**Hydrophilic and superhydrophilic surfaces and materials**

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**Abstract**

The term *superhydrophilicity* is only 11–12 years old and was introduced just after the explosion of research on *superhydrophobic* surfaces, in response to the demand for surfaces and coatings with exceptionally strong affinity to water. The definition of superhydrophilic substrates has not been clarified yet, and unrestricted use of this term to hydrophilic surfaces has stirred controversy in the last few years in the surface chemistry community. In this review, we take a close look into major definitions of hydrophilic surfaces used in the past, before we review the physics behind the superhydrophilic phenomenon and make recommendation on defining superhydrophilic surfaces and coatings. We also review chemical and physical methods used in the fabrication of substrates on surfaces of which water spreads completely. Several applications of superhydrophilic surfaces, including examples from the authors’ own research, conclude this review.