

Title (en)  
AN IMPROVED CLEANING COMPOSITION

Title (de)  
VERBESSERTE REINIGUNGSZUSAMMENSETZUNG

Title (fr)  
COMPOSITION DE NETTOYAGE AMELIOREE

Publication  
**EP 0775201 A2 19970528 (EN)**

Application  
**EP 95930186 A 19950809**

Priority  
• US 9510426 W 19950809  
• US 28935194 A 19940811

Abstract (en)  
[origin: WO9605295A2] Novel alpha-amylase mutants derived from the DNA sequences of naturally occurring or recombinant alpha-amylases are disclosed. The mutant alpha-amylases, in general, are obtained by in vitro modifications of a precursor DNA sequence encoding the naturally occurring or recombinant alpha-amylase to generate the substitution (replacement) or deletion of one or more oxidizable amino acid residues in the amino acid sequence of a precursor alpha-amylase. Such mutant alpha-amylases have altered oxidative stability and/or altered pH performance profiles and/or altered thermal stability as compared to the precursor. Also disclosed are detergent and starch liquefaction compositions comprising the mutant amylases, as well as methods of using the mutant amylases. More particularly preferred are mutant alpha-amylases from *Bacillus licheniformis* modified at MET197 or MET15 or at TRP138 residues or at equivalent residues of other alpha-amylases from other microbial sources (*Bacillus*, *Aspergillus*).

IPC 1-7  
**C12N 9/28**; **C12N 9/54**; **C11D 3/386**

IPC 8 full level  
**C12N 15/09** (2006.01); **C07K 14/415** (2006.01); **C11D 3/386** (2006.01); **C11D 3/39** (2006.01); **C11D 7/42** (2006.01); **C12N 9/28** (2006.01); **C12R 1/10** (2006.01)

CPC (source: EP KR)  
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