Species Tag:	54005	Name:	HO^{37}Cl
Version:	4		Hypochlorous acid
Date:	July 2006		
Contributor:	B. J. Drouin		

Lines Listed:	40627	Q(300.0)=	9691.7046
Freq. (GHz) <	15000	Q(225.0)=	6290.9707
Max. J:	99	Q(150.0)=	3423.0827
LOGSTR0=	-9.9	Q(75.00)=	1211.0331
LOGSTR1=	-9.9	Q(37.50)=	429.3041
Isotope Corr.:	-0.611	Q(18.75)=	153.2631
Egy. (cm^{-1}) >	0.0	Q(9.375)=	59.3787
$\mu_a =$	0.3627	A=	613461.3422
$\mu_b =$	1.471	B=	14850.43945
$\mu_c =$		C=	14472.89756

The data and calculational method are given in Drouin *JQSRT* 2006 and references below. The chlorine hyperfine structure is included in this version of the catalog for all J. The maximum value of K_a in the calculation is 20.

The analysis of the line positions given here includes measurements from the literature:

H. E. Singbeil *et al.*,1984, J. Mol. Spect. **103**, 466

Bellini M, De Natale P, Fusina L, Modugno G. The pure rotation spectrum of HOCl in the submillimeter-wave region, J Mol Spec 1995; 172: 559-562.

Wells, JS, Sams RL, Lafferty WJ, J Mol Spec 1979; 77: 349-364.

Flaud J-M, Birk M, Wagner G, Orphal J, Klee S, Lafferty WJ, The far infrared spectrum of HOCl: line positions and intensities, J Mol Spec 1998; 191: 362-367.

Careful adjustments of the estimated uncertainties of the separate data sets was done to ensure overall balance in the analysis. The fit statistics of the Doppler resolved (Bellini,Drouin) and non-Doppler instruments (Wells,Flaud) were separated by fitting the Fourier transform data in wavenumber units. This process does not change the parameter fitting procedure, it simply splits the residual average and residual root-mean-square (*rms*) values reported after each iteration. Previously catalogued data (Singbeil) was used just as before. The data from Ref (Bellini) was included at twice the uncertainties given in the publication. The new measurements of Drouin were given 100 kHz (for $\nu < 1$ THz) or 200 kHz uncertainties. Combination differences (Wells) are all given uncertainties of 0.0005 cm^{-1}. The DLR data from Flaud was given five times the uncertainty estimated in the data file provided by the authors. The Giessen data from Flaud was assigned the uncertainty 0.00014 cm^{-1}. Drouin outlines the fitting of this data with either symmetric or asymmetric Watsonians, the symmetric parameterization is utilized for this catalog listing.