



## **Fermentation inhibitors from pretreated lignocellulosic materials: problems and solutions.**

**de Laat, Wim; Aboka, Fredrick; Maltha, San Feng; Kádár, Zsófia; Réczey, Kati**

*Publication date:*  
2006

*Document Version*  
Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

*Citation (APA):*

de Laat, W., Aboka, F., Maltha, S. F., Kádár, Z., & Réczey, K. (2006). *Fermentation inhibitors from pretreated lignocellulosic materials: problems and solutions.* Poster session presented at 28th Symposium on Biotechnology for Fuels and Chemicals, Nashville (US), 30 Apr - 3 May.

---

### **General rights**

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

## 28<sup>th</sup> Symposium on Biotechnology for Fuels and Chemicals

Please e-mail the abstract and the following information to [Chris@simhq.org](mailto:Chris@simhq.org).

Requested Session Number (see the schedule below)            5

Preference: Oral (limited number accepted) \_\_\_\_\_ Poster   X  

Corresponding Author:            Wim de Laat  
E-mail                                w.delaat@nedalco.nl  
Address                               P.O. Box 6, 4600 AA  
    Bergen op Zoom, The Netherlands

Phone                                +31.164.213.400    Fax +31.164.213.401

Are You a Student?                \_\_\_\_\_ yes                                  X   no  
(There will be a competition for the best student posters)

-----

## **Fermentation Inhibitors from Pretreated Lignocellulosic Materials: Problems and solutions**

Wim de Laat\*, Fredrick Aboka, San Feng Maltha  
Royal Nedalco B. V.  
P.O. Box 6, 4600 AA, Bergen op Zoom, The Netherlands

Zsófia Kádár, Kati Réczey  
Budapest University of Technology and Economics  
Szent Gellért ter 4., 1111-Budapest, Hungary

This work has been carried out in a European project TIME (ENK6-CT-2002-00604), which was initiated at the end of 2002, and funded by the European Union. The project involved seven research institutions, companies and universities throughout Europe and focused on improving the European security of energy supply for reduction of environmental impacts in the transport sector. The technological objective was to develop cost effective and sustainable production methods for ethanol, based on lignocelluloses waste.

Our research work aimed to test whether at least 5(v/v)% final ethanol production could be achieved in the presence of inhibitors (lignin and sugar degradation products), which are generated during pretreatment of lignocellulosic materials. Ethanol was produced from steam pretreated spruce, willow and corn stover by a previously selected inhibitor resistant *Saccharomyces cerevisiae* strain. To prevent bacterial contamination batch-wise alcoholic fermentation was carried at low pH (pH4) with continuously monitored CO<sub>2</sub> evolution. This presentation will emphasize the effect of inhibitors on ethanol fermentation and will also include our latest results on improving the fermentation ability of the selected yeast strain by adaptation to toxic components present in the pretreated lignocellulosic materials on spruce matrix.