

Title (en)
PROCEDURE FOR THE BLEACHING OF PULP

Publication
EP 0395792 A3 19910116 (EN)

Application
EP 89117233 A 19890918

Priority
FI 892151 A 19890504

Abstract (en)
[origin: EP0395792A2] The invention concerns a procedure for the bleaching of pulp using oxygen as an oxidating bleaching chemical. The essential features of the invention are that oxygen is used in the first oxidation stage of the bleaching process, that the pulp is subjected to enzyme treatment, and that after oxygen bleaching and enzyme treatment, the pulp is washed. According to the invention, the subsequent oxidation stages can be implemented using bleaching chemicals containing chlorine, e.g. chlorine gas and/or chlorine dioxide. The use of enzymes allows partial burning of the washings and enables the amounts of toxic compounds in the spent bleach liquor to be reduced, simultaneously lowering its chemical oxygen demand.

IPC 1-7
D21C 9/10

IPC 8 full level
C12S 3/08 (2006.01); **D21C 5/00** (2006.01); **D21C 9/02** (2006.01); **D21C 9/10** (2006.01); **D21C 9/12** (2006.01); **D21C 9/14** (2006.01); **D21C 9/147** (2006.01)

CPC (source: EP)
D21C 5/005 (2013.01); **D21C 9/1057** (2013.01); **D21C 9/144** (2013.01); **D21C 9/147** (2013.01)

Citation (search report)
• [A] STFI/SPCI, THIRD INTERNATIONAL CONFERENCE BIOTECHNOLOGY IN THE PULP & PAPER INDUSTRY, Stockholm, 16th - 19th June 1986, pages 67-69; L. VIIKARI et al.: "Bleaching with enzymes"
• [A] ABSTRACTS BULLETIN OF THE INSTITUTE OF PAPER CHEMISTRY, vol. 59, no. 4, October 1988, page 431, abstract no. 4037, Appleton, US; A. KANTELINEN et al.: "Hemicellulases and their potential role in bleaching", & TAPPI INT. PULP BLEACHING CONF. (Orlando) PROCS.: 1-9 (June 5-9, 1988)

Cited by
US6942754B2; US6824646B2; US7541175B1; US5487812A; US5837515A; US5935836A; US5591304A; EP1039020A1; US5434071A; US5785811A; AU647891B2; US5231022A; US5314637A; US5318905A; US5871730A; GB2248075A; GB2248075B; US7816129B2; US9096519B2; US9586883B2; US6300114B1; US6506593B2; US6667170B1; EP0487557B1

Designated contracting state (EPC)
AT BE CH DE ES FR GB GR IT LI NL SE

DOCDB simple family (publication)
EP 0395792 A2 19901107; EP 0395792 A3 19910116; EP 0395792 B1 19930714; AT E91518 T1 19930715; CA 1339593 C 19971223; DE 68907593 D1 19930819; ES 2045320 T3 19940116; FI 86896 B 19920715; FI 892151 A0 19890504; FI 892151 A 19901105; JP H02293486 A 19901204; NO 172355 B 19930329; NO 172355 C 19930707; NO 893716 D0 19890918; NO 893716 L 19901105

DOCDB simple family (application)
EP 89117233 A 19890918; AT 89117233 T 19890918; CA 611771 A 19890918; DE 68907593 T 19890918; ES 89117233 T 19890918; FI 892151 A 19890504; JP 24166689 A 19890918; NO 893716 A 19890918