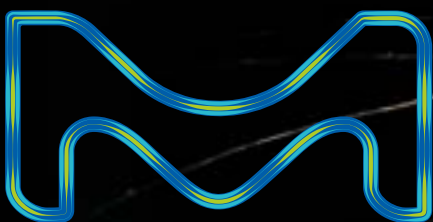


EMD
PERFORMANCE
MATERIALS

Xirallic[®]
FOR PLASTICS
THE POWER OF GRACE



Xirallic[®] **NXT**

EMD Performance Materials is a business of
Merck KGaA, Darmstadt, Germany.

KEY FEATURES

- > Intense sparkle
- > Fascinating brilliance and elegance
- > Unique styling possibilities
- > Outstanding clarity and depth

A close-up photograph of a dark horse's face, focusing on its eye and whiskers. The horse's eye is a striking, light blue-grey color with a dark pupil. The whiskers are long and dark, extending from the lower part of the face. The background is a solid blue color, which transitions into a dark circular area at the bottom right where the text is located.

SURFACE ADVANTAGES: POWERFUL SPARKLE

Xirallic® crystal effect pigments combine extraordinary sparkle with a gleaming shimmer that has never been achieved before. As well, they create an unexpectedly deep luster in plastic applications, and feature high color intensity and purity. Sunlight brings out their unparalleled brilliance.

Xirallic[®] CRYSTAL EFFECT PIGMENTS

Xirallic[®] crystal effect pigments, Merck's high-end, number-one choice in the coatings market, are now available for processing into plastics. The secret of this top-quality pigment family lies in its structural makeup. Aluminum oxide flakes with perfect planar surfaces are coated flawlessly with highly refractive metal oxides. The result is extraordinarily pure effect pigments with outstanding, elegant sparkle behavior and inspiring brilliance that adds sophistication to all premium plastic applications.

Mixed metal oxides

Aluminum oxide

CORE VALUE: A SHIMMERING CRYSTAL

The term „crystal effect pigments“ describes the key feature of the Xirallic[®] family: Their intense sparkle effect comes from a crystal core that is manufactured using a new process which produces alumina platelets with perfectly consistent, highly reflective surfaces and a tight particle size distribution. The uniquely fine particle size makes Xirallic[®] easier to incorporate – a clear advantage over most other pigments, whose strong glitter effect is based on larger particles. A layer of highly refractive metal oxides gives Xirallic[®] its extraordinary color saturation.

SPECTACULAR CHROMA:

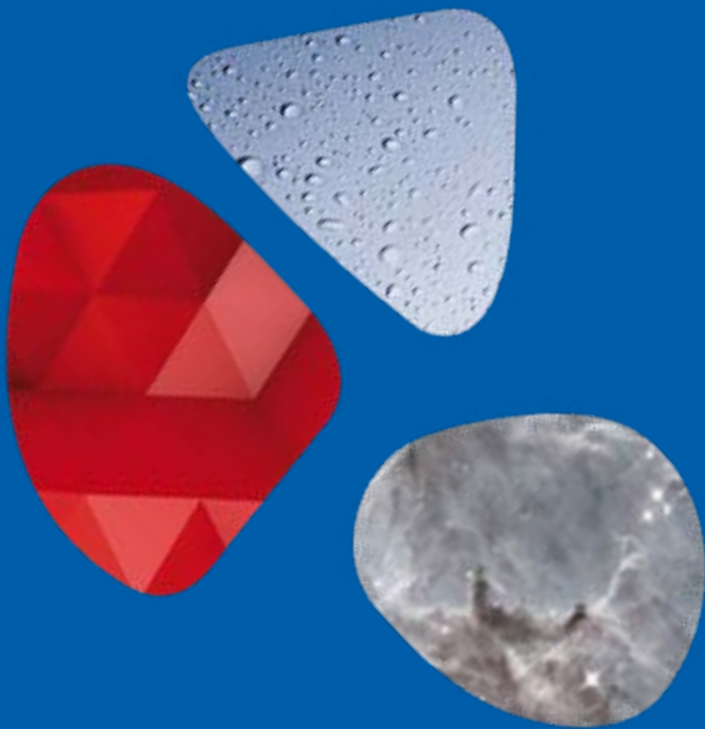
Xirallic[®] NXT **Cougar Red**

Xirallic[®] NXT Cougar Red is a bluish red with spectacular chroma and magically twinkling living sparkle. A whole new world of red tones opens up, ranging from neutral to blue-violet, but always intense and roaring with wildness. The high luminance of Xirallic[®] NXT Cougar Red makes colors more intense. Color stylings seem to vibrate, loaded with energy like an animal about to pounce. In black stylings the high brilliance of the crystal pigments open a wonderful deep black and a harmonious color interplay.

