CLAIMS

1. A process for the production of 1, 1-difluoroethane (HFC-152a) by the catalytic fluorination, in the vapour phase, of a composition comprising vinyl chloride with hydrogen fluoride, wherein the vinyl chloride is contacted with hydrogen fluoride, at temperatures between 100 and 500°C, in the presence of a catalyst comprising one or more of chromia, alumina, carbon, wherein prior to the catalytic fluorination, the catalyst is subjected to an activation treatment to achieve the desired catalytic performance, involving treating the catalyst with hydrogen fluoride, at an elevated temperature and pressure.

2. A process according to claim 1, wherein the reaction temperature is between 100 and 300°C.

3. A process according to claim 1, wherein the reaction pressure is between 1 barg and 20barg.

4. A process according to claim 1, wherein the ratio of vinyl chloride with hydrogen fluoride is from 1: 1 to 1 :50, more preferably 1: 1 to 1 :25, 1: 1 to 1: 15, 1: 1 to 1: 10 or in a range of from 1 :5-30, such as 1: 10-25.

5. A process according to claim 1, wherein the catalyst comprises chromia.

6. A process according to claim 1, wherein the catalyst comprises chromia and zinc.

7. A process according to claim 1, wherein the catalyst comprises at least one additional metal, selected from selected from lithium, sodium, potassium, calcium, magnesium, caesium, scandium, aluminium, yttrium, titanium, zirconium, hafnium, vanadium, niobium, tantalum, chromium, molybdenum, tungsten, manganese, rhenium, iron, ruthenium, cobalt, rhodium, iridium, nickel, palladium, indium, platinum, copper, silver, gold, zinc, lanthanum, cerium and mixtures thereof or a compound thereof.

8. A process according to claim 1, including a purification step, comprising one or more distillation steps and/or one or more scrubbing trains and/or one or more phase separation steps.

9. A process according to claim 8, wherein HF is recovered from at least one distillation column and is optionally recycled.

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10. A process according to claim 9, wherein the HF is subjected to further purification prior to recycling.

11. 1, 1-difluoroethane produced by a process according to claim 1.

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