Answer on Question #69821 - Chemistry - Physical Chemistry

Question:

The heat of neutrilisation of LIOH and HCL at 25 deegre C is 34.868 KJ/MOL .then find the heat of ionisation of LIOH

Solution:

It is noted that the heat of neutralization of a strong acid against a strong base at 25 $°C$ is always the same, for example, 57.1 kJ, regardless of which acid or base is used. However, using a weak base and a strong acid such as LiOH and HCl, the heat released is less than 57.1 kJ, which in this case is 34.868 kJ / mol. The reason for the lower value is that part of the allocated heat energy is used in the full ionization of the weak base, that is, in our case LiOH.

Therefore, the heat of ionization LiOH = 57.1 kJ - the heat of neutralization:

$x = 57.1 - 34.868 = 22.232$ kJ / mol.

Answer: 22.232 kJ / mol.