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(54) Title: PROCESS FOR THE PREPARATION OF HEXAFLUORO-2-BUTYNE

(57) Abstract: Disclosed is a process for making hexafluoro-2-butyne comprising the steps of: (a) providing a composition comprising $CF_3CX=CXCF_3$, where X = halogen; and (b) treating $CF_3CX=CXCF_3$ with a dehalogenation catalyst in the presence of a halogen acceptor compound Y, where Y is not hydrogen. The halogen acceptor compound Y is a material capable of being halogenated, preferably a compound having a multiple bond, such as an alkyne, alkene, allene, or carbon monoxide. Another suitable material capable of being halogenated is a cyclopropane. A catalyst effectively transfers halogen from $CF_3CX=CXCF_3$ to the halogen acceptor compound. Since Y is not hydrogen, the formation of $CF_3CX=CHCF_3$ is greatly reduced or eliminated.



WO 2011/146812 A3

INTERNATIONAL SEARCH REPORT

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PCT/US2011/037298**A. CLASSIFICATION OF SUBJECT MATTER***C07C 17/23(2006.01)i, C07C 17/25(2006.01)i, C07C 21/22(2006.01)i*

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)

C07C 17/23; C07C 21/22; C07C 17/35; C07C 21/18; B01J 23/58

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: hexafluoro-2-butyne, dehalogenation, halogen acceptor compound

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2009-0156869 A1 (NAPPA, MARIO JOSEPH) 18 June 2009 See abstract, claims 1-5	1-10
A	EP 2003109 A1 (ZEON CORPORATION) 17 December 2008 See abstract, claim 1	1-10
A	US 2008-0269532 A1 (SWEARINGEN, EKATERINA N.) 30 October 2008 See abstract, claim 1, paragraph [0020]	1-10
A	US 2009-0012335 A1 (NAPPA, MARIO JOSEPH et al.) 08 January 2009 See abstract, claims 1, 4-7, paragraph [0029]	1-10

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:

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"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

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