

# FAT-SOLUBLE VITAMINS & ZINC

| VITAMINS                                                                                                                                                     |                                                                                                                              |                                                                  | GUIDELINES FOR VITAMIN D MANAGEMENT <sup>1</sup>                                                                    |                                                                |                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| (NP = No Equivalent Product)                                                                                                                                 |                                                                                                                              |                                                                  | STEP 1                                                                                                              |                                                                | STEP 2                                                                                                                     |
| MVW Complete Formulation®<br>Drops <sup>4</sup><br>Chewables <sup>5</sup><br>ADEK Gummies <sup>6</sup><br>Softgels <sup>8</sup> / Softgel Minis <sup>7</sup> | MVW Modulator Formulation®<br>Drops <sup>4</sup><br>Chewables <sup>5</sup> (Available Q3 2024)<br>Softgel Minis <sup>7</sup> | DEKAs Plus<br>Drops <sup>4</sup><br>Chewables <sup>5</sup>       | MVW Complete Formulation®<br>Hi-D Drops <sup>4</sup><br>D3000 Chewables <sup>5</sup><br>D3000 Softgels <sup>8</sup> | DEKAs Plus<br>Softgels <sup>8</sup>                            | MVW Complete Formulation®<br>D5000 Chewables <sup>5</sup><br>ADEK Hi-D Gummies <sup>6</sup><br>D5000 Softgels <sup>8</sup> |
| Total Vitamin A IU / mcg Retinol Activity Equivalents (RAE) (Retinol and Beta Carotene)                                                                      |                                                                                                                              |                                                                  |                                                                                                                     |                                                                |                                                                                                                            |
| 4,627 IU / 1,388 mcg RAE / 0.5 ml<br>(75% as beta carotene)                                                                                                  | 3,566 IU / 2,000 mcg RAE / 3 ml<br>(93% as beta carotene)                                                                    | 5,751 IU / 1,725 mcg RAE / 1 ml<br>(87% as beta carotene)        | 4,627 IU / 1,388 mcg RAE / 0.5 ml<br>(75% as beta carotene)                                                         | NP                                                             | NP                                                                                                                         |
| 9,254 IU / 2,777 mcg RAE / 1 ml<br>(75% as beta carotene)                                                                                                    | 7,132 IU / 4,000mcg RAE / 6 ml<br>(93% as beta carotene)                                                                     | 11,502 IU / 3,454 mcg RAE / 2 ml<br>(87% as beta carotene)       | 9,254 IU / 2,777 mcg RAE / 1 ml<br>(75% as beta carotene)                                                           | NP                                                             | NP                                                                                                                         |
| 16,000 IU / 4,800 mcg RAE / 1 chewable<br>(88% as beta carotene)                                                                                             | 11,730 IU / 6,800 mcg RAE / 2 chewables<br>(96.5% as beta carotene)                                                          | 18,167 IU / 5,450 mcg RAE / 1 chewable<br>(92% as beta carotene) | 16,000 IU / 4,800 mcg RAE / 1 chewable<br>(88% as beta carotene)                                                    | NP                                                             | 16,000 IU / 4,800 mcg RAE / 1 chewable<br>(88% as beta carotene)                                                           |
| 16,000 IU / 4,800 mcg RAE / 2 gummies<br>(88% as beta carotene)                                                                                              | NP                                                                                                                           | NP                                                               | NP                                                                                                                  | NP                                                             | 16,000 IU / 4,800 mcg RAE / 2 gummies<br>(88% as beta carotene)                                                            |
| 32,000 IU / 9,600 mcg RAE / 2 softgels or 4 minis<br>(88% as beta carotene)                                                                                  | 40,000 IU / 12,000 mcg RAE / 4 softgel minis<br>(96.5% as beta carotene)                                                     | NP                                                               | 32,000 IU / 9,600 mcg RAE / 2 softgels<br>(88% as beta carotene)                                                    | 18,167 IU / 5450 mcg RAE / 1 softgel<br>(92% as beta carotene) | 32,000 IU / 9,600 mcg RAE / 2 softgels<br>(88% as beta carotene)                                                           |
| Vitamin D IU / mcg                                                                                                                                           |                                                                                                                              |                                                                  |                                                                                                                     |                                                                |                                                                                                                            |
| 750 IU / 19 mcg / 0.5 ml                                                                                                                                     | 750 IU / 19 mcg / 3 ml                                                                                                       | 750 IU / 18.8 mcg / 1 ml                                         | 1,500 IU / 38 mcg / 0.5 ml                                                                                          | NP                                                             | NP                                                                                                                         |
| 1,500 IU / 38 mcg / 1 ml                                                                                                                                     | 1,500 IU / 38 mcg / 6 ml                                                                                                     | 1,500 IU / 37.5 mcg / 2 ml                                       | 3,000 IU / 76 mcg / 1 ml                                                                                            | NP                                                             | NP                                                                                                                         |
| 1,500 IU / 37.5 mcg / 1 chewable                                                                                                                             | 1,516 IU / 37.9 mcg / 2 chewables                                                                                            | 2,000 IU / 50 mcg / 1 chewable                                   | 3,000 IU / 75 mcg / 1 chewable                                                                                      | NP                                                             | 5,000 IU / 125 mcg / 1 chewable                                                                                            |
