

PROPELLANT	HF	DENSITY	WEIGHT	MOLES	VOLUME
HTPB	1.2000	.9220	.2000	.0020	.2169
MG	.0000	1.7400	.2000	.0082	.1149
AN	-109.0200	1.7410	.6000	.0075	.3446

GRAM ATOMS/100 GRAMS
H 5.0656 O 2.2700 N 1.4992 C 1.4633 MG .8226

ENTHALPY = -81.48046 DENSITY =1.478
CSTAR = 4358.42

	CHAMBER	THR(SHIFT)	EXH(SHIFT)
PRESSURE (PSIA)	300.000	168.016	14.700
EPSILON	.000	1.000	3.578
ISP	.000	92.841	190.388
ISP (VACUUM)	.000	168.710	214.139
TEMPERATURE(K)	1919.768	1729.235	1129.940
MOLECULAR WEIGHT	21.197	21.225	21.604
MOLES GAS/100G	4.718	4.711	4.629
CF	.000	.685	1.405
PEAE/M (SECONDS)	.000	75.869	23.751
GAMMA	1.228	1.232	1.246
HEAT CAP (CAL)	50.436	49.670	46.633
ENTROPY (CAL)	251.200	251.200	251.200
ENTHALPY (KCAL)	-81.481	-91.382	-123.121
DENSITY (G/CC)	2.74679E-03	1.71014E-03	2.33069E-04
ITERATIONS	30	4	9

GRAMS/100 GRAMS

H	.00070	.00019	.00000
H2	5.00942	4.99511	4.83659
H2O	.06654	.06332	.74012
H3N	.00603	.00494	.00329
N2	20.85005	20.90485	20.98525
CHN	.25768	.15364	.00117
CHNO	.00007	.00004	.00000
CHO	.00005	.00001	.00000
CH2O	.00031	.00018	.00002
CH3	.00091	.00040	.00000
CH4	.14188	.22178	.56528
CO	38.96348	38.94722	36.71640
CO2	.02278	.02630	.94575
C2H2	.01432	.00681	.00000
C2H4	.00164	.00157	.00004
C2N2	.00001	.00000	.00000
HMG	.00082	.00004	.00000
HMGO	.00010	.00001	.00000

MG	.01554	.00107	.00000
C (GRAPHITE)	.00000	.00000	.55299
MGO(C)	32.05639	32.08119	32.08292

PROPELLANT	HF	DENSITY	WEIGHT	MOLES	VOLUME
HTPB	1.2000	.9220	.2000	.0020	.2169
MG	.0000	1.7400	.2000	.0082	.1149
AN	-109.0200	1.7410	.6000	.0075	.3446

GRAM ATOMS/100 GRAMS
H 5.0656 O 2.2700 N 1.4992 C 1.4633 MG .8226

ENTHALPY = -81.48046 DENSITY =1.478
CSTAR = 4360.74

	CHAMBER	THR(SHIFT)	EXH(SHIFT)
PRESSURE (PSIA)	500.000	279.747	14.700
EPSILON	.000	1.000	5.249
ISP	.000	92.974	202.074
ISP (VACUUM)	.000	168.807	222.991
TEMPERATURE (K)	1925.697	1734.282	1075.935
MOLECULAR WEIGHT	21.237	21.267	22.008
MOLES GAS/100G	4.709	4.702	4.544
CF	.000	.686	1.491
PEAE/M (SECONDS)	.000	75.833	20.917
GAMMA	1.228	1.232	1.242
HEAT CAP (CAL)	50.465	49.697	46.309
ENTROPY (CAL)	246.416	246.415	246.415
ENTHALPY (KCAL)	-81.480	-91.411	-128.389
DENSITY (G/CC)	4.57249E-03	2.84466E-03	2.49340E-04
ITERATIONS	5	3	9

GRAMS/100 GRAMS

H	.00056	.00016	.00000
H2	4.98599	4.96882	4.68044
H2O	.11655	.12168	1.40609
H2N	.00001	.00000	.00000
H3N	.00989	.00809	.00430
N2	20.85434	20.91352	20.98472
CHN	.24318	.13187	.00057
CHNO	.00012	.00006	.00000
CHO	.00007	.00002	.00000
CH2O	.00050	.00030	.00002
CH3	.00085	.00044	.00000
CH4	.21260	.30102	.87576
CO	38.85115	38.82329	34.24212
CO2	.03977	.05035	2.07390
C2H2	.01265	.00497	.00000
C2H4	.00173	.00183	.00003
C2N2	.00001	.00000	.00000
HMG	.00040	.00002	.00000

HMGO	.00009	.00001	.00000
H2MGO2	.00001	.00000	.00000
MG	.00580	.00036	.00000
C (GRAPHITE)	.00000	.00000	1.10531
MGO (C)	32.07288	32.08233	32.08292

PROPELLANT	HF	DENSITY	WEIGHT	MOLES	VOLUME
HTPB	1.2000	.9220	.2000	.0020	.2169
MG	.0000	1.7400	.2000	.0082	.1149
AN	-109.0200	1.7410	.6000	.0075	.3446

GRAM ATOMS/100 GRAMS
H 5.0656 O 2.2700 N 1.4992 C 1.4633 MG .8226

ENTHALPY = -81.48046 DENSITY =1.478
CSTAR = 4367.06

	CHAMBER	THR(SHIFT)	EXH(SHIFT)
PRESSURE (PSIA)	1000.000	559.803	14.700
EPSILON	.000	1.000	9.070
ISP	.000	93.001	216.217
ISP (VACUUM)	.000	168.987	234.314
TEMPERATURE(K)	1936.587	1746.182	1027.069
MOLECULAR WEIGHT	21.323	21.363	22.694
MOLES GAS/100G	4.690	4.681	4.406
CF	.000	.685	1.593
PEAE/M (SECONDS)	.000	75.985	18.097
GAMMA	1.226	1.230	1.235
HEAT CAP (CAL)	50.523	49.761	45.993
ENTROPY (CAL)	239.942	239.943	239.942
ENTHALPY (KCAL)	-81.480	-91.416	-135.186
DENSITY (G/CC)	9.13049E-03	5.67940E-03	2.69348E-04
ITERATIONS	6	3	10

GRAMS/100 GRAMS

H	.00043	.00012	.00000
H2	4.93234	4.90792	4.44317
H2O	.24514	.26924	2.48622
H2N	.00001	.00000	.00000
H3N	.01917	.01555	.00550
N2	20.85518	20.91532	20.98394
HCOOH	.00001	.00000	.00000
CHN	.22674	.11654	.00027
CHNO	.00024	.00013	.00000
CHO	.00010	.00003	.00000
CH2O	.00099	.00059	.00002
CH3	.00138	.00055	.00000
CH4	.36202	.47212	1.31586
CH3OH	.00001	.00000	.00000
CO	38.58677	38.51274	30.02668
CO2	.08319	.11041	4.06448
C2H2	.01084	.00380	.00000
C2H4	.00371	.00255	.00002

C2N2	.00001	.00000	.00000
HMG	.00016	.00001	.00000
HMGO	.00007	.00001	.00000
H2MGO2	.00002	.00000	.00000
MG	.00157	.00010	.00000
C (GRAPHITE)	.00000	.00000	2.09341
MGO (C)	32.08037	32.08292	32.08292