BASF
We create chemistry

AQACell® HIDE 6299 na

Opaque Polymer for Architectural Coatings

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Reduce formulated cost without impacting opacity

AQACell HIDE 6299 na improves TiO_2 spacing and scatters light, enabling formulators to reach the same level of opacity with less TiO_2. By offsetting TiO_2, 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 TiO_2 efficiency.

Features

- Reduce formulated cost by replacing up to 10%-15%* TiO_2 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*

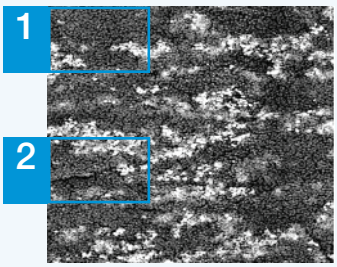
Properties

Dispersion type	Anionic
Solids content	~ 30 wt-%
pH value	8.1 – 9.5
Encapsulated H_2O	~ 22.2 wt-%
Solids by volume	~ 51.5%
Viscosity[1]	≤ 200 mPa*s
MFFT	> 80 °C
Specific gravity (wet polymer)	~ 1.025 g/cm³
Specific gravity (dry polymer)	~ 0.590 g/cm³
VOC (ASTM Method D 6886)	<10 g/l (0.27%)

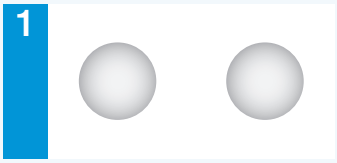
[1] DIN EN ISO 3219 (23 °C, 250 1/s)

Less TiO_2 needed for the same performance

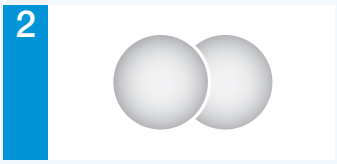
TiO_2 inefficiency in standard paint formulations



TiO_2 clusters develop as paint cures

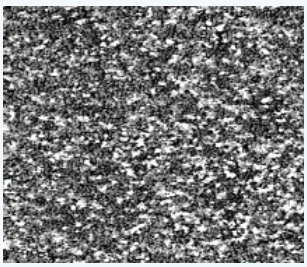


Areas with low TiO_2 concentration lead to reduced hiding power (blank spaces)

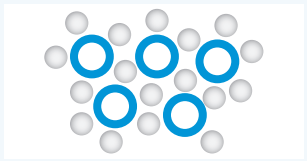


TiO_2 clusters create inefficiencies (crowding)

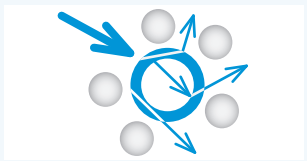
How does AQACell HIDE 6299 na help?



AQACell optimizes TiO_2 distribution



Improved TiO_2 spacing



Encapsulated air scatters light

AQACell® HIDE 6299 na

Formulation Guidelines

AQACell HIDE 6299 na can replace 10-15% of the TiO_2* 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

Interior Eggshell Formulation

raw materials	lbs	gallons
Water	60.00	7.20
Kronos[5] 4311	300.00	15.33
Tamol[6] 165A	10.00	1.14
Hydropalat[2] WE 3320	3.00	0.35
Foamstar[2] ST 2420	1.00	0.14
Proxel[3] BD 20	2.00	0.22
Minex[4] 4	100.00	4.60
Minex[4] 10	30.00	1.38
Attagel[2] 50	4.00	0.20
Mix 20 minutes		
Water	89.05	10.68
Ammonium Hydroxide	1.00	0.13
Polyphase[7] 678	3.00	0.31
Foamstar[2] ST 2420	2.00	0.28
Acronal[2] Plus 4670	430.00	48.61
Optifilm[8] 400	14.00	1.73
AQACell[2] Hide 6299	40.00	4.67
Rheovis[2] PE 1331	25.00	2.91
Rheovis[2] PU 1191	1.00	0.12
Total	**1115.05**	**100.00**
Vol Solids %	41.1	
Wt Solids %	55.6	
PVC %	36.5	
VOC g/L	0	
KU	90 - 100	
ICI	1.0 - 1.4	
60˚ Gloss	9 - 13	

Interior Semi-Gloss Formulation

raw materials	lbs	gallons
Water	75.00	9.00
Natrosol[1] 330 Plus	0.50	0.05
Mix for 10 minutes		
Ammonium Hydroxide	1.00	0.13
Tamol[6] 165A	5.00	0.57
Foamstar[2] ST 2420	2.00	0.28
Proxel[3] BD 20	2.00	0.22
Minex[4] 10	20.00	0.92
Attagel[2] 50	3.00	0.15
Mix 20 minutes		
Water	112.54	13.51
Kronos[5] 4311	275.00	14.05
Foamstar[2] ST 2420	2.00	0.28
Polyphase[7] 678	3.50	0.36
Acronal[2] Plus 4670	450.00	50.87
Optifilm[8] 400	15.00	1.86
AQACell[2] Hide 6299	40.00	4.67
Rheovis[2] PE 1331	25.00	2.91
Rheovis[2] PU 1191	1.50	0.17
Total	**1115.05**	**100.00**
Vol Solids %	36.7	
Wt Solids %	48.3	
PVC %	24.9	
VOC g/L	0	
KU	90 - 100	
ICI	1.0 - 1.4	
60˚ Gloss	35 - 45	

Exterior Flat Formulation

raw materials	lbs	gallons
Water	50.00	6.00
Kronos[5] 4311	260.00	13.29
Dispex[2] CX 4320	8.00	0.87
FoamStar[2] ST 2420	2.00	0.28
Hydropalat[2] WE 3320	3.00	0.35
Proxel[3] BD20	3.00	0.33
Minex[4] 4	230.00	10.57
Attagel[2] 50	4.00	0.20
Mix 20 minutes		
Water	129.95	15.60
Polyphase[7] 663	10.00	1.03
Ammonium Hydroxide	1.40	0.19
FoamStar[2] ST 2420	2.00	0.28
Acronal[2] EDGE 4247	365.00	41.01
Velate[8] 368	7.80	0.97
AQACell[2] Hide 6299	40.00	4.67
Rheovis[2] PE 1331	35.00	4.07
Rheovis[2] PU 1191	2.50	0.29
Total	**1115.05**	**100.00**
Vol Solids %	41.4	
Wt Solids %	57.2	
PVC %	46.4	
VOC g/L	22	
KU	95 - 105	
ICI	1.0 - 1.4	
85˚ Gloss	<5	

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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

About BASF

BASF Corporation, headquartered in Florham Park, New Jersey, is the North American affiliate of BASF SE, Ludwigshafen, Germany. BASF has more than 18,200 employees in North America, and had sales of $17.9 billion in 2017. For more information about BASF's North American operations, visit www.basf.com.

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. The more than 115,000 employees in the BASF Group work on contributing to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio is organized into five segments: Chemicals, Performance Products, Functional Materials & Solutions, Agricultural Solutions and Oil & Gas. BASF generated sales of €64.5 billion in 2017. BASF shares are traded on the stock exchanges in Frankfurt (BAS), London (BFA) and Zurich (BAS). Further information at www.basf.com.

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