



BASF

We create chemistry

**Empowering formulations
to elevate performance**

Acronal[®] EDGE 7073

Technology that creates value for you

I-O Hybrid Technology

Acronal® EDGE 7073

In the dynamic market today, one of the biggest challenges paint companies are facing is how to create more value in the paint formulation, by delivering more consumer benefits to meet the market needs while continuing to increase product performance.

Our latest innovation – Acronal® EDGE 7073, through the I-O Hybrid technology possesses anti-microbial features and biocide-free properties to protect people's health and create a safer living environment. Our product also empowers the paint formulation to deliver exceptional hiding performance and excellent scrub resistance.



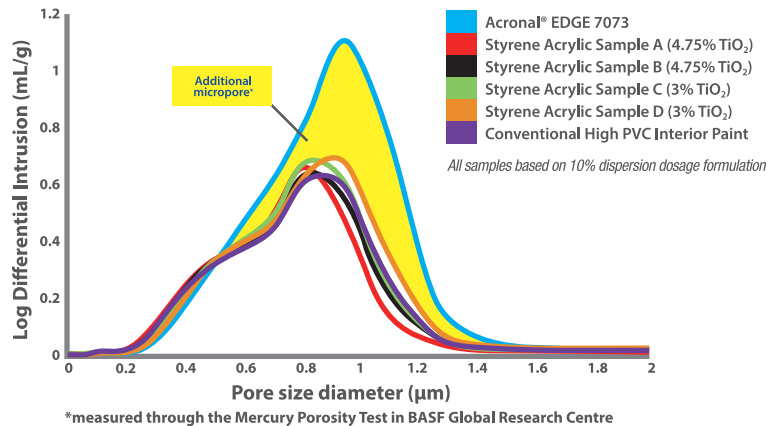
Product Technology

The I-O Hybrid technology is the seamless incorporation of inorganic nanoparticles into an organic matrix for a hybrid surface. The infusion of the inorganic reactive binder into the organic particles increases the paint film's micropore density by 2 times.



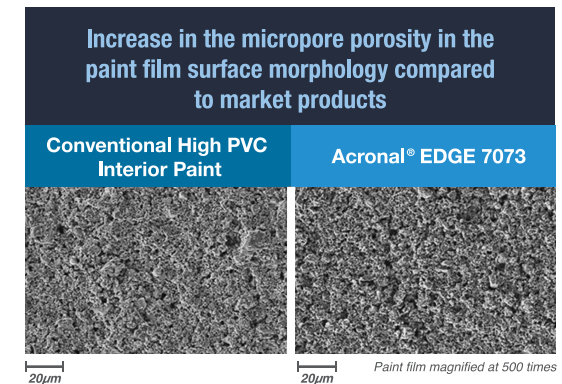
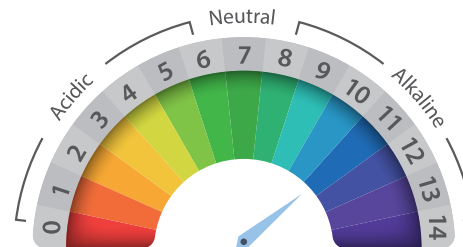
◆ Feature #1

Through the density of the micropores in the paint film changes the light refraction index, thereby increases the opacity of the paint surface.



◆ Feature #2

Through the alkaline enriched micropore structure in the paint, our Acronal® EDGE 7073 effectively denatures the protein cells of viruses and bacterias, eliminating the microorganisms on our walls and keeping them at bay.





Anti-microbial Features

Giving Your Home a Better Protection

1.

Excellent microbial resistance of the paint based on Acronal® EDGE 7073 protects your family against viruses and bacteria* found in our everyday environment. The alkaline enriched micropore structure in the paint film can increase the defense against an outbreak of diseases such as the H3N2 influenza, hand, foot, and mouth disease and human coronavirus 229E (HCoV-229E) on our walls. While it is proven 99.99% effective against Escherichia coli and Staphylococcus aureus.

