

Title (en)
Non-chrome cleaner/deoxidizer system.

Title (de)
Reinigungs/Desoxydationssystem ohne Chrom.

Title (fr)
Système de nettoyage/désoxydation sans chrome.

Publication
EP 0351771 A1 19900124 (EN)

Application
EP 89113143 A 19890718

Priority
• US 22106588 A 19880719
• US 37499289 A 19890707

Abstract (en)
The invention is a metal treating process which uses a chrome-free deoxidizing bath. The process is useful for cleaning and deoxidizing aluminum substrates.

IPC 1-7
C23C 22/78; **C23F 1/20**; **C23F 1/36**; **C23G 1/12**; **C23G 1/22**

IPC 8 full level
C23C 22/78 (2006.01); **C23G 1/12** (2006.01)

CPC (source: EP)
C23G 1/125 (2013.01)

Citation (search report)
• [X] US 4459216 A 19840710 - NAKAZATO TOSHIHIRO [JP], et al
• [X] GB 2186292 A 19870812 - PARKER CHEMICAL CO
• [X] GB 2100757 A 19830106 - AMCHEM PROD [US]
• [AD] US 4451304 A 19840529 - BATIUK WALTER [US]

Cited by
EP1674598A1; DE4317544A1; EP0877833A4; US7846349B2; US8389418B2; US8398779B2

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

DOCDB simple family (publication)
EP 0351771 A1 19900124; **EP 0351771 B1 19950830**; AT E127167 T1 19950915; AU 3823089 A 19900125; AU 616776 B2 19911107; BR 8903578 A 19900417; CA 1319591 C 19930629; DE 68924012 D1 19951005; DE 68924012 T2 19960502; JP H0277581 A 19900316; MX 170063 B 19930805; TR 28132 A 19960301

DOCDB simple family (application)
EP 89113143 A 19890718; AT 89113143 T 19890718; AU 3823089 A 19890719; BR 8903578 A 19890719; CA 605932 A 19890718; DE 68924012 T 19890718; JP 18723989 A 19890719; MX 1685589 A 19890719; TR 78889 A 19890719