This research presents the correlation between concentration of propylene glycol and the release of diclofenac diethylammonium from carbopol ETD 2020 gel. The influence of propylene glycol 0%, 10%, 15% and 20% on the formula was also evaluated. Release of diclofenac diethylammonium from all formulations was evaluated using type diffusion cells via cellophane synthetic membrane, into phosphate buffer (0.01M pH 6.0). It was found that the gel containing 15% propylene glycol showed the highest release rate, followed by the decrease in the formula containing 20% propylene glycol. This indicated that a maximum release exists from 15% propylene glycol containing gel which provides the solubilized drug in the vehicle. A cosolvent action of propylene glycol was the evident. Statistical analysis of data showed that the maximum flux was $122.117 \pm 3.307 \mu g/cm^2 \text{minute}^{1/2}$. It means that maximum enhancing activity was obtained from gel containing 15% propylene glycol because it increased the flux and decreased the lag time taken to reach a steady state level.