This paper formulates a model of utility for a continuous-time framework that captures the decision-maker's concern with ambiguity or model uncertainty. We adapt to continuous time the multiple priors (or maxmin) model of preference put forth by Gilboa and Schmeidler (1989) for a static setting. Intertemporal utility is recursive and thus implies dynamic consistency, which is the case also for the continuous time model in Chen and Epstein (2002). See Epstein and Schneider (2003) for an axiomatization of the corresponding discrete time model. The main value-added here is in the range of model uncertainty that is accommodated. In the cited paper, and in all other models of continuous time utility of which we are aware, all probability measures entertained by the decision-maker are assumed to be equivalent to a fixed reference probability measure. Thus there is no ambiguity about which scenarios are possible. Here we generalize the Chen-Epstein model by dropping this requirement. We do this while maintaining a separation between risk aversion and intertemporal substitution (as in Duffie and Epstein (1992)).