In cooperation with Meoxal® Atacama Red

High brilliance with outstanding saturation
Elegant sparkle effects
Unique flop behaviour
Shelf life of two years

Luminous metal pigments

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EMD Performance Materials Corp.
Pigments & Functional Materials
Decorative Materials
One International Plaza Suite 300
Philadelphia, PA 19113, USA
Phone +1 484-652-5642
Fax +1 484-652-5665
decoro@emdgroup.com

EMD Performance Materials
Pigments & Functional Materials
Decorative Materials
Frankfurter Str. 250
64293 Darmstadt, Germany
Phone +49 (0) 6151 72-6309
Fax +49 (0) 6151 72-7684
decoro@emdgroup.com

EMD Performance Materials Ltd.
Pigments & Functional Materials
Decorative Materials
ARCO Tower, 5F
8-1, Shimomeguro 1-chome
Meguro-ku
Tokyo 153-8927, Japan
Phone +81 3 5434-4763
Fax +81 3 5434-4708
decoro@emdgroup.com

A subsidiary of Merck KGaA, Darmstadt, Germany
be brilliant. impress

- High brilliance with outstanding saturation
- Elegant sparkle effects
- Unique flop behaviour
- Shelf life of two years
- Luminous metal pigments
The Atacama Desert - one of the most surreal places on earth. Located close to coastal waters but still the driest place on earth with unbearably hot days and bitter cold nights. These conditions form a landscape of supernatural beauty and immense fascination. Extravagant rock formations of elegance and subtle power shrouded in luminous red satin. Just like the red sands of its namesake, Meoxal® Atacama Red is of such high intensity and purity that it almost seems to radiate light.

With Meoxal® we have translated experience, innovation and inspiration into a new form of pigments based on aluminum flakes. The combination of metal oxides, new flake technology and patented intermediate layering know-how creates amazing brilliant effects. Experience the impact of Meoxal® Atacama Red, intensity and luminosity from the deep within!

APPLICATION
Meoxal® F121-51 CWT Atacama Red is supplied as a paste, consisting of carbitol and 79% pigment. CWT stands for “Carbitol and Weather Treated” and is a specific surface treatment for this new class of pigments. CWT improves the incorporation into many paint systems, especially in waterborne systems for which no additional passivation process is required. It fulfills especially high demands for outdoor applications such as automotive coatings and other high-end paint applications.

100.0% Meoxal® Atacama Red
PMC in dry film 18.0%

83.7% Meoxal® Atacama Red
16.3% Carbon Black
PMC in dry film 21.5%

20.9% Meoxal® Atacama Red
10.0% Hostaperm® Red Violet ER 0
PMC in dry film 30.9%

11.77% Meoxal® Atacama Red
14.39% Perrindo® Maroon 179
0.78% Carbon Black
PMC in dry film 26.9%

The product specification is available separately, on request.

Schematic composition of Meoxal® Atacama Red

- Metal oxide Fe₂O₃
- Passivation interlayer
- CWT Surface Treatment
- Aluminum flake
With Meoxal® such high intensity and purity that it almost seems to radiate light. Deep within!

Meoxal® APPLICATION

Satin. Just like the red sands of its namesake, Meoxal rock formations of elegancy and subtle power shrouded in luminous red a landscape of supernatural beauty and immense fascination. Extravagant with unbearably hot days and bitter cold nights. These conditions form The Atacama Desert - one of the most surreal places on earth.

Introducing Meoxal® Atacama Red, intensity and luminosity from the know-how creates amazing brilliant effects. Experience the impact of Meoxal® Atacama Red, a new pigment that is a blend of metal oxides, new flake technology and patented intermediate layering into a new form of pigments based on aluminum flakes. The combination of carbitol and 79% pigment. CWT stands for “Carbitol and Weather Treatment” and is a specific surface treatment for this new class of pigments.

F121-51 CWT Atacama Red is supplied as a paste, consisting of 16.3% Carbon Black 83.7% Meoxal® Atacama Red 20.9% Meoxal® Maroon 1793 14.39% Perrindo® Maroon 1793 0.78% Carbon Black.

