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 chromia and zinc, wherein the molar ratio of vinyl chloride with hydrogen fluoride is from 1:5 to 1:50.

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

3. A process according to claims 1 or 2, wherein the reaction pressure is between 1 barg and 20 barg.

4. A process according to claims 1, 2 or 3, wherein the molar ratio of vinyl chloride with hydrogen fluoride is from 1:5 to 1:25.

5. A process according to claim 4, wherein the molar ratio of vinyl chloride with hydrogen fluoride is from 1:5 to 1:25.

6. A process according to claim 5, wherein the molar ratio of vinyl chloride with hydrogen fluoride is from 1:5 to 1:10.

7. A process according to claim 4, wherein the molar ratio of vinyl chloride with hydrogen fluoride is from 1:5 to 1:30.

8. A process according to claim 7, wherein the molar ratio of vinyl chloride with hydrogen fluoride is from 1:10 to 1:25.

9. A process according to any one of the preceding claims, 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.

o

10. A process according to any one of the preceding claims, 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.

11. A process according to claim 10, wherein HF is recovered from at least one distillation column and is optionally recycled.

12. A process according to claim 11, wherein the HF is subjected to further purification prior to recycling.

o