

PROPELLANT	HF	DENSITY	WEIGHT	MOLES	VOLUME
AP	-60.2100	1.9500	.7600	.0065	.3897
GAP	33.0000	1.3000	.2400	.0024	.1846

GRAM ATOMS/100 GRAMS

H	3.7985	O	2.8297	N	1.3735	CL	.6469	C	.7266
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ENTHALPY = -30.95538      DENSITY = 1.741  
 CSTAR = 5106.04

	CHAMBER	THR(SHIFT)	EXH(SHIFT)
PRESSURE (PSIA)	300.000	173.200	14.700
EPSILON	.000	1.000	3.967
ISP	.000	104.017	226.948
ISP (VACUUM)	.000	195.643	257.801
TEMPERATURE(K)	3064.399	2905.057	2215.435
MOLECULAR WEIGHT	26.056	26.353	27.355
MOLES GAS/100G	3.838	3.795	3.656
CF	.000	.655	1.430
PEAE/M (SECONDS)	.000	91.626	30.853
GAMMA	1.219	1.217	1.216
HEAT CAP (CAL)	42.461	42.234	40.833
ENTROPY (CAL)	245.946	245.946	245.945
ENTHALPY (KCAL)	-30.955	-43.385	-90.124
DENSITY (G/CC)	2.11528E-03	1.30290E-03	1.50514E-04
ITERATIONS	9	3	7

GRAMS/100 GRAMS

H	.03080	.02296	.00314
H2	.27765	.24242	.14447
HO	1.78606	1.37300	.15290
HO2	.00517	.00292	.00004
H2O	23.94024	24.43764	25.62088
H2O2	.00049	.00027	.00000
O	.22291	.14897	.00424
O2	1.86619	1.46989	.07723
HN	.00002	.00001	.00000
HNO	.00032	.00017	.00000
HNO2	.00006	.00003	.00000
HNO2	.00006	.00003	.00000
H2N	.00002	.00001	.00000
H3N	.00003	.00001	.00000
N	.00010	.00005	.00000
NO	.77131	.56555	.04078
NO2	.00072	.00041	.00000
N2	18.85568	18.95540	19.20872
N2O	.00012	.00007	.00000
CL2	.02350	.01846	.00312
CL	2.94323	2.58659	.68978
CLH	20.21315	20.59348	22.57458
CLHO	.00989	.00661	.00040
CLNO	.00027	.00015	.00000
CLO	.02110	.01333	.00034

HCOOH	.00004	.00002	.00000
CCLO	.00085	.00045	.00002
CHNO	.00001	.00000	.00000
CHO	.00010	.00005	.00000
CO	8.26881	7.33531	3.96494
CO2	18.07401	19.56123	24.92888

PROPELLANT	HF	DENSITY	WEIGHT	MOLES	VOLUME
AP	-60.2100	1.9500	.7600	.0065	.3897
GAP	33.0000	1.3000	.2400	.0024	.1846

GRAM ATOMS/100 GRAMS

H	3.7985	O	2.8297	N	1.3735	CL	.6469	C	.7266
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ENTHALPY = -30.95538      DENSITY = 1.741  
 CSTAR = 5128.27

	CHAMBER	THR(SHIFT)	EXH(SHIFT)
PRESSURE (PSIA)	500.000	288.484	14.700
EPSILON	.000	1.000	5.691
ISP	.000	104.606	242.349
ISP (VACUUM)	.000	196.572	269.017
TEMPERATURE(K)	3110.441	2943.556	2052.394
MOLECULAR WEIGHT	26.165	26.454	27.455
MOLES GAS/100G	3.822	3.780	3.642
CF	.000	.656	1.520
PEAE/M (SECONDS)	.000	91.966	26.668
GAMMA	1.217	1.216	1.219
HEAT CAP (CAL)	42.535	42.304	40.343
ENTROPY (CAL)	242.058	242.059	242.058
ENTHALPY (KCAL)	-30.954	-43.524	-98.425
DENSITY (G/CC)	3.48784E-03	2.14992E-03	1.63068E-04
ITERATIONS	4	3	9

