The cognitively stable generalized Nash equilibrium is a solution concept in static games with unawareness (Sasaki 2017). We provide a characterization of this solution concept by applying the concept of “closedness under rational behavior” (CURB) developed by Basu and Weibull (1991). A game with unawareness represents each player's awareness or unawareness (or both) by her type, which is essentially a Cartesian product of nonempty subsets of players' action sets (Perea 2018). CURB is also a property held by such entities. This motivates us to characterize a cognitively stable generalized Nash equilibrium in terms of CURB. The essential notion is a common CURB set, which is the Cartesian products of subsets of players' action sets that are commonly perceived by every type of player. We show that if a static game with unawareness has a common CURB set, then there exists a corresponding cognitively stable generalized Nash equilibrium.