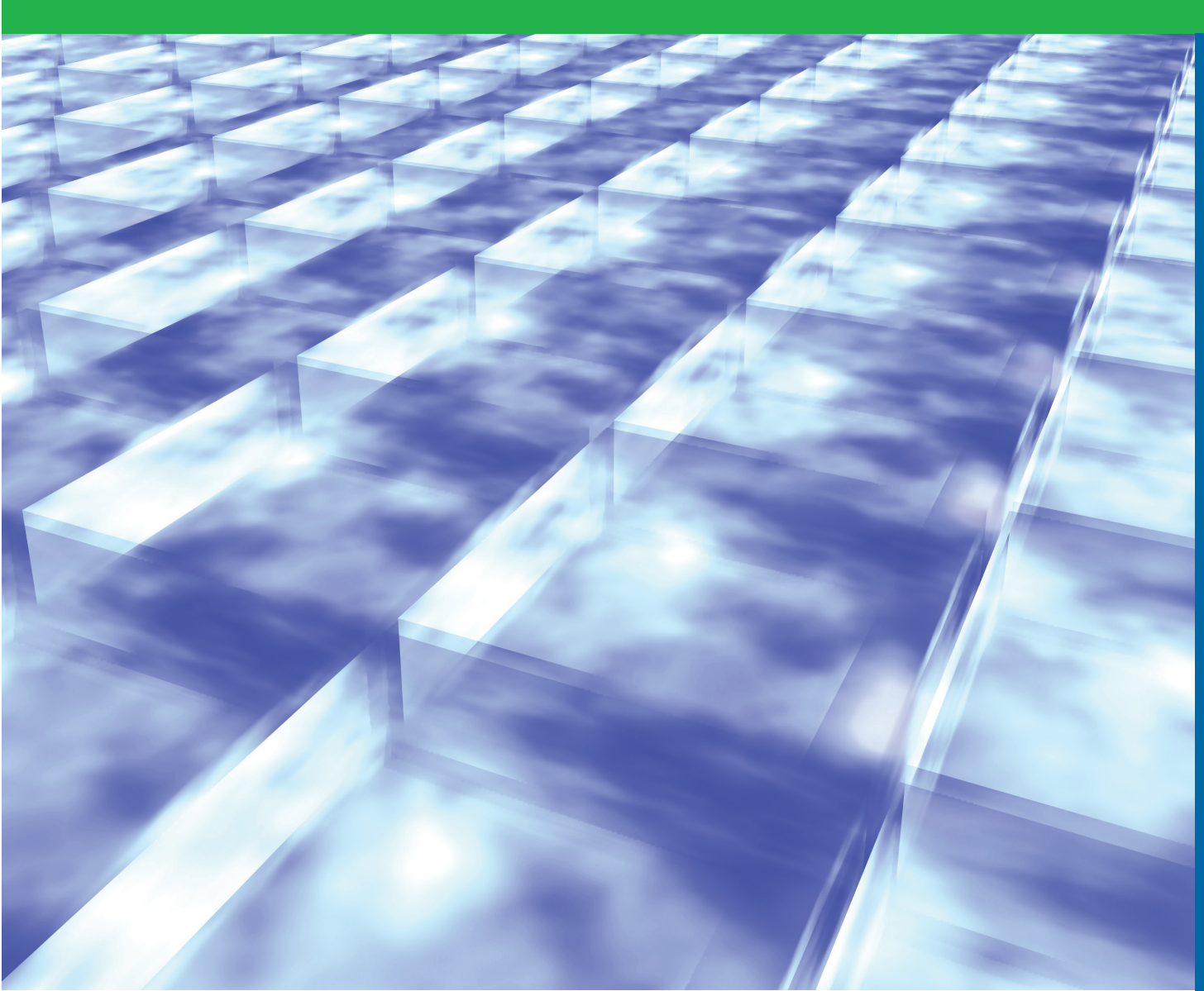


Supercritical drying of aerogels



.....the world's lightest solid material

GO FOR NATURE...
GO WITH

matex
PROZESSTECHNOLOGIE

.....developing aerogels

Aerogels are materials with a high micro-porous structure, sometimes a nano-porous structure, both with a very low bulk density. These aerogels can have very interesting properties depending on the composition material. Silica aerogels can be transparent and have high thermal resistance which makes them very appropriate to be used as insulation material.

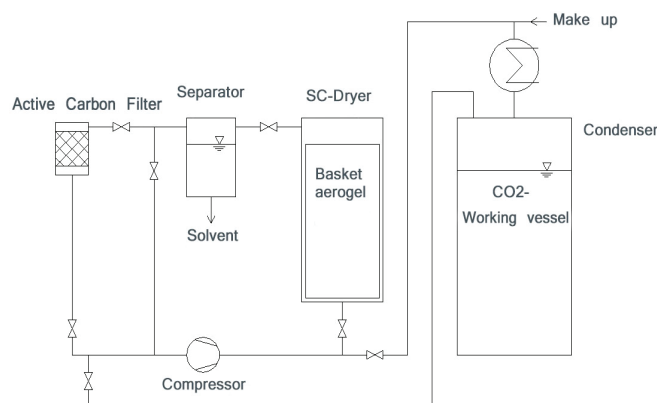
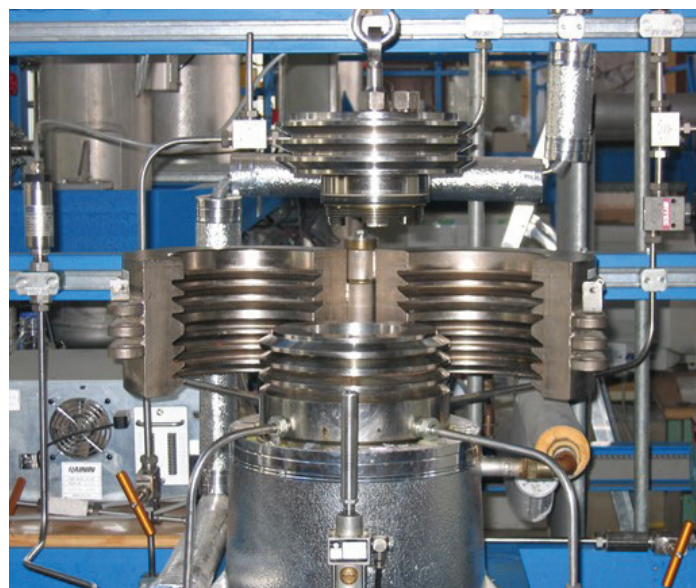
Aerogels made from metal oxides have a high surface and can be used in catalytic systems. During the last years a lot of scientific research effects have been dedicated to various materials especially the ones made from cellulose. They are produced from renewable source and are also „nano“.

The Aerocell project supported by the 6th Framework Programm dealt with the preparation of aerogels and aerogel-like materials from various cellulosic materials. A detailed development was investigated in all process stages.

The preparation of an aerogel involves 3 steps:

- **Preparation of the precursor gel**
- **Solvent change**
- **Supercritical drying**

Drying tests in different plant sizes were performed at NATEX, for determining the best operating conditions and a supercritical drying apparatus was developed. These tests were also used as the base to study the economics of the supercritical drying process. For instance, a compressor process requires up to about 50% less energy.



For further information please contact:

NATEX
Prozesstechnologie GesmbH
Werkstrasse 7
2630 Ternitz, Austria
Tel.: (43)-2630-32120
Fax.: (43)-2630-38163
E-mail: office@natex.at
Internet: www.natex.at

GO FOR NATURE...
GO WITH

natex
PROZESSTECHNOLOGIE