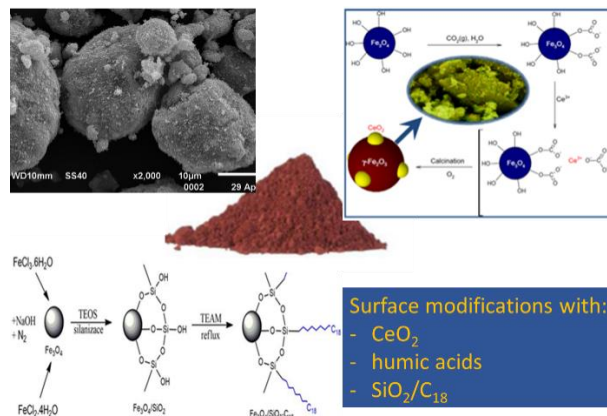




MAGNETICALLY SEPARABLE SORBENTS

Ideas on utilisation

Magnetic sorbents have a wide potential in environmental applications due to their simple synthesis and separability in a magnetic field, usability in heterogeneous systems and low toxicity. They have been successfully used in water treatment, biotechnology or for the sample preconcentration in analytical chemistry. We focused on the preparation of ferromagnetic iron oxides from low-cost industrially accessible sources. The ferromagnetic core may serve as a platform for further functionalization and surface modifications.



Potential adopters of technology

Enterprises and R&D institutions engaged in water treatment, development of special sorbents for remediation processes or specific applications e.g. in biotechnology or in analytical chemistry.

Advantages of technology

Current technologies are based on a utilization of pure and rather expensive chemicals. We developed a technology for producing the magnetic sorbents from various sources of low-cost industrial materials, which increase the competitiveness of these sorbents on the market. The operational reliability of technology in a laboratory scale was proved and several functional samples were prepared.

Market and context of technology

- We expect positive acceptance by potential adopters in the field of wastewater treatment, applications of special sorbents chemical technology and biotechnology.
- Some problems arising from the non-standard quality of raw materials (impurities) can be overcome by a selection of sources for intended applications.
- Further development is required in the field of the standardization of quality and diversification of functionality of the sorbents for targeted applications.

Preconditions in adopting enterprises

Application-specific development and pilot-plant testing is expected.

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