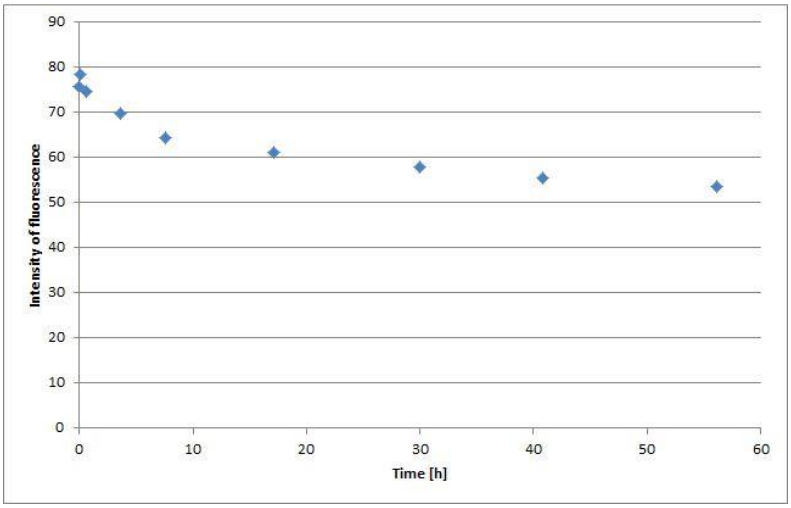
Product **S**heet

Excellent **P**hoto-**B**leaching **R**esistance

A sample of PEG-coated silica nanoparticles was illuminated by a monochromatic laser light (wavelength λ=561 nm and power=38 mW), via continuous wave method. The fluorescence spectra were recorded using a λ=535 nm laser. During 60 h of sample illumination only a 33% reduction of the nanoparticle fluorescence intensity was observed. This result reveals the exceptional photo-bleaching resistance of our nanoparticles.



Solutions **F**ree of **S**tabilizers and **A**dditives

To avoid any interference from added chemicals during experiments we guarantee that all our nanoparticle samples are free of stabilizers and additives. The lack of some toxic, commonly used stabilizers, such as azides, is especially beneficial in case of biological, biochemical and medical research.

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Institute of Physical Chemistry
Polish Academy of Sciences

Ul. Kasprzaka 44/52, 01-224, Warsaw, Poland

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Non-**T**oxic

Our nanoparticles are highly biocompatible. Due to their low cytotoxicity our PEG-coated silica nanoparticles are recommended for use in living cells and microorganisms. The images below provide an excellent example of their suitability for biological applications.

On the presented confocal microscope images ***H***ela cells incubated with PEG-coated silica nanoparticles containing Rhodamine-B are visible. Nanoparticles were uptaken and remained in cells during following generations. Wide-field phase contrast and epifluorescence microscope pictures present nanoparticle-containing cells that undergo mitosis. Cells maintained high viability and proliferation potential for at least 14 generations after exposure.

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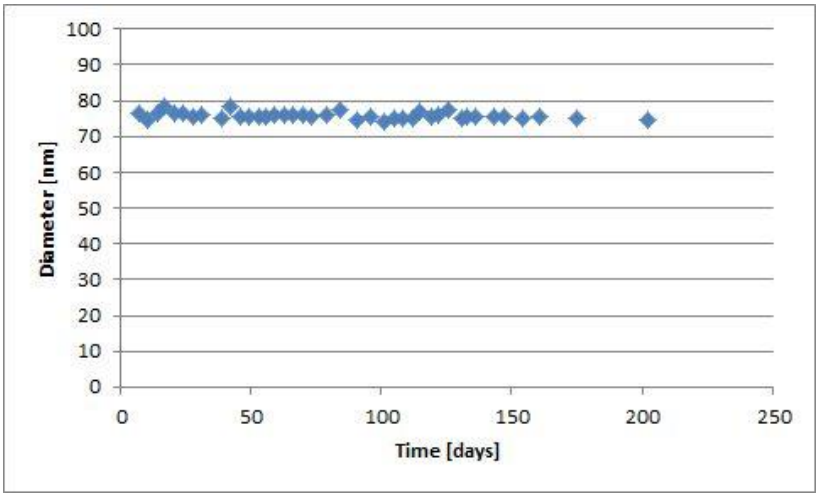
Prolonged **S**tability

Our products retain their stability over long periods of time in solutions. As shown on the graph below, the diameters of nanoobjects remain stable at room temperature for over 6 months.