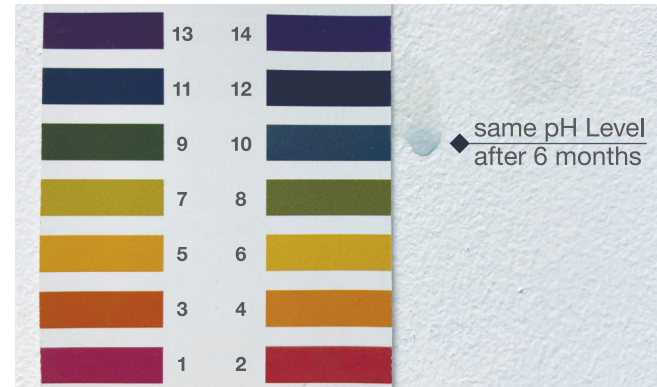
* selected viruses and bacteria based on test run in a certified third-party institution

Anti-microbial results after 24 hours of testing

	Efficacy	Durability [#]
EV71	99.11%	97.73%
H3N2	>99.93% (for 2hrs - 98.33%)	>99.93%
HCoV-229E	99.4%	-
Escherichia coli	>99.99%	>99.99%
Staphylococcus aureus	>99.99%	>99.99%

[#]Durability - UV exposure at 30w
253.7 wavelength condition after 100hrs

Paint film alkaline durability test after 6 months



Maintained the same level of pH on the Acronal® EDGE 7073 formulated paint film after 6 months on the wall



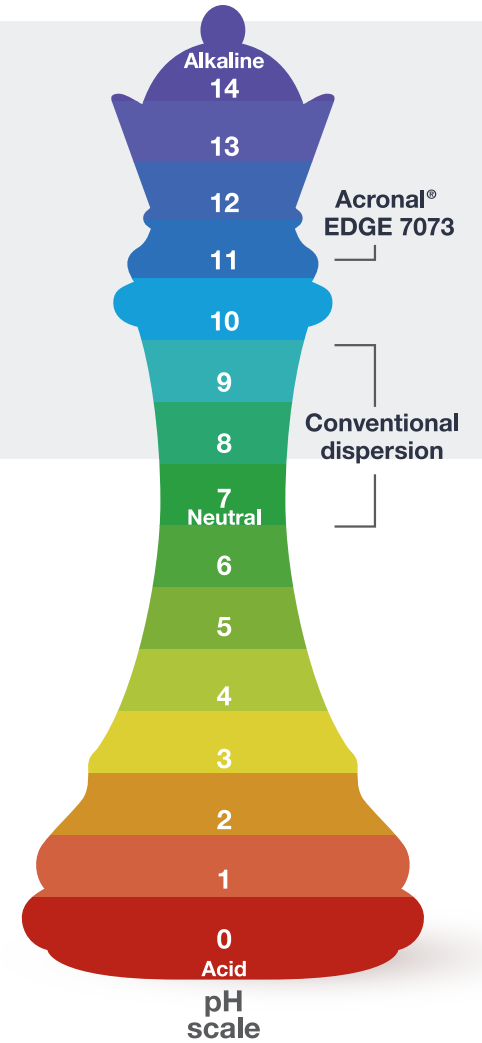


In-can Biocide Free

Newer Innovation Safer Formulation

2

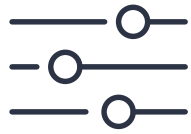
Our Acronal® EDGE 7073 is a safer product for consumers. The elimination of in-can biocide prevents the growth of microorganisms, and in turn avoiding the product from spoiling during storage for longer and reducing the risk of skin allergy.



Acronal® EDGE 7073 : Test results for no in-can biocide in dispersion and paint

Pre-treatment Condition:	Media	Innoculation Period			Result	
		1st Innoculation Day 1-5	2nd Innoculation Day 6-10	3rd Innoculation Day 11-15		
None	Nutrient Agar (for bacteria detection)	Dispersion	0	0	0	✓
		Paint	0	0	0	✓
	Malt Extract Agar (for yeast detection)	Dispersion	0	0	0	✓
		Paint	0	0	0	✓
50°C 1 week storage (test after 1 week)	Nutrient Agar (for bacteria detection)	Dispersion	0	0	0	✓
		Paint	0	0	0	✓
	Malt Extract Agar (for yeast detection)	Dispersion	0	0	0	✓
		Paint	0	0	0	✓

