UV Schutz, Orange Peel Extract Used to Absorb UV

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The ozone layer is a deep layer in the stratosphere which surrounds the Earth. The layer shields the entire Earth from the harmful ultraviolet (UV) radiation that comes from the Sun. However, due to mankind activities nowadays especially manufacturing that releases chemicals such as chlorofluorocarbons (CFC), this layer has become depleted. This can cause health problem to human such as skin cancer due to UV exposure. So we have decided to invent UV Schutz to reduce this risk factor. Using green technology, UV Schutz is a UV window film. It uses plant extraction from orange peel that can absorb UV radiation effectively. The objectives of this project are to determine the concentration of plant extract that are needed to absorb the maximum percentage of UV In this experiment we used two type of plant which were orange peel and Sansievieria Trifasciata. From previous studies it shows that, both of these plants have the ability to absorb UV. However from our experiment, Orange peel can absorb more UV than Sansievieria Trifasciata. In this experiment orange peel and Sansievieria Trifasciata were extracted. Then, plant extract in the tint film was prepared by using polymer. The absorption of UVA and UVB were measured by using three types of device which were IL1 700, UV Probe, standard lamp, Deutrium lamp and SL-1 Filter. For IL 1700 the results showed that orange peel extract can reduce UVA and UVB radiation. Orange peel can absorb 98.86% of UV with a concentration of 30% while Snsievieria Trifasciata only can absorb 95.26% of UV with the same concentration. From these results, we can conclude that UV Schutz is a safe and environmental friendly alternative to reduce UV radiation from the Sun. Keywords- Orange peel, UV radiation, UV Schutz, tint flim.

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