

Nanomaterials for water purification technologies

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Water is the most precious resource to Life. The shortage of drinking water in some parts of the world has put on the global agenda the need for renewed efforts to find technological solutions that ensure sustainable water supply for all populations. Nanotechnology has here an important role by providing more efficient processes for the management and use of water resources. An important example concerns the use of nanomaterials for water decontamination processes, whether in natural deposits or in treatment stations in industrial and laboratory units.

This communication intends to give an integrated view of the application of nanomaterials for water purification by addressing two main topics: i) the removal of water pollutants, such as inorganic mercury, by using surface modified magnetic nanoparticles;¹ ii) photodegradation of organic pollutants using metal sulfide decorated carbon nanostructures, such as graphene oxide.² In particular, the communication will highlight the relevance of surface chemistry for the development of efficient nanomaterials in the envisaged applications.

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