

Photocatalyst

Photo catalyst is also called Light catalyst. Represented by titanium dioxide (TiO₂), Under the illumination of light, it does not change itself. But it can promote chemical reactions, A general term for semiconductor materials with catalytic functions.

Under the illumination of the light source, It can utilize the energy of a specific wavelength source to produce a catalytic effect (redox reaction). Exciting the surrounding oxygen and water molecules into active ionic groups such as OH⁻ and O²⁻, These free radicals can almost decompose all organic substances and some inorganic substances that are harmful to the human body or the environment.

Photocatalyst must be exposed to ultraviolet light to function. If you can't get the sun, If you want to activate photocatalyst, An additional UV lamp must be added.

The choice of UV lamp should be 254nm or 365nm. In the case of weak light sources such as natural light and fluorescent lamps, even in the absence of light, Photocatalyst is not working properly.

However, too much ultraviolet light is harmful to the human body. Photocatalyst technology relies on ultraviolet light to illuminate the titanium oxide ions on the photocatalyst network, causing it to activate and oxidize bacteria that come into contact with its surface.

光觸媒

光觸媒(Photo catalyst)也稱為光催化劑(Light catalyst), 是一類以二氧化鈦 (TiO₂) 為代表的, 在光的照射下自身不起變化, 卻可以促進化學反應, 具有催化功能的半導體材料的總稱。在光源照射下, 它能夠利用特定波長光源的能量產生催化作用(氧化還原反應), 使周圍的氧氣及水分子激發成具活性的 OH⁻及 O²⁻等自由離子基, 這些自由基幾乎可分解所有對人體或環境有害的有機物質及部分無機物質。

光觸媒必須在紫外線的照射下才能發揮作用。如果不能獲得太陽光照, 若想激活光觸媒, 則必須另外加上紫外燈。紫外燈的選擇應該是 254nm 或者 365nm 的效果比較好。至於在自然光和日光燈等微弱光源甚至是無光的條件下, 光觸媒是不能正常發揮功效的。那種所謂的無光條件下發揮作用的“冷觸媒”已然失去了“光觸媒”的真正含義。但是過多的紫外線對人體有傷害。

”光觸媒技術其實是靠紫外線照射光觸媒網上的氧化鈦離子, 使其激活進而氧化接觸到其表面的細菌。