

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

Title (de)
VERFAHREN ZUR RÜCKGEWINNUNG VON ^{10}B ODER DEKONTAMINATION VON ^{10}B AUS VERDAMPFERKONZENTRATEN VON DRUCKWASSERREAKTOREN

Title (fr)
PROCEDE DE RECUPERATION DE ^{10}B OU DE DECONTAMINATION DU ^{10}B 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}B 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}B 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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