

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
27 December 2001 (27.12.2001)

PCT

(10) International Publication Number  
**WO 01/98240 A2**

- (51) International Patent Classification<sup>7</sup>: C07C 19/08, 17/20, 17/10
- (21) International Application Number: PCT/JP01/05256
- (22) International Filing Date: 20 June 2001 (20.06.2001)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
2000-185654 21 June 2000 (21.06.2000) JP  
60/230,806 7 September 2000 (07.09.2000) US
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- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:  
without international search report and to be republished upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



WO 01/98240 A2

(54) Title: PROCESS FOR PRODUCING HEXAFLUOROETHANE AND USE THEREOF

(57) Abstract: The present invention intends to provide a process for producing  $\text{CF}_3\text{CF}_3$  with good profitability using  $\text{CF}_3\text{HF}_2$  containing a compound having chlorine atom within the molecule, and use thereof. In the process of the present invention, a gas mixture containing  $\text{CF}_3\text{CHF}_2$  and a compound having chlorine atom within the molecule is reacted with hydrogen fluoride in the presence of a fluorination catalyst, thereby converting  $\text{CClF}_2\text{CF}_3$  as a main impurity into  $\text{CF}_3\text{CF}_3$ , and  $\text{CF}_3\text{CHF}_2$  containing  $\text{CF}_3\text{CF}_3$  is reacted with fluorine gas in the gaseous phase in the presence of a diluting gas.