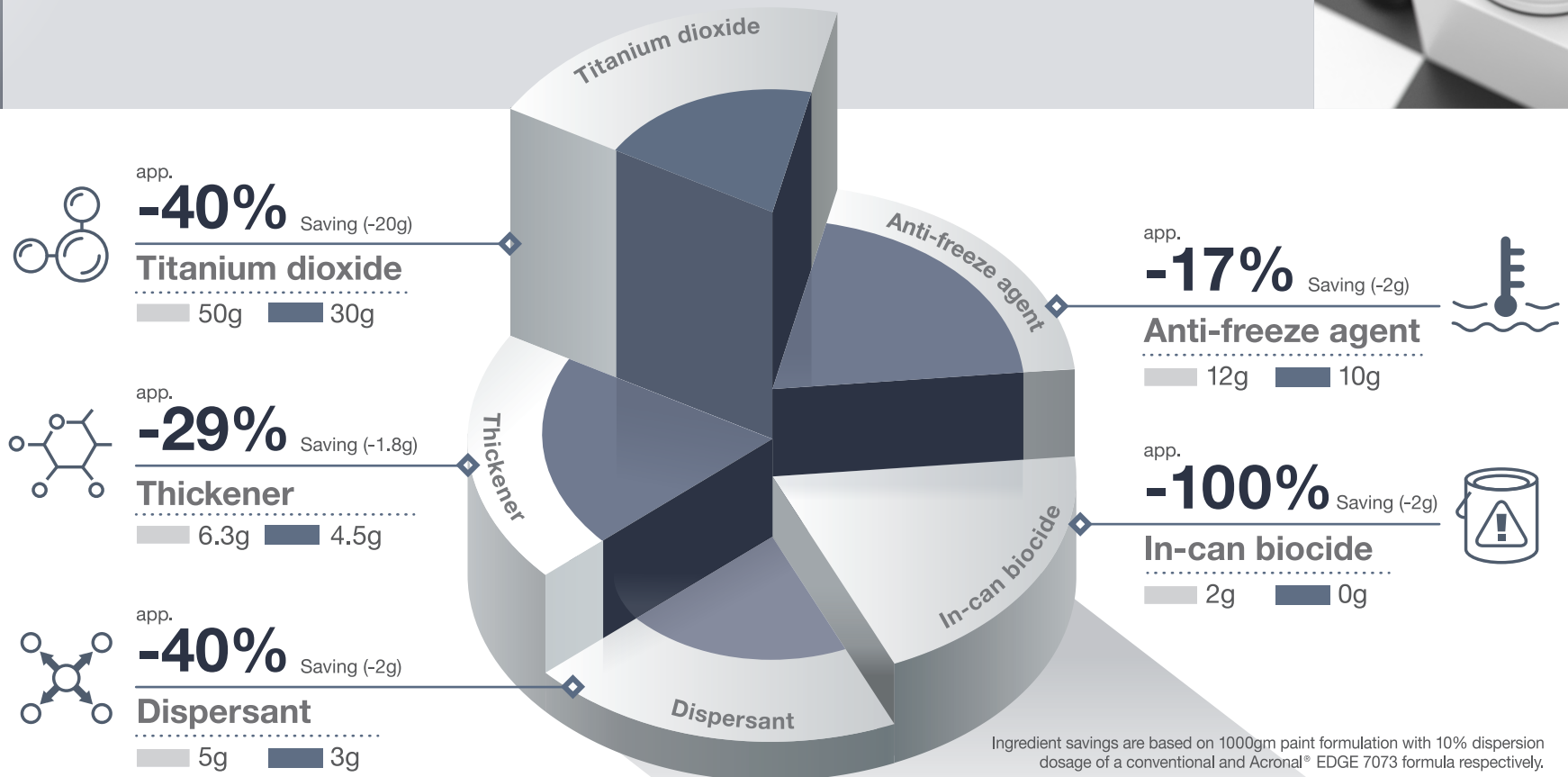
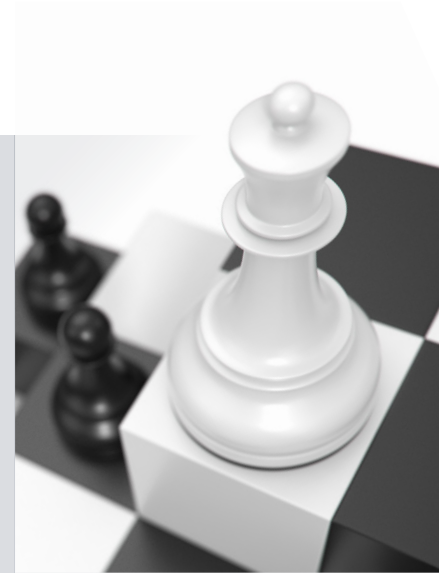