A graph depicting the diameter of PEG-coated silica nanoparticles measured using the Dynamic Light Scattering (DLS) technique during a period of over 200 days, is shown. The size deviation of the nanoparticles is within the limits of +/- 2 nm.

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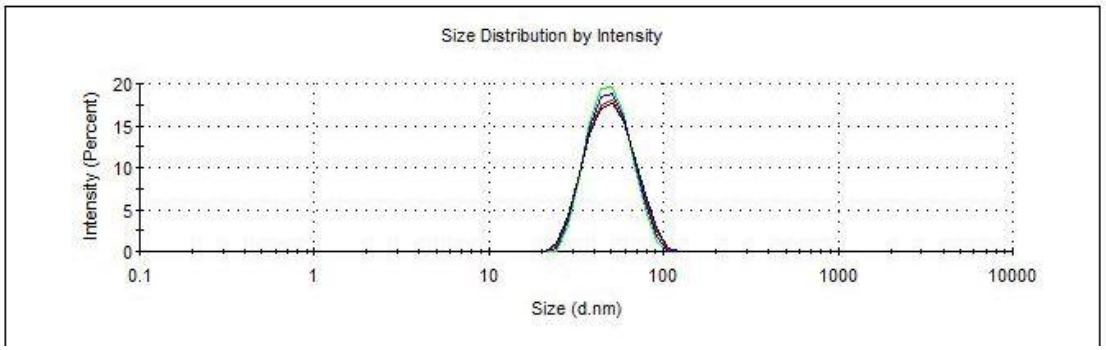
Good **S**olubility

Our samples are soluble in different diluents depending on the surface ligand coating. We offer both polar, hydrophilic solvent soluble nanoparticles (e.g. water, ethanol), as well as non-polar, hydrophobic solvent soluble nanoparticles (e.g. hexane). The nanoparticle samples are available in two forms: as a dispersion in solution or in the solid state. Solid state samples may be easily transferred into the liquid state using ultrasonic agitation.

		Size (d.nm):	% Intensity:	St Dev (d.nm):
Z-Average (d.nm): 47,11	Peak 1:	51,39	100,0	15,71
PdI: 0,074	Peak 2:	0,000	0,0	0,000
Intercept: 0,966	Peak 3:	0,000	0,0	0,000
Result quality : Good				



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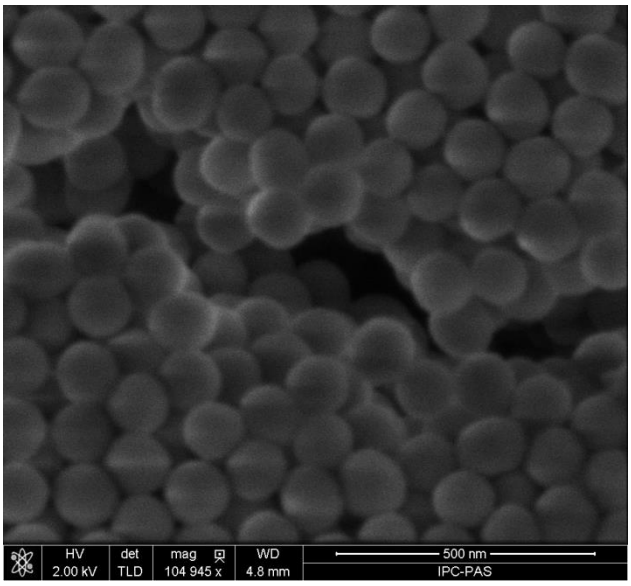
Low **P**olydispersity

The developed at SILIQUAN silica nanoparticle synthesis procedures afford monodisperse nanoobjects. As shown on the Scanning Electron Microscope images the size distribution of the silica nanoobjects is nominal.

Results obtained in the Dynamic Light Scattering experiments confirm the low polydispersity of the nanoparticles.



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