

126
MW**ClHO₃S****Hydrogen chloride – sulfur trioxide (1/1)**

(weakly bound complex)

C_{3v}

(effective symmetry class)

(large-amplitude motion)

HCl · SO₃

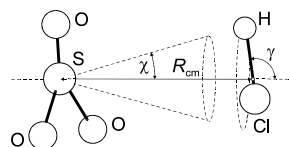
r_0	Å	θ_0	deg
S...Cl	3.1328(57)	$\gamma^a)$	107.2(5) ^{b)}
		$\chi^a)$	15.6 ^{c)}

The hydrogen atom approaches the SO₃ on or near its C₃ axis, and the vibrationally averaged structure is that of a symmetric top. The out-of-plane distortion of the SO₃ is negligible. The HCl unit is nearly parallel to the SO₃ plane, with the proton tilting slightly toward the SO₃.

^{a)} See figure for the definition.

^{b)} Uncertainty was not estimated in the original paper.

^{c)} Assumed. Estimated uncertainty is (+3.3/−4.8).



Canagaratna, M., Phillips, J.A., Goodfriend, H., Fiocco, D.L., Ott, M.E., Harms, B., Leopold, K.R.: J. Mol. Spectrosc. **192** (1998) 338.