Species Tag:	99001	Name:	Cl-37-ONO2
Version:	2		Chlorine nitrate
Date:	Oct. 1996		^{37}Cl isotope
Contributor:	H. S. P. Müller		

Lines Listed:	49505	Q(300.0)=	629987.497
Freq. (GHz) <	889	Q(225.0)=	381776.321
Max. J:	99	Q(150.0)=	186077.183
LOGSTR0=	-9.3	Q(75.00)=	55480.326
LOGSTR1=	-6.7	Q(37.50)=	18351.122
Isotope Corr.:	-0.611	Q(18.75)=	6457.304
Egy. (cm^{-1}) >		Q(9.375)=	2287.107
$\mu_a =$	0.72	A=	12105.33
$\mu_b =$	0.28	B=	2700.974
$\mu_c =$		C=	2207.604

The frequencies are taken from (1) R. D. Suenram and D. R. Johnson, 1977, J. Mol. Spectrosc. **65**, 239; (2) R. D. Suenram and F. J. Lovas, 1984, J. Mol. Spectrosc. **105**, 351; and (3) H. S. P. Müller, P. Helminger, and S. H. Young, 1997, J. Mol. Spectrosc. **181**, 363.

The data for both isotopomers (^{35}Cl and ^{37}Cl) in the $v = 0$ and $v_9 = 1$ states has been fit simultaneously as described in (3). Lines outside four times the experimental uncertainties were omitted and have not been merged. A fit of similar qualtity is achieved when only lines of this species are used and H_K is held fixed. While the data for this species is archived in the usual way, the combined fit is archived as clg.*.

Because ^{37}Cl hyperfine splittings were important in the fit, the catalog entry presented includes these splittings even though they are in general much smaller than the width of stratospheric lines.

The dipole moment, estimated to be the same as for the ^{35}Cl isotopomer, is from (1). The partition function takes into account the torsional mode at *ca.* 120 cm^{-1}. Because of the small rotational constants the partition function has been calculated up to $J = 150$. Transitions with $J > 99$ are not included because at stratospheric temperatures their intensity is expected to be very small, even though some of them may be stronger than listed low J lines at room temperature.