The null hypothesis specifies the efficacy rate \( \Pr(\text{Eff}) \) that is deemed futile, and the toxicity rate \( \Pr(\text{Tox}) \) that is unacceptably high. \( \Pr(\text{Eff} \& \text{Tox}) \) quantifies the correlation between efficacy and toxicity. Setting \( \Pr(\text{Eff} \& \text{Tox}) = \Pr(\text{Eff}) \times \Pr(\text{Tox}) \) means that efficacy and toxicity are independent; setting \( \Pr(\text{Eff} \& \text{Tox}) > \Pr(\text{Eff}) \times \Pr(\text{Tox}) \) means that efficacy and toxicity are positively correlated; and setting \( \Pr(\text{Eff} \& \text{Tox}) < \Pr(\text{Eff}) \times \Pr(\text{Tox}) \) means that efficacy and toxicity are negatively correlated. The default value of \( \Pr(\text{Eff} \& \text{Tox}) \) provided by software is moderately positively correlated.

Note that given the values of \( \Pr(\text{Eff}) \) and \( \Pr(\text{Tox}) \), \( \Pr(\text{Eff} \& \text{Tox}) \) must satisfy the constraint \( \Pr(\text{Eff}) + \Pr(\text{Tox}) - 1 < \Pr(\text{Eff} \& \text{Tox}) < \min\{\Pr(\text{Eff}), \Pr(\text{Tox})\} \). The left-hand side of the constraint is to ensure that \( \Pr(\text{no Eff} \& \text{no Tox}) > 0 \).