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(54) Title: INTEGRATED PROCESS FOR THE PRODUCTION OF ACRYLIC ACIDS AND ACRYLATES

(57) Abstract: The invention relates to a process for producing an acrylate product, the process comprising the steps of: (a) reacting, in a first reaction zone, a reaction gas mixture A comprising methanol, oxygen, and at least one diluent gas other than steam to form a product gas mixture A comprising formaldehyde, steam, and at least one inert diluent gas other than steam; (b) combining at least a portion of the product gas mixture A and acetic acid to form a reaction gas mixture B comprising acetic acid, formaldehyde, steam, and at least one diluent gas other than steam; (c) reacting, in a second reaction zone, at least a portion of the acetic acid in the reaction gas mixture B with at least a portion of the formaldehyde in the reaction gas mixture B to form a product gas mixture B comprising acrylic acid, acetic acid, steam, and at least one inert diluent gas other than steam; and (d) separating at least a portion of the product gas mixture B to form an alkylating agent stream comprising at least 0.01 wt% alkylating agent and an intermediate acrylate product stream comprising acrylate product.



INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER

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ADD.

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)

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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 practicable, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2012/035019 A1 (BASF SE [DE]; HERZOG STEFANIE [DE]; ALTWASSER STEFAN [DE]; OTTENBACHER) 22 March 2012 (2012-03-22) page 66 - page 68 claims page 31, paragraph 2 page 44, last paragraph - page 46, paragraph 3	1-15
Y	WO 2013/052487 A1 (CELANESE INT CORP [US]; MUELLER SEAN [US]; NAGAKI DICK [US]; PETERSON) 11 April 2013 (2013-04-11) claims; tables paragraph [0034] paragraph [0061] paragraph [0051] - paragraph [0052] paragraph [0086] - paragraph [0106] figures 2,3 ----- -/-	1-15



Further documents are listed in the continuation of Box C.



See patent family annex.

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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