Technology for Packaging And Commercialization of Polymer Degrading Bacterial Consortia

Carrier based formulation of microbial cells has long been established for applications in various fields like agriculture, pharmaceutical and industries. The aim of formulating viable cells is to facilitate the delivery and thus, ensure the adequate cell viability to increase the efficacy of the cells. Importance of native strains and ecological specificity while selecting the microbial inoculates is also realized. For bioremediation purposes, formulated microbial cells are often applied using wet (liquid) formulations i.e by spraying inoculums suspensions on targeted sites, or using dry (solid) formulations where granules or dust are sprayed instead. The selection on the type of formulation developed and used is dependent on the nature of the active cells and factors related to the site of application such as application to aquatic or terrestrial landscapes, temperature, etc. Most often, dry formulations are generally preferred over wet formulations because they provide extended shelf life and are easier to store and transport. This invention relates to a process for the preparation of talc based formulation for packaging of polymer degrading bacterial consortia including HDPE, LDPE, Cellophane, Polyhydroxyalkanoates, e-waste and epoxy resins etc.

Advantages:

1. It provides effective and high level of viability to bacterial strains upto 3 months.
2. It does not alter the functioning or any other property of bacterial preparation.
3. It can be used safely under any condition even for *in vitro* experiments without any risk or health hazards.
4. The technology can be used in storage and packaging of several polymers degrading consortia *viz*. HDPE, LDPE, Cellophane, Polyhydroxyalkanoates, e-waste and epoxy resins.
5. It can be formulated by using locally available talc material.
6. It can be presented as ready to use formulation for bacterial consortia.
7. It can be manufactured even in small scale industry due to less expenditure.