

Title (en)

Process for the chlorine-free bleaching of pulp.

Title (de)

Verfahren zum chlorfreien Bleichen von Zellstoffen.

Title (fr)

Procédé exempt de chlore pour le blanchiment de pâtes cellulosiques.

Publication

EP 0426652 B1 19940511 (DE)

Application

EP 90890291 A 19901030

Priority

- AT 249489 A 19891030
- AT 258889 A 19891110

Abstract (en)

[origin: EP0426652A1] In the process for chlorine-free bleaching of pulps by means of ozone, a pulp suspension is contacted at a temperature of 15 - 80 DEG C, preferably 40 - 70 DEG C, and at a pH of 1-8, preferably 2-3, with an ozone-containing gas, while vigorously stirring or mixing. The ozone-containing gas contains 20-300 g/m<3>, preferably 50-150 g/m<3>, of ozone. At most 2% by mass, preferably 0.05 - 0.5% by mass, of ozone is used relative to absolutely dry pulp. In order to make this process suitable for a pulp suspension in the medium consistency (MC) range, i.e. for a pulp suspension having a stock consistency of 3 - 20% by mass, preferably 5 - 20% by mass and especially 7 - 15% by mass, the ozone-containing gas is introduced according to the invention under a pressure of 1 - 15 bar, preferably 1.1 - 10 bar, into the pulp suspension. The process can also be carried out in a multi-stage bleaching process once or several times. <IMAGE>

IPC 1-7

D21C 9/153; **D21C 9/10**

IPC 8 full level

D21C 9/00 (2006.01); **D21C 9/10** (2006.01); **D21C 9/153** (2006.01); **D21C 9/16** (2006.01); **D21H 17/00** (2006.01)

IPC 8 main group level

D21C (2006.01)

CPC (source: EP US)

D21C 9/153 (2013.01 - EP US); **D21H 17/00** (2013.01 - EP US)

Cited by

US5607545A; CN1079848C; US5364505A; EP0581631A1; US5770011A; EP0577157A3; EP0511433A1; US5411633A; EP0677611A1; US5529660A; EP0717800A4; EP0971066A1; EP0588704A3; US5688367A; EP0517691A1; US5411634A; WO9723666A1; WO9300470A1; WO9312287A1; WO9429512A1; WO9413393A1; WO9508021A1; WO9410378A1; WO9420673A1; WO9300482A1; WO03048663A3

Designated contracting state (EPC)

AT BE CH DE DK ES FR GB GR IT LI LU NL SE

DOCDB simple family (publication)

EP 0426652 A1 19910508; **EP 0426652 B1 19940511**; **EP 0426652 B2 20011114**; AR 243946 A1 19930930; AT E105599 T1 19940515; AU 636173 B2 19930422; AU 6455290 A 19910502; BG 51052 A3 19930115; BR 9005476 A 19910917; CA 2028788 A1 19910501; CA 2028788 C 19970415; DE 59005677 D1 19940616; DK 0426652 T3 19940613; ES 2023623 A4 19920201; ES 2023623 T3 19940801; FI 102194 B1 19981030; FI 102194 B 19981030; FI 905327 A0 19901029; GR 910300078 T1 19911210; HR P930459 A2 19960430; HR P930459 B1 19981231; HU 205175 B 19920330; HU 906923 D0 19910528; HU T55847 A 19910628; JP 2995422 B2 19991227; JP H03152286 A 19910628; LV 10513 A 19950220; LV 10513 B 19951020; NO 176975 B 19950320; NO 904673 D0 19901029; NO 904673 L 19910502; PH 30483 A 19970528; PT 95718 A 19910913; PT 95718 B 19971128; RO 107715 B1 19931230; SI 9012041 A 19970831; SI 9012041 B 20000630; TR 24891 A 19920701; UA 27098 A1 20000228; US 5346588 A 19940913; YU 204190 A 19920720; YU 47233 B 19950131

DOCDB simple family (application)

EP 90890291 A 19901030; AR 31820890 A 19901026; AT 90890291 T 19901030; AU 6455290 A 19901015; BG 9311090 A 19901029; BR 9005476 A 19901029; CA 2028788 A 19901029; DE 59005677 T 19901030; DK 90890291 T 19901030; ES 90890291 T 19901030; FI 905327 A 19901029; GR 910300078 T 19911210; HR P930459 A 19930323; HU 692390 A 19901029; JP 29096090 A 19901030; LV 930020 A 19930112; NO 904673 A 19901029; PH 41432 A 19901023; PT 9571890 A 19901029; RO 14618090 A 19901023; SI 9012041 A 19901029; TR 103190 A 19901026; UA 4831464 A 19901029; US 85923692 A 19920326; YU 204190 A 19901029