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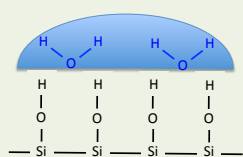
## Dry water

### A surprising experiment for primary to high school students

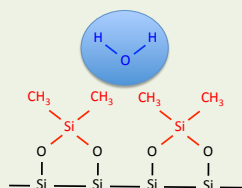
This demonstration deals with the concept of chemical affinity between water and surfaces. It may be related to various objects of students daily life such as umbrella, waterproof clothes...

#### Hydrophilic or Hydrophobic?

Hydrogen bounds make silica powder hydrophilic by nature. Specific chemical treatment makes it hydrophobic.

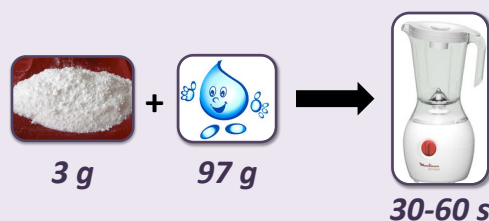


**Hydrophilic**



**Hydrophobic**

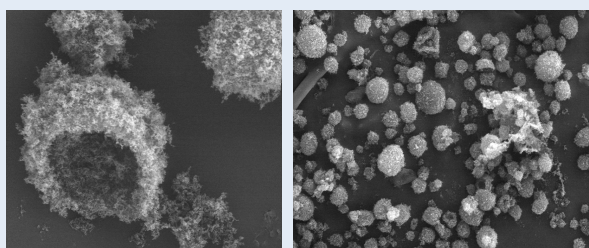
#### How to prepare Dry water?



Simply mix 3 grams of hydrophobic silica powder with 97 grams of water in a kitchen blender for 30 to 60 seconds: it is that easy!

#### How does Dry water work?

Water droplets created by high-shear blending are coated by hydrophobic silica powder which forms capsules.



#### What are the applications of dry water?

- **Cosmetics:** Delivery of active compounds (skin hydration, make-up...)
- **Fire-fighting:** painting rich in water able to delay progress of fire
- **Agricultural spraying:** precise and controlled delivery of water
- **Any other idea?**

Dry water is an easy demonstration to explain scientific concepts and to attract curiosity and interest of students for physics and chemistry.

