

# Product data sheet

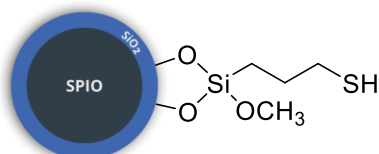
**Name of the product:** SPIO@SiO<sub>2</sub>-SH, suspended in deionised water, 5 mg/mL or powder.

**Guarantee:** 6 months in suspension or 1 year in powder from manufacture, under the specified storage conditions.

**Product number:** SP2SH18

**Storage:** 4 – 25°C. DO NOT FREEZE.

**Product representation :**



**Usage:** Ensure the nanoparticles are well dispersed in the medium prior to use.

In **suspension**, shake vigorously before use, bath sonication is strongly recommended.

In **powder**, to use in suspension, bath sonication is needed.

**Product specifications:**

Property <i>Characterization technique</i>	Unit	Specifications	
		Min.	Max.
<b>Appearance (Back or brown powder)</b> <i>Visual Inspection</i>	-	-	-
<b>Magnetic</b> <i>Test with magnet</i>	-	-	-
<b>Presence of the molecule at the surface</b> <i>Infrared analysis (IR)</i>	-	-	-
<b>Loading of -SH at the surface of the nanoparticles</b> <i>Thermogravimetric analysis (TGA)</i>	Nb*/nm <sup>2</sup>	2	10
<b>Phase of SPIO (Magnetite)</b> <i>X-ray Diffraction (DRX)</i>	-	-	-
<b>Crystallite size of SPIO</b> <i>X-ray Diffraction (DRX)</i>	nm	10	20
<b>Mesh parameter</b> <i>X-ray Diffraction (DRX)</i>	Å	8.370	8.390
<b>Oxygen stoichiometry</b> <i>X-ray Diffraction (DRX)</i>	-	0	0.111
<b>Fe<sup>2+</sup>/Fe<sup>3+</sup> ratio</b> <i>X-ray Diffraction (DRX)</i>	-	0	50
<b>Mean size of the silica layer</b> <i>Transmission Electron Microscopy (TEM)</i>	nm	1	8
<b>Mean particle size of the SPIO with the silica layer</b> <i>Transmission Electron Microscopy (TEM)</i>	nm	10	30

\*Nb = number of molecules