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Technology



Anticor™ CBA 63

Multifunctional additive for metallic pigments

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World

Anticor™ CBA 63

The benefits

Discover the benefits Anticor™ CBA 63 can provide to your metallic pigments formulation!

Anticor™ CBA 63 is a multifunctional additive particularly effective in combination with stabilized and un-stabilized aluminium, brass, copper and zinc containing pigments. It consists of a proprietary blend of phosphonates and glycol ethers. Anticor™ CBA 63 is pH neutral, easy to incorporate and can be pre- and post-added to the formulation.

1. Dispersing and wetting

Enriching your formulation with Anticor™ CBA 63 ensures a fast and easy wetting and dispersing of any type of metallic pigments.

Unstabilized metallic pigments can be stabilized with Anticor™ CBA 63 by simply mixing both into a paste. Anticor™ CBA 63 can also be added to the formulation before adding the pigments to accelerate and improve the pigment wetting and dispersing process.

Both methods have shown to decrease the dispersing time and improve stability significantly.



**Without
Anticor™ CBA 63**



**With
Anticor™ CBA 63**

Two gold-look metallic pigment concentrates prepared with a dissolver; with and without Anticor™ CBA 63. Pictures were taken immediately after dispersing.

2. Gas formation inhibition

The formation of hydrogen gas is a common problem when un-stabilized metallic pigments come in contact with water. Especially aluminium and zinc containing pigments are prone to this dangerous phenomenon.

Anticor™ CBA 63 inhibits this undesirable reaction by encapsulating each pigment particle, forming a protective water repellent layer.



Without
Anticor™ CBA 63

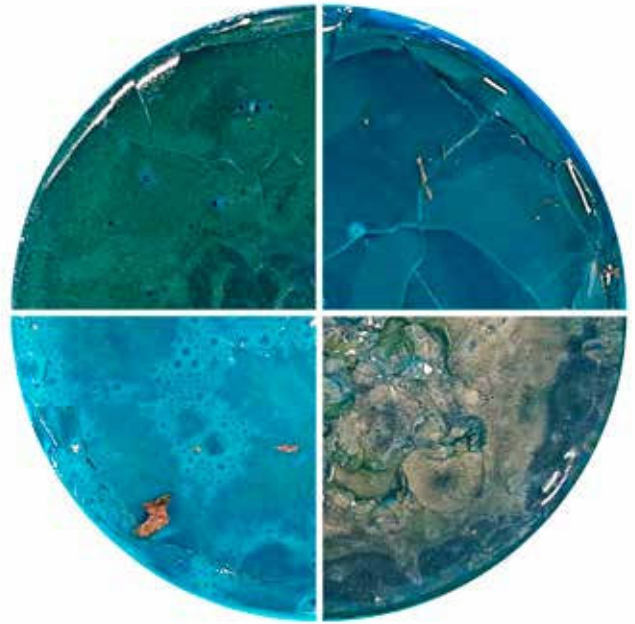
With
Anticor™ CBA 63

Two aluminium containing pigment concentrates; left: without Anticor™ CBA 63, completely solidified due to the gas producing reaction; right: with Anticor™ CBA 63, stable pigment concentrate without gas formation.

3. Oxidation prevention

Metallic pigments are prone to oxidation. Discolouration and skin formation regularly occur, especially when dispersed in waterborne systems. These oxidation issues can easily be tackled by using Anticor™ CBA 63.

In early oxidation stages Anticor™ CBA 63 can be post-added to conceal and inhibit further oxidation, as long as there is no solid oxidative skin formed.



Variety of oxidation colours in metallic copper pigment concentrates after one month of storage.



Copper pigment concentrate containing 2% Anticor™ CBA 63, after one month storage.

Methods of application

The versatility of Anticor™ CBA 63 serves a broad range of applications providing benefits in every stage from pigment to paint.

Direct passivation of un-stabilized pigments

This starting point formulation describes the dosage range in which Anticor™ CBA63 can be added to the (un-) treated metallic pigment. The exact dosage is pigment dependant and should be determined separately using a ladder study.

Once the metallic pigment is properly treated, it can be processed as any other passivated pigment.

Metallic pigment concentrate

Using this starting point formulation, the wetting and dispersing of the pigment is significantly accelerated and protected from oxidizing. To prevent oxidation a dosage of 2% Anticor™ CBA 63 and a pH above 8 (neutralized with CODIS™ 95) is recommended.

This pigment concentrate can subsequently be used to prepare metallic paints.

Component	Wt%
Demineralized water	32.0
Anticor™ CBA 63	2.0
Stabilized metallic pigment	34.0
Demineralized water	32.6
BYK 7420 ES	0.6
Biocide	0.4
CODIS™ 95	<i>to pH >8</i>

Component	Wt%
Unstabilized metallic pigment	70 - 95
Anticor™ CBA 63	30 - 5



Influence of the pH on the metallic pigment orientation. Below pH 6 the pigment forms agglomerates, while at a pH above 8 a homogenous coating is formed.



Water based metallic paints prepared with Anticor™ CBA 63. From left to right: Grandor W2550 BG, Grandor W2550/02, Stapa Hydroxal E4 nl and Stapa Hydroxal E212.

Successfully tested metallic pigments

List of commercially available metallic pigments in which Anticor™ CBA 63 was successfully tested.

Metallic pigment name		
Stapa Hydroxal E212	Silver	
Stapa Hydroxal W16 nl	Silver	
Stapa Hydroxal E4 nl	Silver	
Stapa Hydroxal DC 3500	Silver	
Stapa Hydroxal DC 5000	Silver	
Stapa Hydroxal W24 nl	Silver	
Stapa Hydrolac W22 nl	Silver	
Stapa Hydrolac W16 nl	Silver	
Stapa Aluminium 5 VS	Aluminium	Synthetic
STD ALOXAL 4010	Aluminium	
Hydrophor V500/75	Silver	Synthetic
MIOX S9	Glimmer	
Aquamet NP8500	Silver	
Auqador WP2350	Bleigold	
Aquador WP2210/02	Copper	
Aquador WP2210 BG	Bleigold	
Aquador WP2210 RBG	Reich Bleigold	
Grandor W2550 BG	Bleigold	
Grandor W2550/02	Reich Bleigold	
Aquador WP2350/70	Copper	
Aquador WP2350/70	Reich gold	
Stapa Hydroxal E212	Silver	
Stapa Hydroxal W16 nl	Silver	
Stapa Hydroxal E4 nl	Silver	
Stapa Hydroxal DC 3500	Silver	
Stapa Hydroxal DC 5000	Silver	

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