

Title (en)

Protease-containing liquid detergent compositions.

Title (de)

Proteasehaltige Flüssigwaschmittelzusammensetzungen.

Title (fr)

Compositions détergentes liquides contenant une protéase.

Publication

EP 0476726 A1 19920325 (EN)

Application

EP 91201816 A 19910711

Priority

US 55922290 A 19900727

Abstract (en)

The present invention is concerned with the stabilization of proteases in built, aqueous detergent compositions. More particularly, applicants have discovered that propionic acid or a propionic salt capable of forming propionic acid unexpectedly increases stability relative to other stabilizers, e.g., formic acid or acetic acid (or salts thereof), used in these compositions. When the proteolytic enzyme is added in the form of a slurry of the enzyme in liquid nonionic surfactant, a surprising further improvement in stability is obtained.

IPC 1-7

C11D 3/386

IPC 8 full level

C11D 3/20 (2006.01); **C11D 3/386** (2006.01); **C11D 17/08** (2006.01)

CPC (source: EP KR)

C11D 3/38663 (2013.01 - EP); **C11D 7/40** (2013.01 - KR)

Citation (search report)

- [X] GB 2178054 A 19870204 - COLGATE PALMOLIVE CO
- [A] EP 0378261 A2 19900718 - PROCTER & GAMBLE [US]
- [A] EP 0324568 A2 19890719 - ROHM & HAAS [US]
- [A] US 4497897 A 19850205 - EILERTSEN JENS H [DK], et al
- [AD] EP 0028865 A1 19810520 - PROCTER & GAMBLE [US], et al
- [AP] WO 9109102 A1 19910627 - UNILEVER PLC [GB], et al

Cited by

EP0471410A3

Designated contracting state (EPC)

CH DE ES FR GB IT LI NL SE

DOCDB simple family (publication)

EP 0476726 A1 19920325; AU 642276 B2 19931014; AU 8127491 A 19920130; BR 9103184 A 19920505; CA 2047532 A1 19920128; JP H04234000 A 19920821; KR 920002763 A 19920228; TR 27610 A 19950613; TW 222015 B 19940401; ZA 915889 B 19930331

DOCDB simple family (application)

EP 91201816 A 19910711; AU 8127491 A 19910724; BR 9103184 A 19910725; CA 2047532 A 19910722; JP 18777391 A 19910726; KR 910012957 A 19910727; TR 75591 A 19910726; TW 80107397 A 19910918; ZA 915889 A 19910726