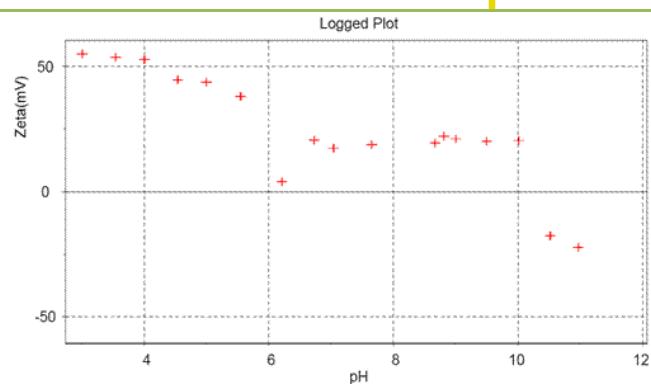




## Material

## Zirconium dioxide ( $\text{ZrO}_2$ )

<b>Charge description/ NanoCare Product number</b>	CH-000218 8.2						
<b>Provider</b>	ItN Nanovation AG						
<b>Available form</b>	Suspension in water						
<b>Primary particle size [<math>d_{50}</math> in nm]</b>	31.0 nm						
<b>Particle size distribution</b>	<p>A histogram showing the particle size distribution. The x-axis is labeled 'Durchmesser [nm]' and ranges from 0 to 10. The y-axis has two scales: 'Volumenanteil [%]' on the left (0 to 12) and 'Volumen der Teilchen' on the right (0 to 25). The distribution is very narrow and centered around 31.0 nm. A legend indicates: <math>d_{10} : 12 \text{ nm}</math>, <math>d_{50} : 15 \text{ nm}</math>, <math>d_{90} : 29 \text{ nm}</math>.</p>						
<b>pH</b>	3.68 (in water)						
<b>BET Surface area</b>	122 $\text{m}^2/\text{g}$						
<b>Particle morphology</b>	irregular spherical						
<b>Crystal phase and crystallinity</b>	mixed phase monocline (75%)/ tetragonal (25%)						
<b>Stabilisation</b>	Acetic acid						
<b>Solubility in water</b>	190 ppm						
<b>Purity/contamination</b>	<table> <tr> <td>O</td> <td>60 %</td> </tr> <tr> <td>Zr</td> <td>37 %</td> </tr> <tr> <td>Cl</td> <td>3 %</td> </tr> </table>	O	60 %	Zr	37 %	Cl	3 %
O	60 %						
Zr	37 %						
Cl	3 %						
<b>REM/TEM</b>	<p>Transmission electron microscopy (TEM) image showing a dense network of small, irregularly shaped spherical particles. A scale bar in the bottom right corner indicates 100 nm.</p>						

**Zeta potential  
(in water)****Surface area chemistry**

O	55 %
Zr	21 %
C	24 %
Cl	0.6 %