

TABLE 1

pH of waters and sports drinks.*

WATERS AND SPORTS DRINKS	pH (STANDARD DEVIATION)
Extremely Erosive	
Activ Water Focus Dragonfruit	2.82 (0.04)
Activ Water Vigor Triple Berry	2.67 (0.01)
Gatorade Frost Riptide Rush	2.99 (0.01)
Gatorade Lemon-Lime	2.97 (0.01)
Gatorade Orange	2.99 (0.00)
Powerade Fruit Punch	2.77 (0.01)
Powerade Grape	2.77 (0.01)
Powerade Lemon Lime	2.75 (0.01)
Powerade Mountain Berry Blast	2.82 (0.01)
Powerade Orange	2.75 (0.02)
Powerade Sour Melon	2.73 (0.00)
Powerade Strawberry Lemonade	2.78 (0.01)
Powerade White Cherry	2.81 (0.01)
Powerade Zero Grape	2.97 (0.01)
Powerade Zero Lemon Lime	2.92 (0.00)
Powerade Zero Mixed Berry	2.93 (0.01)
Powerade Zero Orange	2.93 (0.01)
Erosive	
Activ Water Power Strawberry Kiwi	3.38 (0.03)
Clear American (flavored water) Kiwi Strawberry	3.70 (0.01)
Clear American (flavored water) Pomegranate Blueberry Acai	3.24 (0.01)
Clear American (flavored water) Tropical Fruit	3.07 (0.01)
Clear American (flavored water) White Grape	3.43 (0.01)
Dasani Grape	3.05 (0.01)
Dasani Lemon	3.03 (0.01)
Dasani Strawberry	3.03 (0.01)
Gatorade Blueberry Pomegranate Low Calorie	3.21 (0.01)
Gatorade Fierce Grape	3.05 (0.00)
Gatorade Fierce Melon	3.05 (0.00)
Gatorade Fruit Punch	3.01 (0.01)
Gatorade Rain Berry	3.17 (0.01)
Gatorade Rain Lime	3.19 (0.01)
Gatorade Rain Strawberry Kiwi	3.17 (0.01)
Propel Berry	3.01 (0.00)
Propel Grape	3.10 (0.01)
Propel Kiwi Strawberry	3.17 (0.00)
Propel Lemon	3.03 (0.00)
S. Pellegrino Sparkling Natural Mineral Water	4.96 (0.09)
Skinny Water Acai Grape Blueberry	3.81 (0.02)
Skinny Water Goji Fruit Punch	3.67 (0.01)
Skinny Water Raspberry Pomegranate	3.68 (0.01)
Sobe Life Water Acai Fruit Punch	3.22 (0.01)
Sobe Life Water Blackberry Grape	3.15 (0.01)
Sobe Life Water Cherimoya Punch	3.28 (0.00)
Sobe Life Water Fuji Apple Pear	3.53 (0.01)
Sobe Life Water Mango Melon	3.29 (0.01)
Sobe Life Water Strawberry Dragonfruit	3.32 (0.01)

* For manufacturer information, please see the Appendix (available online at the end of this article).

TABLE 1 (CONTINUED)

WATERS AND SPORTS DRINKS	pH (STANDARD DEVIATION)
Vidration Vitamin Enhanced Water Defense Pomegranate-Acai-Blueberry	2.92 (0.01)
Vidration Vitamin Enhanced Water Energy Tropical Citrus	2.91 (0.01)
Vidration Vitamin Enhanced Water Multi-V Lemon Lime	3.59 (0.01)
Vidration Vitamin Enhanced Water Recover Fruit Punch	3.61 (0.01)
Vitamin Water Connect Black Cherry-Lime	2.96 (0.01)
Vitamin Water Dwnld Berry-Cherry	3.04 (0.01)
Vitamin Water Energy Tropical Citrus	3.15 (0.01)
Vitamin Water Essential Orange-Orange	3.23 (0.00)
Vitamin Water Focus Kiwi-Strawberry	3.04 (0.01)
Vitamin Water Multi-V Lemonade	3.19 (0.01)
Vitamin Water Power C Dragonfruit	3.05 (0.00)
Vitamin Water Revive Fruit Punch	3.65 (0.01)
Vitamin Water Spark Grape-Blueberry	3.19 (0.01)
Vitamin Water XXX Acai-Blueberry-Pomegranate	2.98 (0.01)
Vitamin Water Zero Go-Go Mixed Berry	3.08 (0.01)
Vitamin Water Zero Mega C Grape-Raspberry	3.05 (0.00)
Vitamin Water Zero Recoup Peach-Mandarin	3.01 (0.01)
Vitamin Water Zero Rise Orange	3.46 (0.00)
Vitamin Water Zero Squeezed Lemonade	3.19 (0.00)
Vitamin Water Zero XXX Acai-Blueberry-Pomegranate	3.05 (0.01)
Minimally Erosive	
Aquafina regular	6.11 (0.23)
Birmingham, Alabama, municipal water	7.20 (0.05)
Dasani regular	5.03 (0.04)
Perrier carbonated mineral water	5.25 (0.10)

substance naturally occurring in citrus drinks and added to many others, imparts a tangy flavor and functions as a preservative. Malic acid occurs naturally in apples, pears, and cherries, and is added to many noncarbonated beverages such as fruit drinks, fortified juices, sports drinks, and iced teas because it enhances the intrinsic flavor. Malic acid also is added to artificially sweetened carbonated beverages to intensify taste and reduce the amount of other added flavorings. These additives give the beverage its distinctive sugar and acid signature taste.

Dental erosion is the irreversible acidic dissolution of surface tooth structure by chemical means in the absence of microorganisms. It primarily occurs when hydrogen ions interact with the surface fluorapatite and hydroxyapatite crystals after diffusion through plaque-pellicle biofilm—a process termed proton-promoted dissolution.¹² Erosion may initially progress through the enamel

ABBREVIATION KEY. NIDCR: National Institute of Dental and Craniofacial Research.