

Title (en)  
MANGANESE-AMINO ACID COMPOUNDS IN CLEANING COMPOSITIONS

Title (de)  
MANGAN-AMINOSÄURE-VERBINDUNGEN IN REINIGUNGSZUSAMMENSETZUNGEN

Title (fr)  
COMPOSÉS D'ACIDE AMINÉ DE MANGANÈSE DANS DES COMPOSITIONS DE NETTOYAGE

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Application  
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Abstract (en)  
The present invention relates to co-granulated and/or coated manganese-amino acid compounds, cleaning compositions comprising co-granulated and/or coated manganese-amino acid compounds, particularly to automatic machine dishwashing cleaning compositions, to the use of such manganese-amino acid compounds for cleaning, in particular for cleaning dishware, and for corrosion protection, in particular for silver corrosion protection; and to methods for preparing co-granulated and/or coated manganese-amino acid compounds.

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Citation (applicant)

- GB 1131738 A 19681023 - PROCTER & GAMBLE
- US 2549539 A 19510417 - SPARKS WILLIAM J, et al
- EP 0135226 A2 19850327 - UNILEVER NV [NL], et al
- EP 0135227 A2 19850327 - UNILEVER NV [NL], et al
- DE 4315397 A1 19941110 - HENKEL KGAA [DE]
- EP 0530870 A1 19930310 - UNILEVER NV [NL], et al
- EP 0697035 A1 19960221 - HENKEL KGAA [DE]
- WO 2005095570 A1 20051013 - DALLI WERKE GMBH & CO KG [DE], et al
- EP 1363986 A1 20031126 - HENKEL KGAA [DE]
- EP 1268729 A1 20030102 - NAT STARCH CHEM INVEST [US]
- EP 0299513 A1 19890118 - FIDIA GEORGETOWN INST [US]
- EP 0877002 A2 19981111 - ROHM & HAAS [US]
- WO 03016444 A2 20030227 - HENKEL KGAA [DE], et al
- WO 2005108540 A1 20051117 - HENKEL KGAA [DE], et al
- US 4223163 A 19800916 - GUILLOTY HAYDEE R
- EP 1524313 A1 20050420 - DALLI WERKE GMBH & CO KG [DE]
- US 3398096 A 19680820 - BALARAM DAS, et al
- US 5246621 A 19930921 - FAVRE THOMAS L F [NL], et al
- US 5244594 A 19930914 - FAVRE THOMAS L F [NL], et al
- US 5194416 A 19930316 - JURELLER SHARON H [US], et al
- US 5114606 A 19920519 - VAN VLIET MARTEN R P [NL], et al
- EP 0549271 A1 19930630 - UNILEVER PLC [GB], et al
- EP 0549272 A1 19930630 - UNILEVER PLC [GB], et al
- EP 0544440 A2 19930602 - UNILEVER PLC [GB], et al
- EP 0544490 A1 19930602 - UNILEVER PLC [GB], et al
- US 4430243 A 19840207 - BRAGG CHARLES D [GB]
- US 5114611 A 19920519 - VAN KRALINGEN CORNELIS G [GB], et al
- US 4728455 A 19880301 - REREK MARK E [US]
- US 5284944 A 19940208 - MADISON STEVEN A [US], et al
- US 5246612 A 19930921 - VAN DIJK WILLEM R [NL], et al
- US 5256779 A 19931026 - KERSCHNER JUDITH L [US], et al
- US 5280117 A 19940118 - KERSCHNER JUDITH L [US], et al
- US 5274147 A 19931228 - KERSCHNER JUDITH [US], et al
- US 5153161 A 19921006 - KERSCHNER JUDITH L [US], et al
- US 5227084 A 19930713 - MARTENS RUDOLF J [NL], et al
- US 4246612 A 19810120 - BERRY PETER J, et al
- EP 0408131 A2 19910116 - UNILEVER NV [NL], et al
- EP 0384503 A1 19900829 - UNILEVER NV [NL], et al
- EP 0306089 A2 19890308 - UNILEVER NV [NL], et al
- US 4711748 A 19871208 - IRWIN CHARLES F [US], et al
- EP 0224952 A2 19870610 - UNILEVER NV [NL], et al
- US 4601845 A 19860722 - NAMNATH JAMES S [US]
- US 4626373 A 19861202 - FINCH TIMOTHY D [GB], et al
- US 4119557 A 19781010 - POSTLETHWAITE DENNIS
- DE 2054019 A1 19711007
- CA 866191 A 19710316 - UNILEVER LTD
- WO 9402597 A1 19940203 - NOVO NORDISK AS [DK], et al
- WO 9418314 A1 19940818 - GENENCOR INT [US]
- EP 0251446 A2 19880107 - GENENTECH INC [US]
- EP 0199404 A2 19861029 - PROCTER & GAMBLE [US]
- WO 9106637 A1 19910516 - GENENCOR INT [US]
- US 13679793 A 19931014

- US 13662693 A 19931014
- GB 1372034 A 19741030 - UNILEVER LTD
- JP S5320487 A 19780224 - AMANO PHARMA CO LTD
- US 4707291 A 19871117 - THOM DAVID [NL], et al
- EP 0218272 B1 19920318
- EP 0339681 A2 19891102 - MEIJI SEIKA KAISHA [JP]
- EP 0385401 A1 19900905 - OCCIDENTAL CHEM CO [US]
- DK 8800177 W 19881101
- WO 8909813 A1 19891019 - NOVO INDUSTRI AS [DK]
- EP 1007617 A1 20000614 - PROCTER & GAMBLE [US]
- US 4652392 A 19870324 - BAGINSKI RICHARD M [US], et al
- US 3812044 A 19740521 - CONNOR D, et al
- US 4704233 A 19871103 - HARTMAN FREDERICK A [US], et al
- US 3933672 A 19760120 - BARTOLOTTA GUISEPPE, et al
- US 4136045 A 19790123 - GAULT TERRELL W, et al
- US 3314891 A 19670418 - SCHMOLKA IRVING R, et al
- EP 1520908 A1 20050406 - DALLI WERKE GMBH & CO KG [DE]
- US 4714562 A 19871222 - ROSELLE BRIAN J [US], et al
- P.R. GARRETT: "Defoaming, Theory and Industrial Applications", 1973, MARCEL DEKKER, ISBN: 0-8247-8770-6, article "chapters "Foam control in Detergent Products" (Ferch et al) and "Surfactant Antifoams" (Blease et al)"
- SOFW-JOURNAL 3/2006, pages 55 - 70

Citation (search report)

- [IDAY] WO 2005095570 A1 20051013 - DALLI WERKE GMBH & CO KG [DE], et al
- [Y] US 5084535 A 19920128 - HENNIG KARL [DE], et al
- [IY] WO 03104368 A1 20031218 - HENKEL KGAA [DE], et al
- [A] US 2006128799 A1 20060615 - PARK MYUNG-GYU [KR], et al

Cited by

CN115461437A; EP3190168A1

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