JQ.2.18

September 15, 2014

(2.18) Compute the heat of combustion per gram mole of acetonitrile.

Acetonitrile (C_2H_3N) burns to form hydrogen cyanide (HCN), carbon dioxide, and water vapor. Data for heat of formation are provided.

Table 1: Heat of formation

Species	$kcal/gmol$
HCN	32.3
C_2H_3N	21.0
H_2O	-57.8
CO_2	-94.1
O_2	0.0

Note that gram-mole is no longer a commonly used term that refers to either the moles or a substance or on molecular weight basis. One gram mole is the molecular weight.

This problem is similar to previous problems and introduces you to the term “gram-mole”.