

Title (en)  
Multi-level sulfide content.

Title (de)  
Langen mit abgestuftem Sulfidgehalt.

Title (fr)  
Liqueurs avec quantités de sulfure à plusieurs niveaux.

Publication  
**EP 0517689 A1 19921209 (EN)**

Application  
**EP 92890125 A 19920525**

Priority  
• GB 9111256 A 19910524  
• US 75684991 A 19910910  
• US 78815191 A 19911105

Abstract (en)  
Paper pulp (e.g. kraft pulp or sulfite pulp) is produced utilizing at least two different supplies (35, 41) of cooking liquor (e.g. white liquor), having different percentages of lignin reaction enhancing or carbohydrate degradation slowing chemicals (e.g. one having low sulfide content, and the other high sulfide content). The high sulfide content supply is typically used to impregnate the pulp (in 37), while the second supply is used in other cooking stages (e. g. digester 12), whether co-current or countercurrent. At least 60% of the sulfide of the cooking chemicals may be provided in the first supply (35). Some of the sulfide in the first supply is desirably provided in the form of polysulfide or elemental sulfur. When about 2% polysulfide on wood is utilized yield is significantly increased. Utilizing multiple chemical (e.g. sulfide) content supplies results in an optimum viscosity/kappa ratio and/or pulp strength properties for the pulp produced. <IMAGE>

IPC 1-7  
**D21C 3/02**; **D21C 3/26**; **D21C 11/00**

IPC 8 full level  
**D21C 3/02** (2006.01); **D21C 3/26** (2006.01); **D21C 7/14** (2006.01); **D21C 11/00** (2006.01)

CPC (source: EP)  
**D21C 3/022** (2013.01); **D21C 3/26** (2013.01); **D21C 11/0064** (2013.01)

Citation (search report)  
• [A] EP 0407370 A2 19910109 - KAMYR AB [SE]  
• [A] FR 1375278 A 19641016 - DOMINION TAR & CHEMICAL CO  
• [A] WORLD PATENTS INDEX Week 8038, Derwent Publications Ltd., London, GB; AN 80-66836C & JP-A-55 103 386 (SANYO KOKUSAKO PULP) 8 August 1980  
• [A] ABSTRACT BULLETIN OF THE INSTITUTE OF PAPER CHEMISTRY. vol. 56, no. 11, May 1986, APPLETON US page 1366; ANDREWS, E.K. ET AL.: 'Extended delignification kraft pulping of softwoods.-Effect of treatments on chips and pulp with sulfide-containing liquors.'

Cited by  
EP1052326A1; EP0903436A3; US5575890A; US6132556A; US5660686A; US11473241B2; WO9606217A1; WO9607786A1; WO9523256A1; WO2018211175A1; WO9607787A1; WO9602698A1

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

DOCDB simple family (publication)  
**EP 0517689 A1 19921209**; **EP 0517689 B1 19970716**; AT E155540 T1 19970815; DE 69220853 D1 19970821; FI 921254 A0 19920324; JP H05163690 A 19930629; NO 920692 D0 19920221; NO 920692 L 19921125

DOCDB simple family (application)  
**EP 92890125 A 19920525**; AT 92890125 T 19920525; DE 69220853 T 19920525; FI 921254 A 19920324; JP 12203692 A 19920514; NO 920692 A 19920221