

PROPELLANT	HF	DENSITY	WEIGHT	MOLES	VOLUME
C2H4O	-18.6000	.8750	1.0000	.0227	1.1429

GRAM ATOMS/100 GRAMS  
H 9.0798 O 2.2700 C 4.5399

ENTHALPY = -42.22129      DENSITY = .875  
CSTAR = 3830.67

	CHAMBER	THR(SHIFT)	EXH(SHIFT)
PRESSURE (PSIA)	300.000	173.239	14.700
EPSILON	.000	1.000	4.099
ISP	.000	78.119	170.952
ISP (VACUUM)	.000	146.874	194.867
TEMPERATURE(K)	1186.714	1124.812	910.763
MOLECULAR WEIGHT	17.855	18.106	19.260
MOLES GAS/100G	5.601	5.523	5.192
CF	.000	.656	1.436
PEAE/M (SECONDS)	.000	68.755	23.915
GAMMA	1.210	1.210	1.204
HEAT CAP (CAL)	64.212	63.346	60.775
ENTROPY (CAL)	273.394	273.394	273.394
ENTHALPY (KCAL)	-42.221	-49.232	-75.794
DENSITY (G/CC)	3.74301E-03	2.31245E-03	2.57781E-04
ITERATIONS	18	3	7

GRAMS/100 GRAMS

H2	5.89932	5.86623	5.75839
H2O	8.08407	9.07465	13.03320
HCOOH	.00010	.00007	.00001
CH2O	.00048	.00027	.00002
CH3	.00001	.00000	.00000
CH4	8.91708	8.58383	7.15259
CH3OH	.00002	.00001	.00000
CO	38.92836	35.18261	18.77109
CO2	7.58130	9.31156	17.37360
C2H2	.00001	.00000	.00000
C2H4	.00110	.00052	.00002
C(GRAPHITE)	28.37288	29.80545	35.92352

PROPELLANT	HF	DENSITY	WEIGHT	MOLES	VOLUME
C2H4O	-18.6000	.8750	1.0000	.0227	1.1429

GRAM ATOMS/100 GRAMS  
H 9.0798 O 2.2700 C 4.5399

ENTHALPY = -42.22129      DENSITY = .875  
CSTAR = 3853.01

	CHAMBER	THR(SHIFT)	EXH(SHIFT)
PRESSURE (PSIA)	500.000	288.458	14.700
EPSILON	.000	1.000	6.057
ISP	.000	78.676	183.461
ISP (VACUUM)	.000	147.767	204.788
TEMPERATURE(K)	1223.075	1157.867	895.846
MOLECULAR WEIGHT	18.172	18.416	19.795
MOLES GAS/100G	5.503	5.430	5.052
CF	.000	.657	1.532
PEAE/M (SECONDS)	.000	69.091	21.327
GAMMA	1.204	1.204	1.199
HEAT CAP (CAL)	64.544	63.754	60.384
ENTROPY (CAL)	267.757	267.757	267.757
ENTHALPY (KCAL)	-42.221	-49.332	-80.887
DENSITY (G/CC)	6.16031E-03	3.80459E-03	2.69353E-04
ITERATIONS	5	3	8

GRAMS/100 GRAMS

H2	5.54722	5.52586	5.42292
H2O	8.45055	9.44715	14.24321
HCOOH	.00017	.00011	.00001
CH2O	.00073	.00041	.00001
CH3	.00002	.00001	.00000
CH4	10.15248	9.76968	7.92501
CH3OH	.00005	.00002	.00000
CO	38.40662	34.75524	15.72398
CO2	7.53299	9.18061	18.26967
C2H2	.00001	.00000	.00000
C2H4	.00181	.00087	.00001
C(GRAPHITE)	27.69102	29.14209	36.44845

PROPELLANT	HF	DENSITY	WEIGHT	MOLES	VOLUME
C2H4O	-18.6000	.8750	1.0000	.0227	1.1429

GRAM ATOMS/100 GRAMS  
H 9.0798 O 2.2700 C 4.5399

ENTHALPY = -42.22129      DENSITY = .875  
CSTAR = 3882.58

	CHAMBER	THR(SHIFT)	EXH(SHIFT)
PRESSURE (PSIA)	1000.000	577.056	14.700
EPSILON	.000	1.000	10.456
ISP	.000	79.279	198.565
ISP (VACUUM)	.000	148.917	217.113
TEMPERATURE(K)	1275.246	1205.469	875.407
MOLECULAR WEIGHT	18.647	18.878	20.550
MOLES GAS/100G	5.363	5.297	4.866
CF	.000	.657	1.645
PEAE/M (SECONDS)	.000	69.638	18.548
GAMMA	1.196	1.196	1.193
HEAT CAP (CAL)	65.034	64.362	59.795
ENTROPY (CAL)	260.273	260.273	260.273
ENTHALPY (KCAL)	-42.221	-49.441	-87.515
DENSITY (G/CC)	1.21253E-02	7.49377E-03	2.86155E-04
ITERATIONS	3	3	8

GRAMS/100 GRAMS

H2	5.04597	5.04251	4.95123
H2O	8.94913	9.93977	15.85761
HCOOH	.00034	.00022	.00001
CH2O	.00072	.00072	.00001
CH3	.00003	.00001	.00000
CH4	11.92181	11.47068	9.05200
CH3OH	.00010	.00006	.00000
CO	37.60788	34.10794	12.06897
CO2	7.53851	9.07258	19.13855
C2H2	.00003	.00001	.00000
C2H4	.00363	.00174	.00001
C(GRAPHITE)	26.71592	28.18325	36.98509