

- Title** Titanium Dioxide Photocatalyst Coatings
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- Reference** Technology Review Report 015/2012, online:
http://www.moh.gov.my/index.php/database_stores/store_view_page/30/191

Aim

To assess the safety, efficacy/effectiveness and cost-effectiveness of titanium dioxide photocatalyst coatings as antibacterial and antifungal coatings for environmental surfaces.

Conclusions and results

There were seven laboratory-based studies retrieved from the scientific databases and other website that were included in this review. Limited poor level of evidence retrieved suggested that titanium dioxide photocatalyst demonstrated an antibacterial efficiency between 30-95% against certain types of bacteria such as E.coli and Staphylococcus aureus. It has also been shown that titanium dioxide photocatalyst may not be effective against some spore forming bacteria such as Bacillus atrophaeus and fungal species such as Aspergillus Niger and yeasts. Some factors such as relative humidity, temperature, type of titanium dioxide particles, time of exposure to UV radiation, type of UV radiation and types of tiles have been suggested to affect the antimicrobial efficiency of titanium dioxide photocatalyst.

Methods

Scientific electronic databases were searched through OVID interface which include OVID MEDLINE (R) In process & Other Non-Indexed Citations and OVID MEDLINE (R) 1946 to present, Cochrane Central Register of Controlled Trials June 2012, Cochrane Database of Systematic Reviews 2005 to May 2012, EBM Reviews- Database of Abstracts of Reviews of Effects 2nd Quarter 2012, EBM Reviews- Health Technology Assessment 2nd Quarter 2012, EBM Reviews- NHS Economic Evaluation Database 2nd Quarter 2012, EBM reviews-ACP journal Club 1991-May 2012, EBM Reviews- Cochrane Methodology Register 2nd Quarter 2012, Pubmed and National Horizon Scanning Centre.

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