

Title (en)  
METHOD FOR RECOVERING  $^{10}\text{B}$  BORON OR DECONTAMINATING BORON FROM EVAPORATOR BOTTOMS FROM PRESSURIZED WATER REACTORS

Title (de)  
VERFAHREN ZUR RÜCKGEWINNUNG VON  $^{10}\text{B}$  BOR OR DEKONTAMINATION VON BOR AUS VERDAMPFERKONZENTRATEN VON DRUCKWASSERREAKTOREN

Title (fr)  
PROCEDE DE RECUPERATION DE  $^{10}\text{B}$  BORE OU DE DECONTAMINATION DU BORE CONTENU DANS DES CONCENTRES D'EVAPORATION DE REACTEURS A EAU PRESSURISEE

Publication  
**EP 1444702 B1 20100630 (DE)**

Application  
**EP 02803027 A 20021114**

Priority  
• DE 10156119 A 20011115  
• EP 0212772 W 20021114

Abstract (en)  
[origin: WO03043027A1]  $^{10}\text{B}$  boron is recovered or boron is decontaminated from evaporator bottoms from nuclear power stations, in particular, pressurized water reactors by: (a) acidifying the evaporator bottoms, which primarily contain sodium borates provided as the boron compounds, with sulfuric acid to a pH value ranging from 3.5 to 5.5; (b) the resulting boric acid is crystallized out and separated out at a temperature ranging from 2 to 5 °C; (c) the remaining sodium sulfate solution is neutralized and either (i) evaporated or (ii) concentrated, and the sodium sulfate is crystallized out, whereupon; (d) the sodium sulfate is recovered. The recovered boric acid can be recycled as neutron absorbers or can be disposed of in a decontaminated form.  
[origin: WO03043027A1]  $^{10}\text{B}$  boron is recovered or boron is decontaminated from evaporator bottoms from nuclear power stations, in particular, pressurized water reactors by: (a) acidifying the evaporator bottoms, which primarily contain sodium borates provided as the boron compounds, with sulfuric acid to a pH value ranging from 3.5 to 5.5; (b) the resulting boric acid is crystallized out and separated out at a temperature ranging from 2 to 5 °C; (c) the remaining sodium sulfate solution is neutralized and either (i) evaporated or (ii) concentrated, and the sodium sulfate is crystallized out, whereupon; (d) the sodium sulfate is recovered. The recovered boric acid can be recycled as neutron absorbers or can be disposed of in a decontaminated form.

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**G21F 9/06** (2006.01)

CPC (source: EP)  
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