The volcanic ash from the volcanic emissions can significantly contribute to the natural source of aerosols in the atmosphere. In the vicinity and downwind of eruption site, the transported ash might have a stronger impact on the aviation industry, regional air quality, and climate. Despite the environmental significance of ash, our understanding of ash particles reacting with other volcanic plume constituents is rudimentary. In particular, the complex interactions between the water vapor and ash particles under different meteorological conditions that lead to cloud hydrometeors are poorly understood. To improve our understanding, we focus on investigating the ice formation properties of ash particles collected from the recent volcanic eruption. It was observed that the ash particles are less efficient ice nuclei compared to the natural dust particles in the deposition nucleation regime, but have similar efficiencies in the condensation freezing mode. The ice nucleated ash particles are separated from the interstitial particles, and further evaporated to understand the elemental composition, size, shape and morphology of the ice residue using the single particle mass spectrometer. The elemental composition reveals that majority of the elements are also present in the natural dust particles, but subtle differences are observed. This suggests that particle properties play an important role in the ice nucleation process. These results along with the ice cloud modeling implications of ash will be presented and discussed.