

Sicade-1[®]

by



**ZÉPHIR
ALSACE**

Sicade-1[®], first product emerging from our researches on porous materials, is characterized by a porous mineral framework with perfectly well-defined channels (0.6 nm), a significant porous volume and a high specific surface.

Sicade-1[®] :
A great adsorbant developped
by Zéphir Alsace

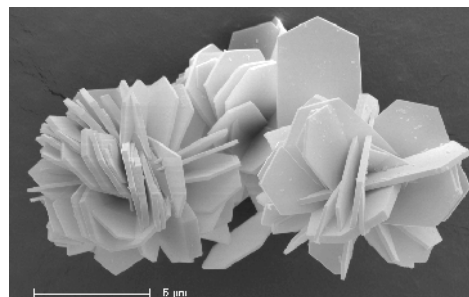
Sicade-1[®] highly hydrophobic material, presents important adsorption properties. He can adsorb organic compounds present as traces in air (**elimination of smells, VOC**), in water (**Purification of water**) or in soil (**decontamination of soil**).

Moreover, this adsorbant can, in the presence of water and in certain conditions of pressure, act as a molecular spring and be used to **stock mechanical energy**.

Sicade-1[®]

Characteristics :

Chemical formula : SiO₂
 appearance : white powder
 (Conditioning on demand)
 Granularity : 10-50 µm
 Pore diameter : 0.6 nm
 Porous volume : ~ 0.2 cm³/g
 Adsorption capacity (% wt) : 10-15
 Thermal stability : >1000°C



Sicade-1 crystals

Applications :

- **Water Treatment** : elimination of organic compounds.
- **Air treatment** : elimination of volatil organic compounds, smells,...
- **Soil treatment:** elimination of organic compounds
- **Energy storage**

Properties :

Very hydrophobic material

Benefits :

Can be regenerated by heating at 400-800°C

Sicade-1[®] can absorb small molecules like toluene, hexane, benzene and more generally, any organic molecules with a maximal diameter of 0.6 – 0.7 nm.

Examples of VOCs' adsorption capacity by Sicade-1[®] (% wt) :

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Organic compound	Sicade-1 [®]
Formol	12
Benzene	11
Cyclohexane	4.8
n-Decane	11.2
n-Butane	8.5
3-methylpentane	8.4
n-hexane	11.3
Para-xylene	16.8
Ortho-xylene	11.2