Stellar Metamorphosis:
The Total Heat Released as a Result of Ocean Water Formation

Jeffrey J. Wolynski
Jeffrey.wolynski@yahoo.com
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Cocoa, FL

Abstract: A simple calculation is done to show how much energy was released during ocean water formation of Earth's oceans as they currently stand.

It is assumed that hydrogen gas and oxygen gas were diatomic molecules before they combined to make water during stellar evolution. The heat produced from these two molecules combining to make water has a specific enthalpy loss (heat loss), thus making the process an exothermic reaction.
Below is shown the bond enthalpies for multiple bonds.

TABLE 8.4   Average Bond Enthalpies (kJ/mol)

Single Bonds

C—H	413	N—H	391	O—H	463	F—F	155
C—C	348	N—N	163	O—O	146		
C—N	293	N—O	201	O—F	190	Cl—F	253
C—O	358	N—F	272	O—Cl	203	Cl—Cl	242
C—F	485	N—Cl	200	O—I	234		
C—Cl	328	N—Br	243			Br—F	237
C—Br	276			S—H	339	Br—Cl	218
C—I	240	H—H	436	S—F	327	Br—Br	193
C—S	259	H—F	567	S—Cl	253		
		H—Cl	431	S—Br	218	I—Cl	208
Si—H	323	H—Br	366	S—S	266	I—Br	175
Si—Si	226	H—I	299			I—I	151
Si—C	301						
Si—O	368						

Multiple Bonds

C=C	614	N=N	418	O_2	495
C≡C	839	N≡N	941		
C=N	615	N=O	607	S=O	523
C≡N	891			S=S	418
C=O	799				
C≡O	1072				

The bond enthalpies that will be used for this example are O_2 bond enthalpy of ~495-498 Kilojoules/mol which is a double bond, and H_2 which is a single bond of 436 Kilojoules/mol.
Below is the example which will be used:
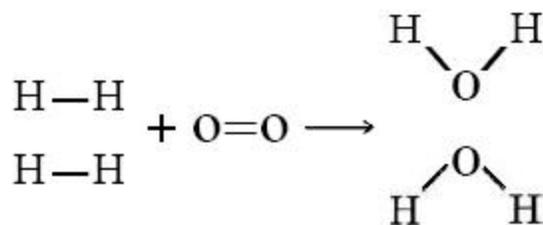
$$\Delta H^\circ = 2D_{H-H} + D_{O=O} - 4D_{O-H}$$

$$\Delta H^\circ = 2 \times 436 \text{ kJ mol}^{-1} + 1 \times 498 \text{ kJ mol}^{-1} - 4 \times 467 \text{ kJ mol}^{-1}$$

$$\Delta H^\circ = -498 \text{ kJ mol}^{-1}$$

      With thermochemistry if there is a net loss of energy as is the loss of -498 kJ mol^{-1} then there is an exothermic reaction. This means that in order to create vast amounts of water, there needed to be vast amounts of energy loss. This energy loss will be calculated below.

1. Volume of Earth's oceans is 1,335,000,000,000,000,000 liters or $1.34*10^{18}$ liters.
2. $1.34*10^{18}$ liters equals $1.34*10^{21}$ cubic centimeters (each cc being 1/18 mol mass of water).
3. Heat given off per mol is 498,000 joules/mol (498 kJ/mol) divided by 18 = 27,000 joules/cc
4. 27 kJ/cc * $1.34*10^{21}$ = 36,000 kJ/cc * 10^{21} = $3.6*10^{25}$ joules of energy released synthesizing all hydrogen gas with oxygen gas to make the water of the Earth's oceans as they currently stand.

      This is a lot of energy created and can be fitted inside of this page where it is needed to give example of $1*10^{25}$ Joules. A very large storm occurred on the Earth that was probably bigger than the Earth itself as water was being synthesized, to dissipate the heat of course.

http://en.wikipedia.org/wiki/Orders_of_magnitude_(energy)