

Title (en)  
Procedure for the bleaching of pulp.

Title (de)  
Verfahren zum Bleichen von Zellstoff.

Title (fr)  
Procédé de blanchiment de pâte.

Publication  
**EP 0383999 A2 19900829 (EN)**

Application  
**EP 89117235 A 19890918**

Priority  
FI 890700 A 19890214

Abstract (en)  
The invention concerns a procedure for the bleaching of pulp using an oxidating bleaching chemical containing chlorine. The essential features of the invention are that the chemical used in the oxidation stage has a chlorine dioxide content of at least 50 %, that the pulp is subjected to enzyme treatment either in conjunction with or before the oxidation, and that, after the oxidation and enzyme treatment, the pulp is treated with an alkali. The use of enzymes reduces the amount of chlorophenols and other forms of organically bound chlorine in the spent bleach liquor, simultaneously lowering its chemical oxygen demand.

IPC 1-7  
**D21C 9/10; D21C 9/14**

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 9/14** (2006.01)

CPC (source: EP)  
**D21C 5/005** (2013.01); **D21C 9/1057** (2013.01); **D21C 9/14** (2013.01)

Cited by  
US5434071A; US5935836A; US5837515A; US5369024A; US5231022A; US5314637A; US5318905A; US5834301A; US5498534A; US5591304A; US5871730A; GB2248075A; GB2248075B; US7816129B2; WO9221813A1; WO9203608A1; WO9111553A1; WO9535405A1; US7368036B2; US7320741B2; US6300114B1; US6506593B2; US6667170B1; EP0395792B1; WO03074780A1

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

DOCDB simple family (publication)  
**EP 0383999 A2 19900829; EP 0383999 A3 19901212; EP 0383999 B1 19940323**; AT E103351 T1 19940415; CA 1339594 C 19971223; DE 68914135 D1 19940428; ES 2050747 T3 19940601; FI 890700 A0 19890214; FI 890700 A 19900815; FI 90888 B 19931231; JP H02221482 A 19900904; NO 176406 B 19941219; NO 176406 C 19950329; NO 893714 D0 19890918; NO 893714 L 19900815

DOCDB simple family (application)  
**EP 89117235 A 19890918**; AT 89117235 T 19890918; CA 611773 A 19890918; DE 68914135 T 19890918; ES 89117235 T 19890918; FI 890700 A 19890214; JP 24166789 A 19890918; NO 893714 A 19890918