Twelve 9- to 12-year-old children performed four exercise-in-the-heat trials (35°C, 45% RH), which differed in the fluids consumed. In each trial, subjects were kept euhydrated while cycling one 20-min and two 15-min bouts at 50% peak VO$_2$ followed by a 90% peak VO$_2$ bout until exhaustion. Thereafter, they could drink ab libitum while resting. One drink was water, and the other three drinks had 6% CHO with different Na+: 0, 8.8, and 18.5 mEq·L$^-1$. All drinks had the same grape flavor. The perceived thirst was similar among trials and it did not increase while subjects were exercising. On average, subjects felt their stomach “somewhat full” with no difference among drinks. Thermal sensations, RPE, and overall comfort were similar among trials. During a 30-min recovery, volume intake was similar among drinks (201 ± 27 ml). In conclusion, the drink composition did not affect perceptual responses to drinking while euhydrated children exercised in the heat, nor did it affect drinking behavior during recovery.