

PROPELLANT	HF	DENSITY	WEIGHT	MOLES	VOLUME
AP	-60.2100	1.9500	.6200	.0053	.3179
HTPB	1.2000	.9220	.1800	.0018	.1952
ZR	.0000	6.4000	.2000	.0022	.0313

GRAM ATOMS/100 GRAMS

H	3.9713	O	2.1300	N	.5277	CL	.5277	C	1.3170	ZR	.2193
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ENTHALPY = -31.55727 DENSITY =1.837
 CSTAR = 4818.08

	CHAMBER	THR(SHIFT)	EXH(SHIFT)
PRESSURE (PSIA)	1000.000	559.632	14.700
EPSILON	.000	1.000	8.046
ISP	.000	102.671	235.397
ISP (VACUUM)	.000	186.478	253.108
TEMPERATURE(K)	2871.170	2592.209	1259.058
MOLECULAR WEIGHT	25.978	26.046	26.109
MOLES GAS/100G	3.849	3.839	3.830
CF	.000	.686	1.572
PEAE/M (SECONDS)	.000	83.807	17.711
GAMMA	1.240	1.243	1.273
HEAT CAP (CAL)	39.461	39.004	35.529
ENTROPY (CAL)	215.857	215.856	215.856
ENTHALPY (KCAL)	-31.557	-43.667	-95.213
DENSITY (G/CC)	7.50290E-03	4.66294E-03	2.52785E-04
ITERATIONS	16	3	7

GRAMS/100 GRAMS

H	.02904	.01384	.00000
H2	2.76135	2.77868	2.94578
HO	.03392	.01222	.00000
H2O	5.59541	5.55637	4.22570
O	.00039	.00007	.00000
O2	.00008	.00001	.00000
HN	.00001	.00000	.00000
HNO	.00001	.00000	.00000
H2N	.00013	.00004	.00000
H3N	.00198	.00141	.00061
N	.00001	.00000	.00000
NO	.00252	.00071	.00000
N2	7.38369	7.38561	7.38742
CL2	.00122	.00052	.00000
CL	.26164	.12753	.00001
CLH	18.72009	18.86445	18.99750
CLHO	.00011	.00003	.00000
CLO	.00002	.00000	.00000
HCOOH	.00014	.00008	.00000
CCLN	.00001	.00000	.00000
CCLO	.00127	.00049	.00000
CHN	.00269	.00152	.00006
CHNO	.00016	.00008	.00000
CHO	.00161	.00061	.00000

CH2O	.00051	.00030	.00001
CH3	.00002	.00001	.00000
CH4	.00004	.00004	.00239
CN	.00001	.00000	.00000
CO	34.38446	34.28924	32.15101
CO2	1.86164	2.01782	5.42047
OZR	.00003	.00000	.00000
O2ZR	.00036	.00002	.00000
CL2ZR	.00011	.00001	.00000
CL3ZR	.00251	.00043	.00000
CL4ZR	.00793	.00309	.00000
O2ZR(C)	26.74280	26.74690	26.74852