

Title (en)

PROCESS FOR MAKING A DETERGENT COMPOSITION BY NON-TOWER PROCESS

Title (de)

VERFAHREN ZUR HERSTELLUNG VON EINER WASCHMITTELZUSAMMENSETZUNG NACH OHNE-TURM-VERFAHREN

Title (fr)

PROCEDE DE PRODUCTION D'UNE COMPOSITION DETERGENTE SANS L'UTILISATION D'UNE TOUR

Publication

EP 0929649 A1 19990721 (EN)

Application

EP 97928872 A 19970605

Priority

- US 9709790 W 19970605
- US 9615881 W 19961004

Abstract (en)

[origin: WO9814557A1] A non-tower process for continuously preparing granular detergent composition having a density of at least about 600 g/l is provided. The process comprises the steps of (a) dispersing a surfactant, and coating the surfactant with fine powder in a mixer, wherein first agglomerates are formed, (b) thoroughly mixing the first agglomerates in a mixer, wherein second agglomerates are formed, and (c) granulating the second agglomerates in one or more fluidizing apparatus. The process can also comprise further step (b'), i.e., spraying finely atomized liquid onto the second agglomerates in a mixer, between step (b) and step (c).

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C11D 11/00; **C11D 17/06**

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Citation (search report)

See references of WO 9814552A1

Cited by

AU2019212823B2; AU2021221918B2; EP4421156A1; WO2019148071A1; US11655436B2; US11976255B2; US11377628B2; US11834628B2; US11214763B2; US12006488B2

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US 9709795 W 19970605; AR P970104574 A 19971003; AR P970104575 A 19971003; AR P970104576 A 19971003; AR P970104577 A 19971003; AR P970104578 A 19971003; AR P970104579 A 19971003; AT 97928871 T 19970605; AT 97928872 T 19970605; AT 97929815 T 19970605; AT 97931056 T 19970605; AT 97931058 T 19970605; AU 3303097 A 19970605; AU 3303197 A 19970605; AU 3378597 A 19970605; AU 3478297 A 19970605; AU 3478397 A 19970605; AU 3478497 A 19970605; AU 3478597 A 19970605; AU 3568397 A 19970605; AU 7388196 A 19961004; BR 9612732 A 19961004; BR 9711861 A 19970605; BR 9711865 A 19970605; BR 9712490 A 19970605; BR 9712492 A 19970605; BR 9713246 A 19970605; BR 9713249 A 19970605; CA 2267291 A 19961004; CA 2267424 A 19970605; CA 2268052 A 19970605; CA 2268055 A 19970605; CA 2268060 A 19970605; CA 2268062 A 19970605; CA 2268063 A 19970605; CA 2268067 A 19970605; CA 2268068 A 19970605; CN 97180278 A 19970605; CN 97180279 A 19970605; CN 97180280 A 19970605; CN 97180293 A 19970605; CN 97180294 A 19970605; CN 97180296 A 19970605; CN 97180297 A 19970605; CN 97180298 A 19970605; DE 69715224 T 19970605; DE 69721287 T 19970605; DE 69723986 T 19970605; DE 69726439 T 19970605;

DE 69726440 T 19970605; EP 96936168 A 19961004; EP 97928871 A 19970605; EP 97928872 A 19970605; EP 97929815 A 19970605;
EP 97931056 A 19970605; EP 97931057 A 19970605; EP 97931058 A 19970605; EP 97931059 A 19970605; EP 97932153 A 19970605;
ES 97928871 T 19970605; ES 97928872 T 19970605; ES 97929815 T 19970605; ES 97931056 T 19970605; ES 97931058 T 19970605;
JP 51648998 A 19970605; JP 51649098 A 19970605; JP 51649198 A 19970605; JP 51649298 A 19970605; JP 51649398 A 19970605;
JP 51649498 A 19970605; JP 51649598 A 19970605; JP 51649698 A 19970605; JP 53523397 A 19961004; MX 9903193 A 19961004;
MX 9903195 A 19961004; US 9615881 W 19961004; US 9709789 W 19970605; US 9709790 W 19970605; US 9709791 W 19970605;
US 9709792 W 19970605; US 9709793 W 19970605; US 9709794 W 19970605; US 9709796 W 19970605