Corrosion control using inhibitor is an effective method to protect carbon steel from corrosion. Due to environmental toxicity of chemical inorganic corrosion inhibitors (synthetic), green inhibitors are potentially to develop. In atmospheric conditions, green vapour corrosion inhibitors are the best solutions to replace the uses of inorganic corrosion inhibitors. This research used chemical acid extraction from the key lime (citrus aurantiifolia) leaves and seeds. They are used as the main ingredients to produce this effective green corrosion inhibitor. The experiments investigated effects of corrosion inhibition on corrosion rate of low carbon steel in 3% NaCl solution using both fog salt chamber and electrochemical cell. Using salt fog chamber to represent atmospheric conditions, and corrosion rates are evaluated visually and calculated using weight loss methods. Corrosion rate on electrochemical cell were calculated using linear polarization resistance (LPR) methods. All of the experiments were set in natural conditions at pH 7. Using weight loss for three days exposure time, the efficiency of the inhibitor reached 82.39%.