<table>
<thead>
<tr>
<th>Particle size distribution</th>
<th>4–7</th>
<th>8–11</th>
<th>13–16</th>
<th>21–26 µm</th>
</tr>
</thead>
<tbody>
<tr>
<td>4–7</td>
<td>8–11</td>
<td>13–16</td>
<td>21–26 µm</td>
<td></td>
</tr>
</tbody>
</table>

**Form:** Paste
**Physical Properties Value Method**

- **Bulk density:** 80 g/100 ml (In-house method)
- **Flash point:** carbitol 94°C
- **Ignition temperature:** carbitol 190–220°C
- **Water solubility:** Insoluble
- **Electrical conductivity:** 78–80% (In-house method)

**Particle size distribution**: 5–25 µm Laser diffraction (suspension (10%))

**Semi-transparent**

**Shine**

**Sparkle Color metallic effect**

**Positioning**

- **Mass tone red**
- **Metallic**
- **Semi-transparent**
- **Hiding power**
- **Visibility**
- **Cationic**
- **Anionic**
- **Non-ionic**
- **Semi-transparent**
- **Hiding power**
- **Visibility**
- **Cationic**
- **Anionic**
- **Non-ionic**
- **Sparkle Color metallic effect**

**Hue and Chroma measured on fullshade panels over black, PMC1 18% (dry film), layer thickness of 15 µm:**

- **45°/as15°**
- **45°/as20°**
- **45°/as25°**
- **45°/0°** (as 45°)
- **45°/30°** (as 75°)
- **45°/60°** (as 110°)

**Shelf Life of Two Years**

- **Hue**
- **Chroma**
- **Luminance**

**Hue and Chroma measured on fullshade panels over black, PMC1 18% (dry film), layer thickness of 15 µm.**

**Outstanding Saturation**

- **Luminance (Y)**
- **Saturation (u',v')**

<table>
<thead>
<tr>
<th>Months</th>
<th>0</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
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<tbody>
<tr>
<td><strong>Hue</strong></td>
<td>41</td>
<td>42</td>
<td>43</td>
<td>44</td>
<td>45</td>
</tr>
<tr>
<td><strong>Chroma</strong></td>
<td>40</td>
<td>41</td>
<td>42</td>
<td>43</td>
<td>44</td>
</tr>
<tr>
<td><strong>Luminance (Y)</strong></td>
<td>0</td>
<td>5</td>
<td>10</td>
<td>15</td>
<td>20</td>
</tr>
</tbody>
</table>

**Typical scanning electron microscope image** of Meoxal® F121-51 CWT Atacama Red

**Light microscope bright field image** (opt. magn. 200x) of Meoxal® F121-51 CWT Atacama Red

**Light microscope dark field image** (opt. magn. 200x) of Meoxal® F121-51 CWT Atacama Red

**TECHNICAL DATA**

- **Pigment Mass Concentration (PMC):** Mass pigment based on total mass coating
- **Preparation:** Paste with 79% pigment
- **Surface treatment:** CWT
- **Semi-transparent**
- **Hiding power**
- **Sparkle Color metallic effect**

**PROPERTIES**

- **Color:** Mass tone red
- **Positioning**
  - **Sparkle Color metallic effect**
  - **Positioning**

**Manufacturer**

F121-51 CWT Atacama Red, Meoxal® is a trademark of Sun Chemical Corporation, Parsippany, USA

**Ordering Information**

- **Item No.:** 1.41184
- **Name:** Atacama Red
- **Nomenclature:** Product line Meoxal®
- **Positioning**

**SAE J 2527**

- **Humidity resistance test:**
  - **Test Conditions:**
  - **Test Results:**

**DIN EN ISO 6270-2**

- **Humidity resistance test**
- **Test Conditions**
- **Test Results**

**Paint System Test**

- **Test Conditions:**
  - **Test Results:**

**Schematic composition of Meoxal® Atacama Red**

- **Aluminum flake**
- **Passivation interlayer**
- **Metal oxide Fe2O3**
With Meoxal® deep within!

