Copper-based catalysts are of comparable importance for industrial reactions, e.g., partial oxidation reactions, as silver catalysts. $Ag_2Cu_2O_3$ is known as the first silver cuprate, synthesized at comfortable conditions. The studies were based on the presumption that this compound possibly combines the catalytic activity of both metals. A broad study was made of the catalytic activity of silver cuprate in model redox reactions, e.g., oxidative coupling of methane, deNOx, and dehydrogenation of ethane with thermoanalytic techniques (TG/TDA), temperature-programmed oxidation and reduction (TPO/TPR), and thermal desorption spectroscopy (TDS) together with photoelectron spectroscopy (XPS). Scanning electron microscopy (SEM), tunneling electron microscopy (TEM), and XRD were also used to characterize the catalyst.