Anyone who has enjoyed a glass of wine has undoubtedly noticed the regular pattern of liquid beads that fall along the inside of the glass commonly referred as 'tears of wine.' This fascinating phenomenon is possible only if there is a flow against gravity in the liquid film that forms on the inside of the glass. In 1855, J. Thomson identified the driving force for the upwards flow necessary for the continuous formation of tears as a gradient in interfacial tension, which is known as a Marangoni stress. Here, we revisit the tears of wine phenomenon using a simple hydrodynamic model and experimental technique. Our results demonstrate that the Marangoni stress responsible for wine tears is the result of both composition and temperature gradients, which is strongly influenced by the thermodynamic behavior of ethanol-water mixtures. In addition, we present a novel theory for the description of interfacial transport phenomena.