

## TECHNICAL DATA SHEET

### IONSOL 6W

Concentrated solution of iron oxide nanoparticles ( $\text{Fe}_3\text{O}_4$ ) in demineralized water for professional use. The particles were coated with an active substance by encapsulation, forming a core / shell system. The particles exhibit superparamagnetic properties. The product is completely VOC free and safe for the environment. If a change in rheology is undesirable, the company recommend using IONSOL 12W.

#### Technical specification

Component	iron oxide (II, III) / magnetite
Medium	demineralized water
Availability	0,5 L / 1 L
Particle size <sup>1</sup>	8 - 40 nm
Particle purity	99,0 %
Saturation magnetization ( $\text{Fe}_3\text{O}_4$ ) <sup>2</sup>	91 emu/g (0,6T)
Saturation magnetization (solution) <sup>2</sup>	4,5 emu/g (0,6T)
Density (25 °C)	1,06 g/cm <sup>3</sup>
Electrical conductivity (°C)	0,5 mS/cm
pH (25 °C)	6,0 - 7,0
Dynamic viscosity (25 °C) <sup>3</sup>	22 - 28 mPa*s
Colour	black
Smell	none

The data in the table above are typical test values and are for reference only. The exact parameters of the products are available upon request.

<sup>1</sup> Based on scanning transmission electron microscopy images (STEM)

<sup>2</sup> Based on magnetic research (see Analysis Data Sheet)

<sup>3</sup> Brookfield (RV02) 100 - 250 RPM

## Applications

### [Plant fertilizers](#)

IONSOL 6W can be used as a source of iron in fertilizer products for plant cultivation. Nano-scale size and purity accelerate the absorption of ingredients.

### [Pigment concentrate](#)

Thanks to its nano-scale particle size, IONSOL 6W is used as an efficient black pigment for construction products:

- concrete, plaster,
- fillers, putty
- adhesives, glues, sealants.

## Storage and use

The particles settle after a short time. Stir the solution well before use. Store the product at a temperature above 5 °C and in a dark place. Protect the product against undesirable magnetic fields. For more information see the product safety data sheet.