

Title (en)

Control technique for multistep washing process using a plurality of chemicals

Title (de)

Regelungstechnik für ein mehrstufiges Waschverfahren unter Verwendung mehrerer Chemikalien.

Title (fr)

Technique de réglage pour un procédé de lavage à plusieurs étapes utilisant une pluralité de produits chimiques

Publication

**EP 2362008 A1 20110831 (EN)**

Application

**EP 10154474 A 20100224**

Priority

EP 10154474 A 20100224

Abstract (en)

Equipment and a method for a system implementing a multistep washing process using a plurality of chemicals. The system comprises a chemical container (110A to 110D) for each chemical (111A to 111 D) and means for conveying one chemical at a time from the chemical container through a feed channel (120) to a washing object (100) and from the washing object through a return channel (130) back to the chemical container. The first and the second sensor means (122, 132) which monitor the first parameter set in the feed channel (120) and the second parameter set in the return channel (130), respectively. Both parameter sets include at least one parameter indicating directly or indirectly the purity of the chemical. A control centre (150) includes calculation means (153), which are arranged to determine the mutual uniformity of the first and the second monitored parameter sets, and decision means (154) whereby the action time of the chemical is determined on the basis of the mutual uniformity of the first and the second monitored parameter sets.

IPC 8 full level

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CPC (source: EP US)

**D06F 31/00** (2013.01 - EP US); **D06F 33/37** (2020.02 - EP US); **D06F 39/02** (2013.01 - EP US); **D06F 2103/22** (2020.02 - EP US);  
**D06F 2103/64** (2020.02 - EP US); **D06F 2105/42** (2020.02 - EP US)

Citation (applicant)

WO 2006073885 A2 20060713 - CUNO INC [US]

Citation (search report)

- [A] US 2003116177 A1 20030626 - APPEL PETER WILLIAM [NL], et al
- [A] DE 10039408 A1 20011220 - AWECO APPLIANCE SYS GMBH & CO [DE]
- [A] WO 2009033016 A2 20090312 - JOHNSON DIVERSEY INC [US], et al
- [A] US 2006107705 A1 20060525 - HSU FENG-LUNG G [US], et al

Cited by

EP4176983A1; EP3178573A1; CN116060389A; FR3044939A1; DE102021128674A1; WO2021069033A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

Designated extension state (EPC)

AL BA RS

DOCDB simple family (publication)

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