

## DETERGENT FOR MACHINE WASH (DMW) CONTAINING LOCALLY ISOLATED THERMOSTABLE T1 LIPASE

### TECHNOLOGY INTRODUCTION

The technology is a formulation for detergent incorporated with locally isolated thermostable T1 Lipase.

### TECHNOLOGY FEATURES

The technology is a new improved detergent for machine wash (DMW) for domestic and industry use such as hotels and restaurant. T1 Lipase is based on the thermostable enzyme, effective in removing stains. It works well at wide range of temperature, between 50-70°C and works best at high pH. The formulation works effectively in less amount, thus reducing the manufacturing cost. It is an immobilized enzyme, thus it does not cause environment pollution.

### ADVANTAGES

- Cheaper as compared to current technology
- Biodegradable
- Green technology and environmentally friendly
- Applicable in hard water

### INDUSTRY OVERVIEW

#### Prospects: Local dishwashing detergent manufacturers

The overall dishwashing industry in Malaysia registered lower current value growth for the year 2013. Although the current trend shows that there are more people increasingly using automated dishwasher, the automatic dishwashing registered slower current value growth in 2013 than that of the previous years. Moreover, penetration of dishwashers in Malaysia is still low as compared to other European countries. In terms of competition, Colgate-Palmolive (M) Sdn. Bhd. retained the biggest market share of dishwashing detergent in 2013 with a 29% value share followed by Unilever (M) Holdings Sdn. Bhd. with a 17% value share. Nonetheless, the price of this product is considerably lower, ranging between USD 0.52/kg to 1.08/kg, than its competitors. The consistent increase in the dishwasher penetration rate are expected to continue driving the growth of automatic dishwashing market and will positively contribute to the total sales of dishwashing which expected to grow at a CAGR of 2% from 2013 to 2018.



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