Empowered Formulation That Creates Value

3.

Our Acronal® EDGE 7073 is a dispersion that generates more efficiency in the paint formulation by getting more out of the raw ingredients used. The reduction in the use of ingredients that require energy-intensive production while delivering the same product performance allows us to be more environmentally friendly in the industry.





Superior Performance In Like-for-like Recipe

4

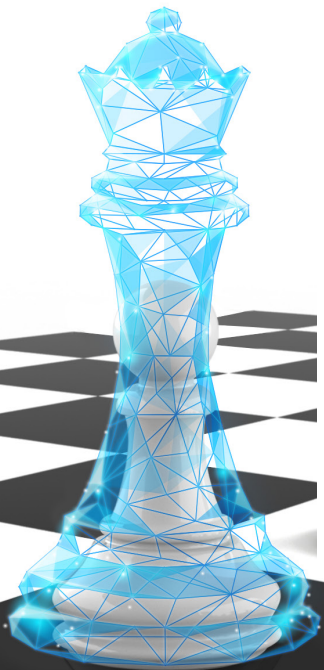
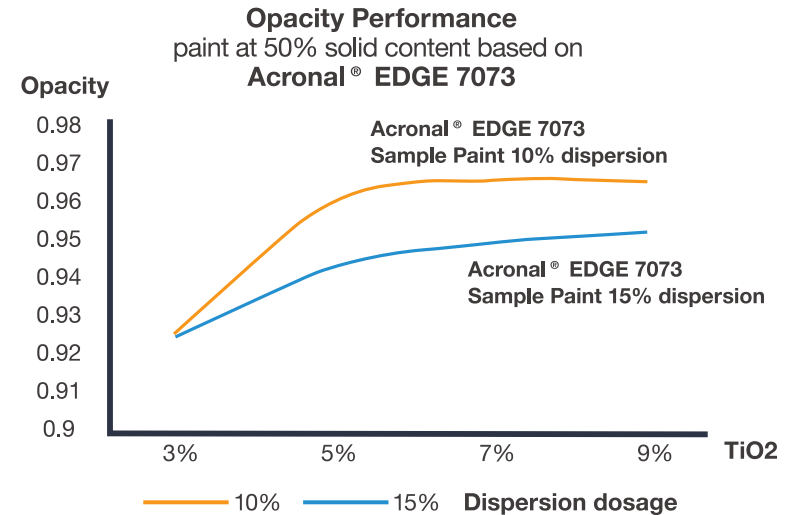
Our Acronal® EDGE 7073 through changing the light refraction index, increases the opacity by using the same amount of titanium dioxide, maximizing the total overall paint formulation efficiency.



Opacity#	
Acronal® EDGE 7073	Market Benchmark
Opacity test: 0.927	Opacity test: 0.904
<input checked="" type="checkbox"/> Same TiO ₂ dosage, improved results	

test parameters: 3% TiO₂, 10% dispersion

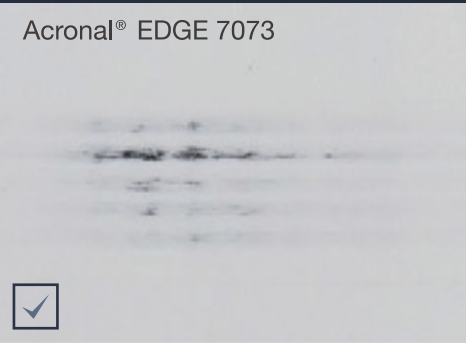
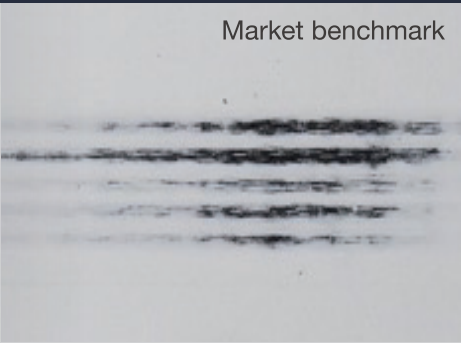
Opacity performance under different scenarios



