CLAIMS

1. A thermal stable edible formulation comprising:

particles comprising one or more therapeutic agents, prophylactic agents, nutraceutical agents, diagnostic agents, or combinations thereof

a matrix formed of inert excipient having the particles dispersed therein, and

a pH-sensitive polymer coating on the outer surface of, or surrounding, the matrix, in which the polymer coating is resistant to permeation of water into the matrix and provides release of the particles upon exposure to a defined pH, in which the formulation is stable for one hour at 100°C.

2. A formulation according to Claim 1, in which the particles comprise vitamins, trace minerals, micronutrients, or combinations thereof.

3. A formulation according to Claim 1 or 2, in which the matrix is partially or wholly formed of materials selected from the group consisting of salts, sugars, carbohydrates, oils, fats, waxes, proteins, and combinations thereof.

4. A formulation according to Claim 1, 2 or 3, in which the matrix is partially or wholly formed of a hydrogel.

5. A formulation according to Claim 4, in which the hydrogel is formed of one or more polymers selected from the group consisting of hyaluronic acid, cyclodextrin, collagen, alginate, chitin, polyethylene glycol and copolymers thereof, ethylene glycol dimethacrylate, hydroxyethyl methacrylate, poly(butylene oxide), polycaprolactone, poly(ethylene oxide) and copolymers thereof, poly(ethylene imine), poly(ethyl methacrylate), propylene fumarate, poly(hydroxy butyrate), poly(hydroxyethyl methacrylate), poly(hydroxypropyl methacrylamide), poly(lactic acid), poly(lactic-co-glycolic acid), poly(N-vinyl pyrrolidone), poly(propylene oxide), poly(vinyl alcohol), poly(vinyl acetate), and poly(vinyl amine).

6. A formulation according to any preceding claim, in which the polymer coating comprises one or more pH-sensitive polymers that dissolve at a pH from about 1-5, preferably from about 1-3, more preferably from about 1-2.

7. A formulation according to any of Claims 1 to 5, in which the polymer coating comprises one or more pH-sensitive polymers that dissolve at a pH from about 5-8, preferably from about 5-7, more preferably from about 5-6.

8. A formulation according to any preceding claim, in which the pH-sensitive polymer is selected from the group consisting of poly(butylmethacrylate)-co-(dimethylaminoethyl)-co-(methylmethacrylate), cationic polymers, polymers that become cationic under physiological conditions, and combinations thereof.

9. A formulation according to any preceding claim, in which the pH-sensitive polymer is selected from the group consisting of polymethacrylates containing functional groups that form salts at a pH greater than 5.0, naturally occurring cellulosic polymers, polysaccharides, polyvinyl acetate phthalate, shellac, fatty acids, waxes, plastics, plant fibers, and combinations thereof.

10. A formulation according to any of Claims 2 to 9, in which the vitamins, trace minerals, and micronutrients are selected from the group consisting of iron, zinc, manganese, copper, iodine, selenium, molybdenum, chromium, vitamin A, vitamin B1, vitamin B2, vitamin B3, vitamin B6, vitamin B9 (folic acid), vitamin B12, vitamin C, vitamin D3, vitamin E, vitamin K, pantothenic acid, biotin, and combinations thereof.

11. A formulation according to any preceding claim further comprising anti-parasitic agents.

12. A formulation according to Claim 11, in which the anti-parasitic agents are selected from the group consisting of antinematodes, anticestodes, antitrematodes, antiamoebics, antiprotozoals, and combinations thereof.

13. A formulation according to Claim 12, in which the antinematodes are selected from the group consisting of mebendazole, pyrantel pamoate, thiabendazole, diethylcarbamazine, ivermectin, and combinations thereof.

14. A formulation according to Claim 12, in which the anticestodes are selected from the group consisting of niclosamine, praziquantel, albendazole, and combinations thereof.

15. A formulation according to Claim 3, in which the salt of the salt coating is selected from the group consisting of sodium or potassium chloride, magnesium chloride, potassium iodide, phosphates, and combinations thereof.

16. A non-therapeutic method of providing salt, trace minerals, vitamins, micronutrients, or combinations thereof, the method comprising providing an effective amount of the formulation according to any of Claims 1 to 10 and 15 to an individual in need thereof.

17. A method according to Claim 16, in which the formulation is provided for cooking.

18. A method according to Claim 16, in which the formulation is provided in bulk form to agricultural animals.

19. Use of an effective amount of the formulation of any of Claims 11 to 14 in the preparation of a medicament for treating a parasitic infection.