Among the edible vegetable oils sold worldwide, the olive (Olea europaea) is one of the most important and ancient. With absolutely perfect taste and aroma, the extra virgin is considered the highest quality among all types of olive oils. The chemical, biological, nutritional and organoleptic characteristics of olive oil make a unique product greatly appreciated. The Santa Maria’s Olive Trees, situated in Gamarra Valley in MG, in a partnership with EMATER and EPAMIG, produced the first harvest of organic olive oil in the country. Considering the situation, it is important and necessary to study the characteristics of this Brazilian olive oil within the national quality standards established by ANVISA for classification of extra virgin olive oil and also evaluate the fraction of unsaponifiable compounds that contain micronutrients that protect the body against external agents and diseases. The purpose of this job was to evaluate the quality of the national organic extra virgin olive oil, according to the classification standards of ANVISA, following the methods suggested by AOCS. The composition of Fatty Acids, the free fatty acids (0.14%), the peroxide index (10.15 mequiv 0₂/kg), the iodine index (83.19 g I₂/100 g), the specific extinction coefficient (k₂₇₀ 0.14 e k₂₃₂1.72), unsaponifiable matter (0.61%), instrumental color (L*41.56, C*65.68 e h° 85.44), chlorophyll (21.34 mg/Kg), α-tocopherol (25.62mg/100g) and total phenols (152.5 mg/Kg) evaluated in the national organic olive oil are conformed with the classification standards of extra virgin olive oil by resolutions 270/2005 of ANVISA and the normative instruction 1/2012 of MAPA.