| 1,500 IU / 37.5 mcg / 2 gummies                                                                                                                              | NP                                                                                                                           | NP                                                               | NP                                                                                                                  | NP                                                             | 5,000 IU / 125 mcg / 2 gummies                                                                                             |
| 3,000 IU / 75 mcg / 2 softgels or 4 minis                                                                                                                    | 3,000 IU / 75 mcg / 4 softgel minis                                                                                          | NP                                                               | 6,000 IU / 150 mcg / 2 softgels                                                                                     | 3,000 IU / 75 mcg / 1 softgel                                  | 10,000 IU / 250 mcg / 2 softgels                                                                                           |
| Vitamin E IU / mg (MVW Softgel Minis, Modulator Formulation and DEKAs Also Contain Mixed Tocopherols)                                                        |                                                                                                                              |                                                                  |                                                                                                                     |                                                                |                                                                                                                            |
| 50 IU / 34 mg / 0.5 ml                                                                                                                                       | 37 IU / 25 mg / 3 ml                                                                                                         | 50 IU / 33.6 mg / 1 ml                                           | 50 IU / 34 mg / 0.5 ml                                                                                              | NP                                                             | NP                                                                                                                         |
| 100 IU / 67 mg / 1 ml                                                                                                                                        | 76 IU / 50 mg / 6 ml                                                                                                         | 100 IU / 67.1 mg / 2 ml                                          | 100 IU / 67 mg / 1 ml                                                                                               | NP                                                             | NP                                                                                                                         |
| 200 IU / 134 mg / 1 chewable                                                                                                                                 | 119.4 IU / 80 mg / 2 chewables                                                                                               | 100 IU / 67 mg / 1 chewable                                      | 200 IU / 134 mg / 1 chewable                                                                                        | NP                                                             | 200 IU / 134 mg / 1 chewable                                                                                               |
| 200 IU / 134 mg / 2 gummies                                                                                                                                  | NP                                                                                                                           | NP                                                               | NP                                                                                                                  | NP                                                             | 200 IU / 134 mg / 2 gummies                                                                                                |
| 400 IU / 268 mg / 2 softgels or 4 minis                                                                                                                      | 238 IU / 160 mg / 4 softgel minis                                                                                            | NP                                                               | 400 IU / 268 mg / 2 softgels                                                                                        | 150 IU / 100.6 mg / 1 softgel                                  | 400 IU / 268 mg / 2 softgels                                                                                               |
| Vitamin K mcg                                                                                                                                                |                                                                                                                              |                                                                  |                                                                                                                     |                                                                |                                                                                                                            |
| 500 mcg / 0.5 ml                                                                                                                                             | 500 mcg / 3 ml                                                                                                               | 500 mcg / 3 ml                                                   | 500 mcg / 0.5 ml                                                                                                    | NP                                                             | NP                                                                                                                         |
| 1,000 mcg / 1 ml                                                                                                                                             | 1,000 mcg / 6 ml                                                                                                             | 1,000 mcg / 6 ml                                                 | 1,000 mcg / 1 ml                                                                                                    | NP                                                             | NP                                                                                                                         |
| 1,000 mcg / 1 chewable                                                                                                                                       | 800 mcg / 2 chewables                                                                                                        | 1,000 mcg / 1 chewable                                           | 1,000 mcg / 1 chewable                                                                                              | NP                                                             | 1,000 mcg / 1 chewable                                                                                                     |
| 800 mcg / 2 gummies                                                                                                                                          | NP                                                                                                                           | NP                                                               | NP                                                                                                                  | NP                                                             | 800 mcg / 2 gummies                                                                                                        |
