Find the interval of convergence of the power series

$$P(x) = \sum_{k=1}^{\infty} \frac{x^k}{k2^k}$$

$$= \frac{x}{2} + \frac{x^2}{2 \cdot 2^2} + \frac{x^3}{3 \cdot 2^3} + \frac{x^4}{4 \cdot 2^4} + \cdots$$