

COMPLEX OXOFUOROCOMPOUNDS OF ANTIMONY (III)

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$Sb_3O_2F_5$, MSb_2OF_4X (M-Na,K,Rb,Cs; X-Cl,Br,I,CSN), $Na_2Sb_4OF_{12} \cdot 2H_2O$, $Cs_2Sb_4OF_{10}(CSN)_2$ and $Sb_2OF_4 \cdot 2CO(NH_2)_2$ compounds are synthesized from aqueous solutions. The results of oxofluorocompounds of antimony (III) investigations by methods of IR, NQR $^{121,123}Sb$ and X-ray diffraction methods are given. The crystal structures of $Sb_3O_2F_5$ and $Sb_2OF_4 \cdot 2CO(NH_2)_2$ compounds are presented in [1,2]. $CsSb_2OF_4I$ compound belongs to the tetragonal space group ($a=13.12$, $c=19.96 \text{ \AA}$), $Cs_2Sb_4OF_{10}(CSN)_2$ - to the rhombic ($a=4.44$, $b=18.22$, $c=22.41 \text{ \AA}$) and $Na_2Sb_4OF_{12} \cdot 2H_2O$ - to the monoclinic ($a=5.35$, $b=9.60$, $c=13.37 \text{ \AA}$, $\beta=94.78$). The quadrupol coupling constants (e^2Qq/h) and parameter of asymmetry (η) of the oxofluorocompounds of Sb(III) at 77K are presented in the table:

Compound	η (%)	e^2Qq/h ^{123}Sb (MHz)
	7.7	636.7
$Sb_3O_2F_5$	23.8	636.9
	36.0	659.2
	36.7	754.2
$Na_2Sb_4OF_{12} \cdot 2H_2O$	7.9	670.1
	6.5	708.1

$Na_2Sb_4OF_{12} \cdot 2H_2O$ compound is a piezoelectric. The obtained results are discussed.

1. A.Udovenko, L.Wolkova, R.Davidovich, L.Zemnukhova, E.Panin, Koord. khimiya, 1132 (1985).
2. R.Davidovich, L.Zemnukhova, A.Udovenko, L.Samarec, Koord. khimiya, 374 (1982).