

Abstract

Provided is a photoelectric conversion material which is obtained through easy processing from a substance containing silicon oxide, which is inexpensive, imposes no burden on the environment, and is stable, as a component. Also provided are a photocell and a secondary photocell both using this material. Any of synthetic quartz, fused quartz glass, soda-lime glass, non-alkali glass, and borosilicate glass, which are compositions containing silicon oxide, is pulverized, immersed in an aqueous solution of halogen acid, washed with water, and dried. The resultant material is deposited on an electrode plate and this electrode plate is placed in water where an appropriate electrolyte is mixed. This electrode plate is electrically connected to an opposite electrode, and is used as a photoelectrode by irradiated with light. The material may be enclosed in a container, mixed with an organic electrolyte, having an extraction electrode and an opposite electrode, and a photocell is configured by irradiated with light through the extraction electrode.

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