

Enzyme

| Patent S.No | Patent No. | Priority date | Surfactant | Overall Claimed Composition patent | Benefit/Advantage |
|-------------------------------------|------------|--------------------------------------|--|---|--|
| Enzyme | | | | | |
| Enzyme and Builder | | | | | |
| 4 | GB2307695A | 11/30/1995 | Anionic and non-ionic surfactants | (a) organic surfactant comprising at least one nonionic, anionic, cationic, amphoteric or zwitterionic surfactant; (b) at least one inorganic or organic builder; (c) a soil releasing water-soluble or water-dispersible sulphonated polyester comprising monomer units of: (i) an unsulphonated aromatic diacidic monomer (A); (ii) a sulphonated aromatic diacidic monomer (SA); optionally (iii) a hydroxylated aromatic or aliphatic diacidic monomer (HA), (A) and/or (SA); (iv) a polyol, (d) an enzyme system comprising at least 2 different enzymes selected from proteases, lipases, amylases and cellulases | Improved soil-release properties |
| 5 | GB2274849A | 2/5/1993 | Wide range is mentioned in general in description | Non-soap detergent active, a detergency builder, enzyme Papain and at least one activating agent | Not specified |
| Enzyme and Stabilizer | | | | | |
| 6 | GB2255352A | 5/1/1991 | Amphoteric surfactant, nonionic surfactant and other surfactns (Wide range is mentioned in general in description) | Amphoteric surfactant, nonionic surfactant, enzyme, and enzyme stabilizer | Longer stability |
| 7 | GB2248452A | 10/5/1990 | Cationic and nonionic surfactants | Cationic and nonionic surfactants, proteolytic enzyme derived from a microorganism, organic calcium sequestrant, glycerol borate stabiliser, water-miscible organic solvent | Very good storage stability and prolonged shelf life at relatively high temperatures |
| 8 | GB2271120A | 09/30/1992 09/27/1993 | Soap and synthetic surfactant mixture | Detergent active, water and a mutant subtilisin enzyme, boron compound (borax), polyol, acid and/or its alkali metal salt | The composition includes mutant enzymes which have good stability, even under storage at relatively high temp. and humidity and composition has good cleaning capacity. |
| 9 | GB2246140A | 06/07/1990 06/04/1991 | Wide range is mentioned in general in description | (a) a surfactant selected from the group consisting of anionic, nonionic, cationic, ampholytic or zwitterionic surfactants and mixtures thereof; (b) enzyme; and (c) protein containing quaternary nitrogen substituent. | Quaternary ammonium containing protein improves enzyme stability |
| Enzyme and Other Ingredients | | | | | |
| 10 | GB2372261A | 12/21/2000 12/11/2001 | Wide range is mentioned in general in description | a) oxidoreductase, b) surfactant, c) modifier, and d) densified carbon dioxide | Bleaching textile articles with grass stains and/or oily tomato stains |
| 11 | GB2267911A | 4/30/1992 | Non-ionic surfactant and other surfactants (Wide range is mentioned in general in description) | Water-soluble needle-like material (salts, surfactants), binder, non-aqueous liquid (non-ionic surfactant), encapsulated ingredients: (an enzyme, a fluorescer, a bleach catalyst or a bleach precursor) | Sensitive materials such as enzymes, bleaches, bleach precursors or optical brighteners are protected from unwanted interaction with other components by encapsulating them. |
| 12 | GB2406340A | 08/07/2002 07/21/2003 07/21/2003 | Anionic surfactant (linear alkylbenzene sulphonate) is preferred | Flexible porous housing containing detergent composition (interior of the housing is coated with a bleach ingredient, an enzyme, a perfume, a fluorescer or mixtures thereof, preferably an enzyme) | Housing helps to generate more foam, so less detergent composition is used and its cost performance is increased. |