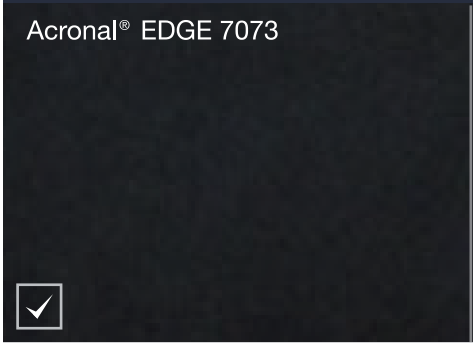
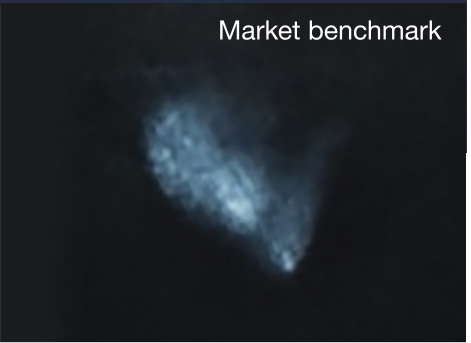
Our uncompromising approach to product innovation has also led to deliver exceptional product quality in other areas such as low-temperature film-forming performance and scrub resistance to meet the market needs.



Scrub test

Acronal® EDGE 7073	Market benchmark
	
<input checked="" type="checkbox"/>	<input type="checkbox"/>
GB test for scrub resistance after 1,300 cycles	Market benchmark failed test at 893 cycle

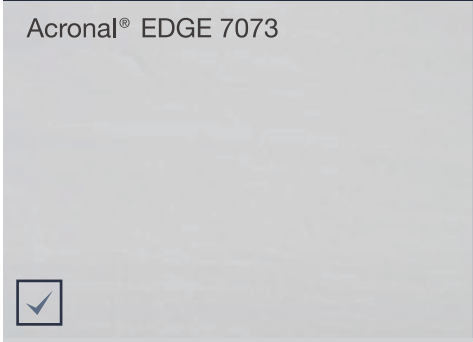

Chalking test

Acronal® EDGE 7073	Market benchmark
	
<input checked="" type="checkbox"/>	<input type="checkbox"/>
Condition: Under 5°C Temperature	

Acronal® EDGE 7073 sample paint properties

Dispersion dosage	%	10
Viscosity (initial)	Ku	94
Viscosity (overnight)	Ku	96
Viscosity (2 weeks storage at 50°C)	Ku	96-103
Opacity (100um)		0.927
Opacity (150um)		0.96
Free Thaw (-5°C, 5 cycles)		Pass
Wet scrub resistance (GB Standards)		>1,500
Alkaline resistance (GB Standards)		Pass
Low temperature film forming - Crack resistance (5°C)		Pass
Low temperature film forming - Chalking (5°C)		Pass

Crack Resistance test

Acronal® EDGE 7073	Market benchmark
	
<input checked="" type="checkbox"/>	<input type="checkbox"/>
Condition: Under 5°C Temperature	

Acronal[®] EDGE 7073

Key Selling Points



1

Stronger protection

Effective antimicrobial functionalities against viruses and bacteria



2

Safer recipe

Elimination of in-can biocide while maintaining storability



3

Empowered formulation

Optimized raw material usage



4

Superior performance

Improved hiding power and scrub resistance

Dispersion properties

Solids	%	47 ±1
MFFT	°C	approx. 21
pH	pH	10.5 - 11.5
Viscosity (sp#1, 50rpm at 23 degree)	mPas	50-300
Density (ISO 2811-1)	g/cm ³	approx. 1.07
Resistance to frost	°C	> 0°C
Type of dispersion		anionic

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