

Title (en)
TRIVALENT CHROMIUM PLATING FORMULATIONS AND PROCESSES

Title (de)
DREIWERTIGE CHROMPLATTIERUNGSFORMULIERUNGEN UND VERFAHREN

Title (fr)
FORMULATIONS ET PROCÉDÉS DE PLACAGE AU CHROME TRIVALENT

Publication
EP 3241928 B1 20211110 (EN)

Application
EP 17168294 A 20170426

Priority
US 201615144688 A 20160502

Abstract (en)
[origin: EP3241928A2] An electrolyte solution for chrome plating from trivalent chromium is prepared by dissolving in an aqueous medium a trivalent chromium salt (e.g., chromium (III) chloride or chromium (III) sulfate), dissolving an oxalate compound (e.g., sodium oxalate, potassium oxalate, or oxalic acid), dissolving a metal salt (e.g., aluminum sulfate or aluminum chloride), dissolving an alkali metal sulfate (e.g., sodium sulfate or potassium sulfate), and dissolving an alkali metal halide (e.g., sodium fluoride or potassium fluoride). A substrate is chrome plated from trivalent chromium using the electrolyte solution by passing a current between a cathode and an anode through the electrolyte solution to deposit chromium on the substrate.

IPC 8 full level
C25D 3/06 (2006.01); **C25D 3/10** (2006.01); **C25D 5/18** (2006.01); **C25D 17/10** (2006.01)

CPC (source: EP US)
C25D 3/06 (2013.01 - EP US); **C25D 3/10** (2013.01 - EP US); **C25D 5/18** (2013.01 - EP US); **C25D 5/619** (2020.08 - EP US); **C25D 5/623** (2020.08 - EP US); **C25D 7/00** (2013.01 - EP US); **C25D 17/10** (2013.01 - EP US); **C25D 21/14** (2013.01 - US); **C25D 21/18** (2013.01 - US)

Citation (examination)
• US 3706636 A 19721219 - BRIDE JOHN EDWIN
• CN 105386089 A 20160309 - WUHAN DESYTEK ENV PROT NEW MAT CO LTD & CN 105386089 B 20180424

Cited by
EP3767012A1

Designated contracting state (EPC)
AL 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 RS SE SI SK SM TR

DOCDB simple family (publication)
EP 3241928 A2 20171108; EP 3241928 A3 20180110; EP 3241928 B1 20211110; BR 102017008137 A2 20171107; CA 2959264 A1 20171102; CA 2959264 C 20230627; US 2017314153 A1 20171102

DOCDB simple family (application)
EP 17168294 A 20170426; BR 102017008137 A 20170419; CA 2959264 A 20170224; US 201615144688 A 20160502