doi:10.1351/goldbook.C01164

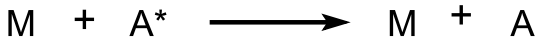
collision efficiency, B_c

Synonym: de-energization efficiency

The collision efficiency, or de-energization efficiency, is defined by:

$$k_{-1} = B_c \, k_{-1}^{sc}$$

where $k_{-1}$is the rate constant for a particular substance M when it brings about the de-energization process



and k_{-1}^{sc} is the corresponding rate constant for a reference molecule M_r that de-energizes A^* on every collision; that is, the reference molecule M_r undergoes strong collisions, and by definition has a collision efficiency B_c of unity. The species A^* is usually in a vibrationally-excited state, and A has energy less than that required for reaction to occur.

Source:
PAC, 1996, *68*, 149 *(A glossary of terms used in chemical kinetics, including reaction dynamics (IUPAC Recommendations 1996))* on page 159

