

NANO GLOWA


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Publications and news articles

F&S Filtrieren und Separieren 2009 nr 1 pg 6-10

Mit Membranen gegen die Klimakatastrophe. 


Deliverables list

The process of the project can be monitored by the progress of the reports shown below (the first 18 months). Most reports (called deliverables) are not public. If you would like to receive a copy of a public document, please click on the  to send a request email.

Diffusion Transport Membranes

- D1.1 Literature overview and selection of membrane materials and nano functionalized additives
- D1.2.1 Optimised grade MWNT
- D1.2.2 Optimised grade DWNT
- D1.2.3 Chemically functionalized nanotubes
- D1.3 First lab scale prototype membranes with nano-functionalized additives
- D1.4 Standardized set of characterization methods for diffusion transport membranes
- D1.5 Method for composite hollow fiber coating based on block copolymers

Fixed-Site Carrier-type Membranes

- D2.1 Document stating the test parameters and conditions for the experimental tests
- D2.2 Document reporting the precise conditions for synthesising and crosslinking of the PVAm
- D2.3.1 Reports from permeance tests according to experimental progress plan incl. adjustments (I)
- D2.3.2 Reports from permeance tests according to experimental progress plan incl. adjustments (II)
- D2.4.1 Plan and progress report for PhD-student (I)
- D2.4.2 Plan and progress report for PhD-student (II)
- D2.4.3 Plan and progress report for PhD-student (to be reported in WP4)
- D2.5 **Summary report from first workshop** 
- D2.6.1 Preliminary report on preparation of PSf hollow fibre support structure with controlled MWCO

Ionomer HV Membranes

- D3.1 Documentation on selected polymers foils as base materials
- D3.2.1 Documentation of the surface treatments and electrical modification (I)
- D3.2.2 Documentation of the surface treatments and electrical modification (II)
- D3.2.3 Documentation of the surface treatments and electrical modification
- D3.3.1 Reports on the performance of polymers in the electrical modification process as a whole (I)
- D3.3.2 Report on the performance of polymers in the electrical modification process as a whole
- D3.4.1 Report on membrane tests and characterizations

Carbon Molecular Sieve Membranes

- D4.1 Literature overview of promising polymeric precursors
- D4.2 Literature overview of promising nano functional additives
- D4.3 First lab scale prototype nano functionalized (asymmetric) hollow fiber precursor membrane
- D4.4 First lab scale prototype nano functionalized hollow fiber CMS

D4.7.1 Plan and progress report for PhD-student M18 (first 12 months were reported in WP2)


Ceramic Membranes

- D5.1 Report on the synthesis of .perfluoroalkyl phosphonates, the process and mechanism of grafting in usual organic solvents and top-coat formation with phosphonate groups
- D5.2 Report on the structure of the top-coat and hydrophobic properties of grafted membrane samples
- D5.3 Report on the process of manufacturing grafted ceramic membranes
- D5.4 Report on the potential of nano-powders for the making of filtration layers.
- D5.5 Chemical samples (0.5 g) of perfluoroalkyl phosphonates
- D5.6 Report describing the structure of new ceramic supports, compared with supports dedicated to NF
- D5.7 Report describing the potential of synthesis of new hydrophobic polymers

Integration

- D6.1 Description of membrane material test conditions
- D6.2 Document with 'Set of Requirements'
- D6.3.1 Computer model calculation results (I)
- D6.3.2 Computer model Calculations results

Membrane Performance Diagnostics Development

- D7.1 Summary report containing definition of target specifications for sensors and ac impedance test bench
- D7.2 Prototype sensors for ac impedance measurements on laboratory scale
- D7.3 Prototype laboratory setup for ac impedance measurements on membranes
- D7.4 Reports stating assessment criteria to evaluate performance parameters of membrane material provided by University of Twente
- D7.5 Document specifying precise targets for industrial set-up
- D7.6 **Presentations from workshop** 

Comparative study of available alternatives for membranes

- D8.1 Compared CO₂-capture techniques in a uniform way.
- D8.2.1 Report 'Creating driving force in most energy efficient way'
- D8.2.2 Report 'Cost analysis conceptual design'







System integration

- D9.1 Set of system requirements
- D9.2.1 Set of feasible system solutions (I)
- D9.2.2 Refined set of feasible system solutions
- D9.3 Material tests results

Project management

- D10.1.1 Interim activity report (I)
- D10.1.3 Interim activity report
- D10.2.1 Progress report
- D10.2.2 Management report

Training & dissemination

- D11.1.1 **Summary and set of presentations of workshop (I)** 
- D11.1.2 **Summary and set of presentations of workshop (II)** 
- D11.2.1 Mapping of barriers in exchange of researchers and technicians
- D11.2.2 Planning of exchange of researchers and technicians
- D11.2.3 Limited report on the exchange of researchers and technicians
- D11.3.1 **Planning of events for workshops opportunities in first 24 months** 
- D11.3.2 **Presentations of conference contributions (I)** 
- D11.3.3 **Presentations of conference contributions (II)** 
- D11.3.4 **Presentations of conference contributions M18** 
- D11.3.5 Planning of events for workshops opportunities for NanoGLOWA years 2-3