

**Table 14-1. Comparison of Vehicle-Carried Energy Sources for Rocket Propulsion**

Type	Maximum Theoretical Energy Release (cal/g)
Chemical (O <sub>2</sub> -H <sub>2</sub> )	$3.60 \times 10^3$
Free radical (H + H → H <sub>2</sub> )	$5.26 \times 10^4$
Nuclear fission (100%)	$1.70 \times 10^{10}$
Nuclear fusion	$1.82 \times 10^{11}$
Matter annihilation	$2.15 \times 10^{13}$

G.P. Sutton and D.M. Ross, *Rocket Propulsion Elements*, Wiley, 1976.