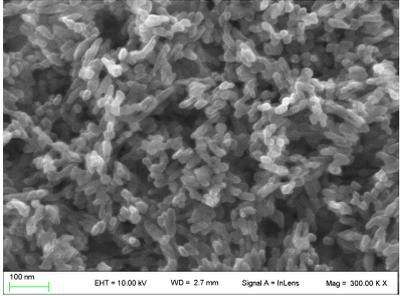
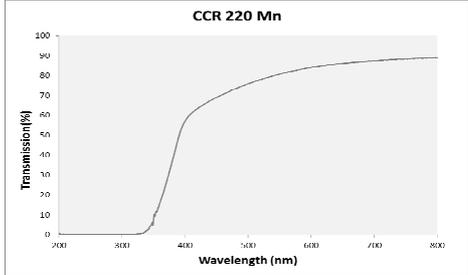




## CCR 220 Mn TiO<sub>2</sub> - UV Absorber

**CCR 220 Mn** is a stabilized aqueous suspension of ultrafine Titanium dioxide (TiO<sub>2</sub>) with excellent UV absorption properties. Our applied proprietary particle design- and coatings- technology is the basis for the premium product performance in a wide range of applications where UV protection is required.

<p>Properties</p>	<p>Designed and optimized for the use as high efficient UV absorber:</p> <ul style="list-style-type: none"> <li>▪ Ultrafine TiO<sub>2</sub> without pigmentary properties.</li> <li>▪ Highly stabilized, neutral pH, skin color aqueous suspension.</li> <li>▪ Rutile crystal structure.</li> <li>▪ Functionalized surface through inorganic coatings.</li> <li>▪ Excellent UV absorber, with high transparency.</li> <li>▪ Cristal lattice doped with Mn.</li> </ul>		
<p>Applications</p>	<p>Main applications are:</p> <ul style="list-style-type: none"> <li>▪ Transparent coatings providing long term UV screening for various substrates (wood, plastics, etc.).</li> <li>▪ As a supplement to plastics in order to enhance their physical and chemical characteristics.</li> <li>▪ Transparent plastic foil for food packaging.</li> <li>▪ UV protection in polymers.</li> </ul>		
<p>Product characteristics (typical)</p>	<p><b>TiO<sub>2</sub> content</b></p>	<p>Internal method</p>	<p>15 - 17 %</p>
	<p><b>Density</b></p>	<p>Internal method</p>	<p>~ 1.1 g/cm<sup>3</sup></p>
	<p><b>pH</b></p>	<p>Internal method</p>	<p>6 - 8</p>
	<p><b>Crystallite size (Scherrer)</b></p>	<p>Internal method</p>	<p>~ 30 nm</p>
	<p><b>Specific Conductivity</b></p>	<p>Internal method</p>	<p>&lt; 1 mS/cm</p>
	<p><b>Surface treatment</b></p>	<p>Internal method</p>	<p>Al<sub>2</sub>O<sub>3</sub></p>
	<p><b>Specific surface area</b></p>	<p>Internal method</p>	<p>~ 70 m<sup>2</sup>/g</p>
<p>SEM image &amp; Performance chart</p>	 <p>SEM image of the CCR 220 Mn</p>		 <p>Absorption curve of the CCR 220 Mn</p> <p>Preparation method: The 200 microns liquid films were prepared from water based wood coating containing 0.6 % of active component. The films were dried on room temperature for 24 hours. Final step, the transmitted light on UV-Vis spectrophotometer was measured.</p>
<p>Packaging &amp; Handling</p>	<ul style="list-style-type: none"> <li>▪ Available in 50 L (60 kg) or 150 L (170 kg) plastic drums.</li> <li>▪ Handling in accordance with the CCR 220 Mn Safety Data Sheet.</li> <li>▪ Shelf life: 4 years from the date of production.</li> <li>▪ When stored, avoid freezing and overheating.</li> <li>▪ Be sure to mix before use (after mixing viscosity will be lower).</li> </ul>		

The information provided in this Technical Data Sheet (TDS) is, to the best of our knowledge. Since the conditions of use are beyond our control no warranty is given or to be implied of such information.