Version:	3		Propane
Date:	Feb. 2015		ground state,ν_{14},ν_{27}
Contributor:	B. J. Drouin		AA, EE, EA, AE
Lines Listed:	183835	Q(300.0)=	787623
Freq. (GHz) <	3000	Q(225.0)=	360964
Max. J:	99	Q(150.0)=	145145
LOGSTR0=	-12.5	Q(75.00)=	41859
LOGSTR1=	-10.5	Q(37.50)=	14493
Isotope Corr.:	0.0	Q(18.75)=	5138
Egy. (cm^{-1}) >	0.0	Q(9.375)=	1828
μ_a =		A=	29207.46690
μ_b =	0.0848	B=	8445.96861
μ_c =		C=	7459.00313

The data set used is compiled from D.R. Lide, J. Chem. Phys., 33 (1960) 1514-1518; G. Bestmann, W. Lalowski, and H. Dreizler, Z. Naturforsch. 40a, 271 (1985); and G. Bestmann, H. Dreizler, J.M. Vacherand, D. Boucher, B.P. van Eijck, J. Demaison, Z. Naturforsch. 40a, 508 (1985), and B.J. Drouin, J.C. Pearson, A. Walters, V. Lattanzi, J. Mol. Spec. *in press*. The v designations separate vibrational levels and torsional sub-levels as follows:

	gs	ν_{14}	ν_{27}
AA	0	6	12
EE	1,2	7,8	13,14
EA	3,4	9,10	15,16
AE	5	11	17

Note that the EE and EA states are treated as l-doubling pairs. The lines were fit to a Hamiltonian that included terms up to the eighth power in angular momentum. Dependence on K expected from an IAM treatment was incorporated using both Energy and B+C Fourier series with fixed ratios of sine and cosine terms in $2\pi\rho_a K/3$. The quality of the fit was, on the average, within the experimental uncertainty. The EE and EA states have both b and c type lines, while the AA and AE states have only b type lines.

The full vibration-torsion-rotation partition function, including corrections for states not included in the compilation, is utilized for this catalog entry.

version 3 changes include:
1) fixed catalog ID
2) partition function divided by 2
3) spin weights divided by 2
4) lines with identical quant were merged

Changes 2 and 3 prevent degeneracies from hitting upper limit. The fourth change reduces the length of the listing from 183835 to 151544 lines.