This study aimed on determining the contents and profiles of isoflavones and soya saponins in soy-based infant formulas, and estimating the intake of these compounds by infants. Seven formulas were acquired in markets and their isoflavones and soya saponins contents were determined by LC-DAD-MS after ultra-extraction with 80% methanol and SPE cleaning. The daily intake of isoflavones and soya saponins for each age was calculated from the total contents of these compounds found in the formulas, the adequate weight of infants according to age, and the manufacturer’s directions. Isoflavones contents ranged from 12.2 to 46.3 mg/100g, with an average of 33.0 mg/100g. β-D-glycoside-isoflavones (genistin, daidzin and glicitin) was the predominant subclass found in the samples, corresponding to 50.8%, on average, of total isoflavones. Isoflavones containing the aglycones genistein and daidzein in their structure were found in similar proportions in the samples, on average 47.7% and 46.2%, respectively. Saponins contents ranged from 25.0 to 254.0 mg/100g, with an average of 77.8 mg/100g. The majority saponin was soyasaponin-B-I, corresponding for 77.6% of total saponins, on average. The estimated daily intake of isoflavones ranged from 2 to 7 mg/kg of body weight, with an average of 4 mg/kg. This intake is 5 to 18 times higher than that estimated for the Asian adult population (0.4 mg/kg). The estimated daily intake of soyasaponins ranged from 4 to 57 mg/kg, with an average of 16 mg/kg. The potential biological effects of such high doses of isoflavones and soya saponins in infants fed with soy-based formulas merits further investigation.