



# Propellant Data

**Part Number:** 8644NT-1  
**Propellant Type:** New Blue Thunder™ (0.1% catalyst version)  
**Visual Effect:** Blue-violet flame, low smoke  
**% Solids:** 86  
**Density:** 0.06151 lb/in<sup>3</sup>  
**I<sub>sp</sub> at 1000/14.7 PSI:** 258.5 seconds  
**Burn Rate Exponent:** 0.410  
**Burn Rate Coefficient:** 0.0217

## Thermodynamic Properties at 1000/14.7 PSI:

ENTHALPY = -44.99349      DENSITY = 1.709  
 CSTAR = 5168.42

	CHAMBER	THR(SHIFT)	EXH(SHIFT)
PRESSURE (PSIA)	1000.000	571.922	14.700
EPSILON	.000	1.000	9.070
ISP	.000	106.711	258.466
ISP (VACUUM)	.000	198.586	279.884
TEMPERATURE (K)	3184.414	2968.930	1697.555
MOLECULAR WEIGHT	26.005	26.181	26.512
MOLES GAS/100G	3.845	3.820	3.772
CF	.000	.664	1.609
PEAE/M (SECONDS)	.000	91.876	21.418
GAMMA	1.203	1.203	1.227
HEAT CAP (CAL)	45.378	45.069	40.506
ENTROPY (CAL)	239.143	239.144	239.142
ENTHALPY (KCAL)	-44.994	-58.075	-121.738
DENSITY (G/CC)	6.77201E-03	4.18228E-03	1.90378E-04

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