

Demonstration of vulcanian eruption by means of freezing bottles of soda water

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Vulcanian eruptions are caused by increase of water pressure inside the magma beneath the crater. Water pressures often increase because the crystallization results in the decrease of the proportion of residue liquid and thus water concentrate in the magma, when magma is cooled. Such a volcanic phenomenon is demonstrated in the laboratory using bottles of soda water and dry ice. During the ten trials, seven bottles erupted and the stoppers were thrown out as high as 10 meters above with strong roars.