

Untersuchungen an Natriumtrifluormethylsulfonat. Kristallstruktur von Natriumtrifluormethylsulfonat- Trifluormethylsulfonsäure (1/3)

Studies on Sodium Trifluoromethanesulfonate. Crystal Structure of Sodium Trifluoromethanesulfonate-Trifluoromethanesulfonic Acid (1/3)

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Single crystals of sodium trifluoromethanesulfonate-trifluoromethanesulfonic acid (1/3) ($\text{NaSO}_3\text{CF}_3 \cdot 3 \text{HSO}_3\text{CF}_3$) have been prepared by reaction of sodium trifluoromethanesulfonate with anhydrous trifluoromethanesulfonic acid at 60 °C. $\text{NaSO}_3\text{CF}_3 \cdot 3 \text{HSO}_3\text{CF}_3$ crystallizes in space group $I2_13$ (No. 199) with $a = 16.210(1) \text{ \AA}$, $Z = 8$. Sodium is coordinated by six oxygen atoms from six different trifluoromethanesulfonic acid molecules, each acid molecule connecting two sodium ions. The 3-dimensional network resulting from the edge sharing octahedra corresponds to the cubic (10, 3) net, not realised otherwise, so far. The trifluoromethanesulfonate anion is bonded to three trifluoromethanesulfonic acid molecules by hydrogen bonds.

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