Biodegradable Breathable Band-Aids

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Plastics made from non-renewable petroleum by-products are major causes of environmental pollution to our environment. Alternatives are found to replace plastic in many daily products, such as bags and bottles. However some plastic products have yet to be found suitable replacements due their special characteristics and applications. One such product is the Band-aid that is used to protect wounds when we are injured. Even though Band-aid is small in size, it is estimated that 2300 tons of Band-aids are burned in the hospital or thrown in the landfill in the USA each year. Another problem with plastic Band-aid is that many people suffer from skin allergy when using them due to the inability for their skin to breath normally. This problem can worsen the original wound. From Widman TJ statistics, 73% of Band-aid users suffer from skin rashes and dermatitis due to the long time contact of their skin with the Band-aid. In this research a new and environmental friendly material have been synthesised for making Band-Aids, which can improve the breathability of the material hence reducing the side effect of skin allergy. Moreover it is biodegradable and safe to use. This new material composes of amylose, amylopectin, glycerol, water and pine oil. Tests on tensile strength, breathable, strength, viscous aging, flexibility and water poof have been carried out and it was found that the new material show similar characteristics of the conventional plastic Band-aids with the great advantages that it is more friendly to our skin and the our environment.

Awards Won:

Second Award of $2,000