A radical initiator is a species that acts as the reactant of the initiation step of a radical chain reaction but does not participate in any of the propagation steps.

eg:

In this radical chain reaction, the reactant of the initiation step is the peroxide $\text{1}$. Since $\text{1}$ does not participate in any of the propagation steps, it is a radical initiator.

Since the only function of a radical initiator is the generation of the first radical in the system, it is used in trace amounts. However, the radical initiator of a radical chain reaction is not a catalyst because the reaction does not occur without the radical initiator and because the radical initiator is consumed during the reaction.

Contributors

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