

an animal model of Parkinson's disease (Ito, M. et al. 2012). This further illustrates the need for more scientific research to elucidate the optimal doses, timing, and methods of administration.

Based on the above human studies, and current guidelines for ingesting water, we have set the maximal volume as 1 L per day for water and 500 mL per day for specialty beverages (e.g. juice, carbonated drinks, teas, etc.).

Certification Criteria

Packaged hydrogen water:

- 1) provides at least 0.5 mg per 1 L serving
 - a. minimum concentration is 0.5 mg/L
 - b. drinking 1 L of water is practical for most people
- 2) passes safety test for toxins/heavy metals
- 3) maintains minimum concentration of 0.5 mg/L
 - a. until the stated expiration date
 - b. or for at least six (6) months if not stated
- 4) pH must not exceed 9.5
- 5) no false or damaging marketing claims that could harm the credibility of the hydrogen research and industry

Specialty beverages

- 1) provides at least 0.5 mg per 500 mL serving
 - a. minimum concentration is 1 mg/L
 - b. drinking more than 500 mL of a H₂-rich beverage may not be recommended for health
 - c. however, each beverage will be evaluated on a case-by-case basis.
 - i. If an H₂ product contains stimulants or other potentially harmful ingredients where even 500 mL is too high of a volume.
- 2) passes safety test for toxins/heavy metals
- 3) maintains minimum concentration of 1 mg/L:
 - a. until the stated expiration date
 - b. or for at least six (6) months if not stated
- 4) pH can range from 3 to 10
- 5) no false or damaging marketing claims that could harm the credibility of the hydrogen research and industry

Hydrogen-water generating devices

- 1) provides at least 0.5 mg per liter serving regardless of source water composition being used in the device (e.g. RO water or mineral water with a pH range of 5.8 to 8.6, current water guidelines)
- 2) passes safety test for toxins/heavy metals
- 3) produces the minimum concentration of 0.5 mg/L (either a and/or b):
 - a. for the duration of the manufacture warranty
 - b. for at least 1 year if not stated (this may be given in "cumulative operating hours)" not calendar time.