AMAZING CLARITY:

Xirallic[®] **Crystal Silver**

Incomparable sparkle, brilliant brightness, luminous white, elegant contrast of light and dark – this is the rich galaxy of Xirallic[®] Crystal Silver. This pigment really comes to life in dark, rich, color stylings. Bright-colored stylings take on a surprising brilliance that adds starlike sparkle. Despite the intensity of its sparkle, the pigment does not alter the original impression of the color styling, which remains homogeneous and harmonious. Xirallic[®] Crystal Silver is destined to give you astonishingly sophisticated surfaces that look as if they were sprinkled by a meteor shower.



IRRESISTIBLE FORCE:

Xirallic® NXT

Tigris Blue

Xirallic® NXT T250-23 Tigris Blue adds impressive depth and brilliance to the color blue's character. Its perfectly clear and neutral blue sparks under any light conditions and adds a harmonious color play to elegant black as well as deep blue stylings. The extraordinary presence of inner strength, daring superiority, living sparkle and exceptional power merge into an esthetic from which one can never get enough.



PRODUCT DETAILS

PRODUCT DATA

	Xirallic® T50-10 Crystal Silver	Xirallic® NXT F250-51 Cougar Red	Xirallic® NXT T250-23 Tigris Blue
Order N°	1.58069	1.58254	1.58264
Package sizes	150g, 1 Kg, 25 Kg	150g, 1 Kg, 20 Kg	150g, 1 Kg, 20 Kg

TECHNICAL INFORMATION

	Xirallic® T50-10 Crystal Silver	Xirallic® NXT F250-51 Cougar Red	Xirallic® NXT T250-23 Tigris Blue
Physical form	dry, free flowing powder	dry, free flowing powder	dry, free flowing powder
Color / Appearance	Silver-white, lustrous Interference Pigment	Red, lustrous Masstone Pigment	Blue, lustrous Masstone Pigment
Composition			
Al ₂ O ₃	70.5 - 78.5	50,0 - 60,0	43,0-58,0
TiO ₂	21.0 - 28.0	-	39,0-49,0
Fe ₂ O ₃	-	40,0 - 50,0	-
SnO ₂	0.5 - 1.5	-	1,0-3,0
Particle Size Distribution	5 - 40 µm (> 80% of particles within range)	5 - 40 µm (> 80% of particles within range)	5 - 40 µm (> 80% of particles within range)
pH value (EN ISO 787-9)	8 - 11	3 - 6	9-12
Thermal stability	Up to 800°C, non-flammable	Up to 800°C, non-flammable	Up to 800°C, non-flammable

REGULATORY BENEFITS

Listed and/or accepted in multiple Positive Lists from Regulations and Industry Standards in Europe and Asia.

We can confirm, that the above-mentioned pigments are compliant to the heavy metal limits laid down in AP (89) 1 and the referring BfR recommendation, chapter IX, in its most current version¹. We have conducted spot analysis with these pigments used up to 5% in Plastic Chips (PP) that showed no release of any element mentioned in Annex II of 10/2011/EC, including Aluminum^{2,3} and Nickel⁴. This analysis was conducted in 3% Acetic Acid as a Food Simulant. Therefore, we do not expect any significant contribution to a possible migration of any of those elements of Annex II, if the product is used under expected concentrations and in state-of-the-art conditions and products.

1: February 2015

2: valid since Sept 2018

3: A selection of common pure aluminum pigments analyzed in parallel did entirely exceed the limit.

4: valid from March 2019

Products are warranted to meet the specifications set forth on their label/packaging and/or certificate of analysis at the time of shipment or for the expressly stated duration. EMD provides information and advice on application technologies and relevant regulations based upon its current knowledge and opinion. EMD MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE REGARDING OUR PRODUCTS, THEIR APPLICATION OR ANY INFORMATION PROVIDED IN CONNECTION THEREWITH. EMD shall not in any event be liable for incidental, consequential, indirect, exemplary or special damages of any kind resulting from any use or failure of the products. Customer is responsible for and must independently determine the suitability of EMD's products for its products, intended use and processes. The foregoing information and suggestions are also provided without warranty of non-infringement as to intellectual property rights of third parties and shall not be construed as any inducement to infringe the rights of third parties. Customer shall be responsible for obtaining any applicable third party intellectual property licenses. All sales are subject to EMD's complete Terms and Conditions of Sale. Prices are subject to change without notice. EMD reserves the right to discontinue products without prior notice. EMD, EMD Performance Materials, the vibrant M and Xirallic are trademarks of Merck KGaA, Darmstadt, Germany. All other trademarks pertain to their proprietors.

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