Meoxal® APPLICATION

Located close to coastal waters but still the driest place on earth, the Atacama Desert— one of the most surreal places on earth— is a place of extreme conditions. The rock formations of elegance and subtle power are shrouded in luminous red, and the extreme climate with unbearably hot days and bitter cold nights are the conditions that form Meoxal®. Intensity and luminosity from the metal oxides, new flake technology, and patented intermediate layering, the know-how creates amazing brilliant effects. Experience the impact of CWT, a specific surface treatment for this new class of pigments.

F121-51 CWT Atacama Red is supplied as a paste, consisting of 10.0 % Hostaperm® Red Violet ER 022, 16.3 % Carbon Black, 20.9 % Meoxal® Atacama Red, and 83.7 % Meoxal® Atacama Red. It fulfills especially high demands for outdoor applications such as automotive coatings and other high-end paint applications.

CWT improves the incorporation into many paint systems, especially in waterborne systems for which no additional passivation process is required. Treated” and is a specific surface treatment for this new class of pigments.

Shelf Life of Two Years

Outstanding Saturation

Hue and Chroma measured on fullshade panels over black, thickness 15 μm, on a black substrate).

<table>
<thead>
<tr>
<th>Test</th>
<th>Test Conditions</th>
<th>Test Results</th>
</tr>
</thead>
</table>
| Humidity resistance test | PMC¹: 4.0% Meoxal® F121-51 CWT Atacama Red | • Gloss after 24 h (20°): 98.6%  
• DOI after 24 h(vis): 105.0%  
• Cross hatch 1 h: 0 |
| Short term weathering | PMC¹: 4.0% Meoxal® F121-51 CWT Atacama Red, black reduction | • Gloss after 4000 h: 82.8%  
• Color change ΔE after 4000 h⁶: 25°/1.26; 45°/1.13 |

¹ Pigment Mass Concentration (PMC): Mass pigment based on total mass coating  
² Hostaperm® is a trademark of Clariant International Ltd, Muttenz, Switzerland  
³ Perrindo® is a trademark of Sun Chemical Corporation, Parsippany, USA  
⁴ 80% of particles within range  
⁵ The information on this page is typical technical data to characterize the pigment. These values are not meant as specifications and they do not have binding character. The product specification is available separately, on request.

### TECHNICAL DATA

#### Physical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Paste</td>
<td></td>
</tr>
<tr>
<td>Non volatile material</td>
<td>78–80%</td>
<td>In-house method</td>
</tr>
<tr>
<td>Bulk density</td>
<td>80 g/100 ml</td>
<td>In-house method</td>
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<tr>
<td>Flash point carbitol</td>
<td>94°C</td>
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</tr>
<tr>
<td>Ignition temperature carbitol</td>
<td>190–220°C</td>
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</tr>
<tr>
<td>Water solubility of the pigment</td>
<td>Insoluble</td>
<td>In-house method</td>
</tr>
<tr>
<td>Electrical conductivity of the aqueous suspension</td>
<td>≤100 µS/cm</td>
<td>In-house method</td>
</tr>
<tr>
<td>pH of the aqueous suspension (10%)</td>
<td>4–7</td>
<td>ISO 787-9</td>
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<tr>
<td>Particle size distribution⁴</td>
<td>5–25 μm</td>
<td>Laser diffraction</td>
</tr>
<tr>
<td>d10, d50, d90</td>
<td>8-11, 13-16, 21-26 μm</td>
<td>Laser diffraction</td>
</tr>
</tbody>
</table>

### WEATHERING DATA⁵

<table>
<thead>
<tr>
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<th>Test Conditions</th>
<th>Test Results</th>
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</thead>
</table>
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The Schematic composition of Meoxal® Atacama Red is as follows:

- Aluminum flake
- Passivation interlayer
- Metal oxide Fe₂O₃

The diagram shows the composition of Meoxal® Atacama Red in a mass percentage and a schematic image of the pigment structure.
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