

ABSTRACT

A process for producing an alkylene derivative such as ethylene glycol or ethylene carbonate wherein ethylene oxide is reacted with water or carbon dioxide in the presence of carbon dioxide by means of a quaternary phosphonium iodide or bromide catalyst, characterized in that the quaternary phosphonium iodide or bromide catalyst is recovered efficiently from the reaction system and is recycled for use, and in that quaternary phosphonium chloride formed in the reaction system is converted efficiently to a quaternary phosphonium iodide or bromide, and the resultant iodide or bromide is recovered and recycled to the reaction system for use.