

Title (en)
Bottle container with protective membrane

Title (de)
Flasche mit Schutzfolie

Title (fr)
Bouteille avec membrane protectrice

Publication
EP 1553023 A1 20050713 (EN)

Application
EP 04000463 A 20040112

Priority
• EP 04000463 A 20040112
• US 74950704 A 20040102

Abstract (en)
A bottle container provided with a protective layer is provided by coating a protective layer composed of a nanoscale titanium dioxide (TiO₂) and copper particle on the surface of a bottle container, characterized in that, when sunlight irradiates over the bottle container, UV light or visible light of shorter wavelength (= about 600 nm and less), they will be absorbed therein and generates subsequently electrons and electric holes to react water and oxygen in air into active oxygen and hydroxyl free radical as strong oxidants. These oxidants can decompose surrounding organic matters and can kill bacteria as well as de-odor. In case of thus coated bottle container containing beer, UV light or strong light cannot enter substantially into the beer contained therein to oxidize hop components in the beer, and consequently, the intact taste of the beer can be retained. In addition to effects of killing bacteria and de-odorizing, copper particles incorporated in the layer can promote absorption efficiency of UV light or strong light, while the alcohol-based compound added in the solvent of the coating composition can form a protective film of silicon dioxide (SiO₂) and the like so as to prevent the bottle container made of organic material from degeneration by oxidative decomposition. <IMAGE>

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B65D 1/02; **B65D 23/08**; **B65D 25/34**; **B65D 81/30**

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CPC (source: EP US)
B65D 23/0835 (2013.01 - EP US); **Y10T 428/1352** (2015.01 - EP US)

Citation (search report)
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