Microcapsules can be considered as small containers filled of active compounds that depending on the final application can contain a very wide range of different materials.

In the last years the importance of silica microcapsules has grown considerably due to their great chemical resistance, thermal stability, biocompatibility and environmental-friendliness.¹

Silica microcapsules with diameters in the range of nano, micro, and in some cases almost in the millimetre scale containing different organic compounds have been synthesized combining the sol-gel chemistry with the oil in water microemulsion technology.²

In the current study we have observed that variations in the pH of the reaction during the hydrolysis step, modifications in the silica/water ratio, or even the nature of the encapsulated organic compound, have dramatic effects in the type of shell obtained, the morphology and also in the particle size distribution.

References:


Figures:

**Fig. 1** Different capsules synthesized at different pH. The first image corresponds to a synthesis carried out at a pH of 2.2, the second one at pH 3.2 and the last one at pH 4.2.