

Chemical Analysis and Vitro Biological Evaluation of Dimethyl Fumarate as Antifungal Agents in the Leather Industry

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Abstract: As a new type of antifungal agent, dimethyl fumarate was widely applied in the mouldproof processing by leather tanning industry. However, it was recently reported that there were thousand cases of illness about allergic reaction on human body caused by DMF fumigation in Europe. In this paper, the method of chemical analysis on dimethyl fumarate was studied by comparison between dichloromethane extract and acetic ether extract, followed by necessary purification and determination of GC/MS. By two methods of vitro biological evaluation, the allergic reaction on skin was studied, and suggestion on usage amount of dimethyl fumarate used in fabrication of leather.

Key words: dimethyl fumarate; antifungal agent; biological evaluation; chemical analysis