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英文論文名稱: A Study of Testing the Nanocatalyst Decomposition Efficiency of NH3

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[摘要]

氨氣是動物飼養過程中糞尿排泄物經細菌分解所產生，其中有些對人和動物有微生物性、化學性或放射性的危害，境污染，直接或間接地影響工作人員或鄰近居民的生活品質和身體健康；因此，研究利用二氧化鈦可氧化有害氣體污染防治上有相當良效，進而研究出一套分解氨氣之機制。初期實驗利用紫外線/可見光分光光譜儀及石英比色槽作速檢測氣體之創新量測方法；而在初期之實驗結果中，以特定濃度之氨水加熱揮發成氨氣爲主要定量方法，同時可觸媒分解效應之實驗量測，在UV照射下，利用三種不同之二氧化鈦塗層經光催化反應下分解，顯示對汽化氨水有相同光觸媒材料下經紫外線照射60分鐘後，都可將初始濃度降至原有濃度之10%以下或更低。最後，開發一種具有二兩種不同質量之氨水所產生之氨氣在兩個小時內進行分解，0.1cc氨水產生之氨氣分解效率可降至原始濃度50%以下此，研發之新式光觸媒空氣循環機可順利完成分解與催化氨氣。

[英文摘要]

NH3 is produced from the bacterial decomposition of the excreta of creatures. Within the NH3 lurks the menace can’ t solve this problem, it may not only influence the accuracy of animal experiments, but also add to our envi the health of people and the quality of living of neighboring residents. Thus, this research uses TiO2 photocataly as well as decompose microorganisms and bacterium, with good effect and can be applied in environmental prot
The initial experiments make use of an ultraviolet-visible spectrophotometer and quartz cuvettes to develop an in simple. In the initial experiments, ammonia with a specific concentration is vaporized as the main quantitative me concentrations with respect to the intensity of UV absorbance.
UV irradiation is used for the experiment of measuring the decomposition effects of the TiO2 photocatalysts. Qua coatings are used to show the outstanding photocatalyst decomposition efficiency. Various concentrations of am separately and irradiated with UV for one hour. After UV irradiation, absorption measurements show that the orig even lower.
Finally, a circulation-type of NH3 decomposition method is developed. The experiment involves two different con photocatalyst-coated cuvettes for two hours. The experiment shows the efficiency of the method to decompose C Moreover, 0.5 cc ammonia can be decomposed to 60% of its original concentration. Therefore, the development efficiently catalyzing and decomposing NH3.

[論文目次]

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