~~CATALYST FOR PREPARING PARAXYLENE BY MUTUAL CONVERSION OF METHYL ALCOHOL AND/OR DIMETHYL ETHER AND C_4 LIQUEFIED GAS, AND PREPARATION METHOD AND APPLICATION THEREFOR~~

CATALYST FOR PRODUCING PARAXYLENE BY CO-CONVERSION OF METHANOL AND/OR DIMETHYL ETHER AND C_4 LIQUEFIED GAS, METHOD FOR PREPARING THE SAME AND METHOD FOR USING THE SAME

Technical Field

The present disclosure relates to a method for producing paraxylene by co-conversion of methanol and/or dimethyl ether and C_4 liquefied gas. More specifically, the present disclosure relates to a highly selective catalyst for producing paraxylene by co-conversion of methanol and/or dimethyl ether and C_4 liquefied gas. Further, the present disclosure relates to a preparation method and the application of said catalyst.

Background

Paraxylene is a basic raw material for producing polyester. Presently, paraxylene is mainly obtained by disproportionation, isomerization, adsorption separation or cryogenic separation of a raw material containing toluene, C_9 aromatics and mixed xylene from naphtha catalytic reforming products. By this method, the target product paraxylene ratio in mixed C_8 aromatics is only about 20% due to the reason that the reaction of producing paraxylene is controlled by thermodynamics. Its equipment is huge with high operating costs due to the large recycle material quantity, and an expensive adsorption separation system is necessary because a high purity paraxylene product cannot be obtained by common distillation.

With the increasing shortage of oil resource, many research institutes in domestic and overseas began to work actively on development of new techniques for producing aromatics, such as producing aromatics from methanol, or from liquefied gas etc. Methanol to aromatics technology provided a new pathway to prepare aromatics from coal or natural gas, wherein aromatics can be directly obtained by aromatization reaction of methanol or dimethyl ether on a composite catalyst containing metal and zeolite.