









Table 19

Direct Gas-phase Fluorination of THN (volume velocity of input 180 hour⁻¹, mole rate THN:fluorine:nitrogen = 1:5:3).

Test #	Catalyst	Temperature, K	Conversion F ₂ , %	Destruction ¹ %	Composition of Liquid Products of Fluorination, mass. %								
													C ₅ F _{12-x} H _x x=1÷3
1	Without Catalyst	453	>99	>99	0,3	0,1	<0,1	<0,1	<0,1	1,2	86,9	0,5	11,0
2	Cu, metallic	523	>99	94	1,2	0,9	1,2	1,8	2,3	13,3	69,6	5,4	4,3
3	Ag /Cu metallic	453	88	85	3,6	2,1	5,7	2,3	1,8	42,5	7,8	28,8	5,4
4	Same	523	>99	93	4,2	1,2	4,8	2,4	4,3	36,3	11,3	31,1	4,4
5	Ni, metallic	453	89	85	4,8	2,8	5,9	0,3	2,5	26,5	30,9	23,9	2,4
6	Same	523	>99	93	3,1	0,9	1,2	2,9	2,6	26,7	36,1	18,6	7,9
7	CaF ₂	453	78	68	10,5	0,8	21,4	2,2	1,0	17,7	2,3	39,8	4,3
8	Same	523	>99	82	18,7	9,4	14,4	5,3	2,1	13,1	2,1	34,5	0,4
9	α-Al ₂ O ₃	453	83	53	21,0	14,1	43,3	2,6	0,4	3,4	0,4	14,6	0,2
10	Same	523	>99	62	31,0	9,0	8,2	13,0	14,1	11,4	2,3	10,1	0,8
11	NiF ₂ /α-Al ₂ O ₃	453	86	34	57,2	6,1	17,1	3,3	2,8	5,3	1,2	6,6	0,4
12	Same	523	94	53	70,3	4,8	14,0	2,7	0,9	3,3	<0,1	3,4	0,6

¹The grade of destruction of raw materials during fluorination was estimated per reacted substrate taking into account the amount and composition of liquid and gasiform products of fluorination.