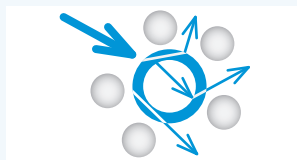
How does AQACell HIDE 6299 na help?



AQACell optimizes TiO₂ distribution



Improved TiO₂ spacing



Encapsulated air scatters light

AQACell® HIDE 6299 na

Formulation Guidelines

AQACell HIDE 6299 na can replace 10-15% of the TiO₂* in a paint formulation without compromising hide or the performance of the coating. This allows the formulator to reduce the overall raw material cost of the formulation while maintaining quality.

Additives

Avoid the use of raw materials with aromatic content (found in some plasticizers and solvents) as they may affect the integrity of the hollow sphere resulting in reduced hide and lower efficiency.

**Greater levels may be possible depending on formulating techniques*

Suggested Formulations

Semi Gloss Formulation – 15% TiO₂ Replacement

raw materials	lbs	gallons
Grind		
Water	75.00	9.00
Natrosol ¹ Plus 330	0.50	0.05
Ammonium Hydroxide	1.00	0.13
Dispex ² CX 4325	7.00	0.70
Foamstar ² ST 2420	2.00	0.28
Proxel ³ DB 20	3.00	0.33
Minex ⁴ 10	25.00	1.15
Attagel ² 50	3.00	0.15
Grind for 15-20 minutes, then add Letdown		
Letdown		
Water	136.41	16.38
Kronos ⁵ 4311	262.05	13.39
Foamstar ² ST 2420	1.50	0.21
Loxanol ² CA 5310	14.75	1.93
AQACell ² Hide 6299 na	40.00	4.67
Acronal ² PLUS 4670	420.00	47.48
Rheovis ² PE 1331	32.70	3.81
Rheovis ² PU 1191	1.25	0.15
Total	1027.16	100.00
Vol solids %	33.29	
Wt solids %	46.76	
PVC %	26.96	
VOC g/L	0	
KU	100-110	
ICI	1.0-1.4	
60° Gloss	35-45	

Flat Formulation – 10% TiO₂ Replacement

raw materials	lbs	gallons
Grind		
Water	200.00	24.01
Natrosol ¹ Plus 330	1.00	0.09
AEPD VOX ⁶ 1000	1.50	0.17
Dispex ² CX 4340	4.00	0.40
Foamstar ² ST 2420	2.00	0.28
Proxel ³ DB 20	3.00	0.33
Kronos ⁵ 2310	225.00	6.74
Minex ⁴ 4	112.00	5.15
Attagel ² 50	4.00	0.20
Attagel ² 50	4.00	0.20
Grind for 15-20 minutes, then add Letdown		
Letdown		
Water	48.65	5.84
Foamstar ² ST 2420	2.00	0.28
Hydropalat ² WE 3320	2.00	0.87
Loxanol ² CA 5310	9.00	1.18
Acronal ² PLUS 4670	350.00	39.56
AQACell ² Hide 6299 na	105.00	12.25
Rheovis ² PE 1331	25.00	2.91
Rheovis ² PU 1191	2.00	0.23
Total	1096.14	100.00
Vol solids %	38.55	
Wt solids %	52.26	
PVC %	44.79	
VOC g/L	0	
KU	100-110	
ICI	1.0-1.4	
85° Gloss	<5	



AQACell® HIDE 6299 na

Safety

General

The usual safety precautions when handling chemicals must be observed. These include the measures described in Federal, State and Local health and safety regulations, thorough ventilation of the workplace, good skin care and wearing of protective goggles.

Material Safety Data Sheet

Please refer to the most current version of the Material Safety Data Sheet that can be found online at www.basf.us/sds

Storage and Handling Recommendations

AQACell HIDE 6299 na is freeze thaw stable. However, in colder climates it should be protected from freezing to prevent damage from storage tanks, piping, and valves. Care should be taken when heating bulk tanks and supply lines/valves to protect them from freezing. Heating with steam produces localized temperatures that are not recommended. Hydronic heat exchange systems with maximum temperatures not exceeding 125°F is preferred. Heat tracing wires should be kept to the minimum possible temperature to only protect from freezing. If AQACell HIDE 6299 na does freeze the material should be allowed to completely thaw and thoroughly mixed and then it is suitable for use.

About the Dispersions & Resins Business

The Dispersions & Resins business of BASF develops, produces and markets a range of high-quality resins, additives, colorants and polymer dispersions worldwide. These raw materials are used in formulations for coatings and paints, printing and packaging products, construction chemicals, adhesives, fiberbondings, nonwovens, and paper manufacturing. With a comprehensive product portfolio and extensive knowledge of the industries we serve, our customers benefit from innovative and sustainable solutions to help them advance their formulations through chemistry. For further information about the Dispersions & Resins business in North America, please visit <http://www.basf.us/dpsolutions>

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United States and Canada

BASF Corporation
11501 Steele Creek Road Charlotte, NC 28273
Phone: 800-251-0612
Fax: 704-587-8224
E-mail: dpsolutions@basf.com
Web: www.basf.us/dpsolutions

Mexico

BASF Mexicana, S.A. de C.V. Av. Insurgentes Sur 975
Col. Ciudad de los Deportes 03710 Mexico, D.F.
Phone: 52-55-5325-2600
Fax: 52-55-5723-3011
E-mail: contactoed@basf.com
Web: www.basf.com.mx

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