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(54) Title: CATALYST FOR THE SYNTHESIS OF ALKYL CARBAMATES, THE METHOD FOR PREPARING THE SAME AND THE USE THEREOF

(57) Abstract: The present invention pertains to a catalyst for the synthesis of organic alkyl carbamates, the method for preparing the same and the use thereof. The catalyst comprises a catalytically active component and a catalyst support, and the catalytically active component being carried by the catalyst support, wherein the catalytically active component comprises a transition metal oxide, and the general formula of the transition metal oxide is E_xO_x, wherein E is selected from transition metal element and x is in the range of 0.5-4.



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INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2009/001008

A. CLASSIFICATION OF SUBJECT MATTER		
INV.	B01J23/86	B01J23/26 C07C271/12 B01J21/06 B01J21/08
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols) B01J		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, COMPENDEX		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CN 1 475 481 A (SHANXI COAL CHEM INST [CN]) 18 February 2004 (2004-02-18) cited in the application claims 1,3-5; example 8 -----	1,2,5-7
X	GB 1 249 079 A (SHELL INT RESEARCH [NL]) 6 October 1971 (1971-10-06) examples page 3, line 96 - line 110 page 4, line 115 - line 117 -----	1-12
X	US 4 434 243 A (MARTIN JOEL L [US]) 28 February 1984 (1984-02-28) examples; table 1 -----	1-12
X	US 4 368 303 A (MCDANIEL MAX P) 11 January 1983 (1983-01-11) example II -----	1-12
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<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents : *A* document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international filing date *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *&* document member of the same patent family		
Date of the actual completion of the international search 21 September 2009		Date of mailing of the international search report 27/11/2009
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040. Fax: (+31-70) 340-3016		Authorized officer Besselmann, Sonja

INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2009/001008

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2 592 016 A (FREDERIK ENGEL WILLEM) 8 April 1952 (1952-04-08) example II column 1, line 29 - line 35 column 3, line 1 - line 2 column 3, line 14 - line 44 column 4, line 19 - line 24 column 7, line 42 - line 65 -----	1-12
X	WO 01/53196 A (CONOCO INC [US]) 26 July 2001 (2001-07-26) examples 1-4 -----	1-12
X	US 4 131 616 A (STILES ALVIN B) 26 December 1978 (1978-12-26) column 11, line 44 - column 12, line 5 column 5, line 14 - line 22 -----	1-12

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2009/001008

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1 - 12

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-12

A catalyst for the synthesis of organic alkyl carbamates comprising a transition metal oxide and a catalyst support.
A method for preparing the catalyst.

2. claims: 13-15

A method for the synthesis of organic alkyl carbamates by reacting urea with hydroxyl group containig compound in the presence of the catalyst.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2009/001008

Patent document cited in search report	Publication date	Publication date	Patent family member(s)	Publication date
CN 1475481	A	18-02-2004	NONE	
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