GRAMS/100 GRAMS

H	.02645	.01953	.00117
H2	.26234	.22861	.14302
HO	1.69036	1.28534	.04421
HO2	.00592	.00327	.00000
H2O	24.10056	24.57496	25.60521
H2O2	.00055	.00035	.00000
O	.19083	.12521	.00048
O2	1.69852	1.31479	.00893
HN	.00002	.00001	.00000
HNO	.00039	.00021	.00000
HNO2	.00009	.00004	.00000
HNO2	.00008	.00004	.00000
H2N	.00003	.00001	.00000
H3N	.00004	.00002	.00000
N	.00011	.00005	.00000
NO	.77522	.56161	.00939
NO2	.00075	.00048	.00000
N2	18.85374	18.95716	19.22389
N2O	.00016	.00009	.00000
CL2	.02849	.02222	.00144
CL	2.69978	2.35326	.26960
CLH	20.45471	20.82719	23.00845
CLHO	.01246	.00824	.00013
CLNO	.00038	.00020	.00000
CLO	.02351	.01461	.00005

HCOOH	.00007	.00004	.00000
CCLO	.00103	.00064	.00001
CHNO	.00001	.00000	.00000
CHO	.00014	.00006	.00000
CH2O	.00001	.00000	.00000
CO	8.01977	7.09177	3.60214
CO2	18.47058	19.94861	25.50670

PROPELLANT	HF	DENSITY	WEIGHT	MOLES	VOLUME
AP	-60.2100	1.9500	.7600	.0065	.3897
GAP	33.0000	1.3000	.2400	.0024	.1846

GRAM ATOMS/100 GRAMS

H	3.7985	O	2.8297	N	1.3735	CL	.6469	C	.7266
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ENTHALPY = -30.95538      DENSITY = 1.741  
 CSTAR = 5156.62

	CHAMBER	THR(SHIFT)	EXH(SHIFT)
PRESSURE (PSIA)	1000.000	575.558	14.700
EPSILON	.000	1.000	9.321
ISP	.000	105.529	259.945
ISP (VACUUM)	.000	197.778	281.906
TEMPERATURE(K)	3171.740	2993.718	1815.509
MOLECULAR WEIGHT	26.312	26.587	27.496
MOLES GAS/100G	3.801	3.761	3.637
CF	.000	.658	1.622
PEAE/M (SECONDS)	.000	92.249	21.961
GAMMA	1.215	1.214	1.224
HEAT CAP (CAL)	42.634	42.394	39.472
ENTROPY (CAL)	236.809	236.809	236.809
ENTHALPY (KCAL)	-30.954	-43.747	-108.578
DENSITY (G/CC)	6.87925E-03	4.23878E-03	1.84616E-04
ITERATIONS	4	3	9

GRAMS/100 GRAMS

H	.02128	.01549	.00022
H2	.24213	.21056	.15643
HO	1.55238	1.16059	.00464
HO2	.00698	.00375	.00000
H2O	24.31447	24.75663	25.46617
H2O2	.00067	.00049	.00000
O	.15183	.09681	.00001
O2	1.47310	1.10897	.00016
HN	.00003	.00001	.00000
HNO	.00048	.00028	.00000
HNO2	.00014	.00007	.00000
HNO2	.00013	.00006	.00000
H2N	.00004	.00002	.00000
H3N	.00007	.00004	.00000
N	.00011	.00005	.00000
NO	.77208	.54863	.00063
NO2	.00085	.00059	.00000
N2	18.85521	18.96338	19.22809
N2O	.00023	.00012	.00000
CL2	.03676	.02833	.00031
CL	2.38120	2.04945	.04750
CLH	20.76822	21.13005	23.23838
CLHO	.01690	.01099	.00002
CLNO	.00060	.00031	.00000
CLO	.02683	.01625	.00000

CLO2	.00001	.00000	.00000
HCOOH	.00014	.00007	.00000
CCLO	.00132	.00101	.00000
CHN	.00001	.00000	.00000
CHNO	.00002	.00001	.00000
CHO	.00020	.00009	.00000
CH2O	.00001	.00000	.00000
CO	7.66702	6.75155	3.28968
CO2	19.03216	20.49022	26.00437