| 1,600 mcg / 2 softgels<br>2,000 mcg / 4 minis                                                                                                                | 1,600 mcg / 4 softgel minis                                                                                                  | NP                                                               | 1,600 mcg / 2 softgels                                                                                              | 1,000 mcg / 1 softgel                                          | 1,600 mcg / 2 softgels                                                                                                     |
| Zinc mg                                                                                                                                                      |                                                                                                                              |                                                                  |                                                                                                                     |                                                                |                                                                                                                            |
| 5 mg / 0.5 ml                                                                                                                                                | 5 mg / 3 ml                                                                                                                  | 5 mg / 1 ml                                                      | 5 mg / 0.5 ml                                                                                                       | NP                                                             | NP                                                                                                                         |
| 10 mg / 1 ml                                                                                                                                                 | 10 mg / 6 ml                                                                                                                 | 10 mg / 2 ml                                                     | 10 mg / 1 ml                                                                                                        | NP                                                             | NP                                                                                                                         |
| 15 mg / 1 chewable                                                                                                                                           | 10 mg / 2 chewables                                                                                                          | 10 mg / 1 chewable                                               | 15 mg / 1 chewable                                                                                                  | NP                                                             | 15 mg / 1 chewable                                                                                                         |
| 10 mg / 2 gummies                                                                                                                                            | NP                                                                                                                           | NP                                                               | NP                                                                                                                  | NP                                                             | 10 mg / 2 gummies                                                                                                          |
| 20 mg / 2 softgels or 4 minis                                                                                                                                | 20 mg / 4 softgel minis                                                                                                      | NP                                                               | 20 mg / 2 softgels                                                                                                  | 10 mg / 1 softgel                                              | 20 mg / 2 softgels                                                                                                         |

| WATER-SOLUBLE VITAMINS & ANTIOXIDANTS                                                                  |                                                               |                                    |                                                                     |                                   |                                                        |
|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------|---------------------------------------------------------------------|-----------------------------------|--------------------------------------------------------|
| VITAMINS                                                                                               |                                                               |                                    | STEP 1                                                              |                                   | STEP 2                                                 |
| MVW Complete Formulation®<br>Drops, Chewables,<br>Softgels / Softgel Minis                             | MVW Modulator Formulation®<br>Drops, Chewables, Softgel Minis | DEKAs Plus<br>Drops, Chewables     | MVW Complete Formulation®<br>Hi-D Drops, D3000 Chewables & Softgels | DEKAs Plus<br>Softgels            | MVW Complete Formulation®<br>D5000 Chewables &Softgels |
| Thiamin Vitamin B-1 mg                                                                                 |                                                               |                                    |                                                                     |                                   |                                                        |
| 0.5 mg / 0.5 ml                                                                                        | -                                                             | 0.6 mg / 1 ml                      | 0.5 mg / 0.5 ml                                                     | NP                                | NP                                                     |
| 1 mg / 1 ml                                                                                            | -                                                             | 1.2 mg / 2 ml                      | 1 mg / 1 ml                                                         | NP                                | NP                                                     |
| 1.5 mg / 1 chewable                                                                                    | -                                                             | 1.5 mg / 1 chewable                | 1.5 mg / 1 chewable                                                 | NP                                | 1.5 mg / 1 chewable                                    |
| 3 mg / 2 softgels or 4 minis                                                                           | -                                                             | NP                                 | 3 mg / 2 softgels                                                   | 1.5 mg / 1 softgel                | 3 mg / 2 softgels                                      |
| Riboflavin Vitamin-B2 mg                                                                               |                                                               |                                    |                                                                     |                                   |                                                        |
| 0.6 mg / 0.5 ml                                                                                        | -                                                             | 0.6 mg / 1 ml                      | 0.6 mg / 0.5 ml                                                     | NP                                | NP                                                     |
| 1.2 mg / 1 ml                                                                                          | -                                                             | 1.2 mg / 2 ml                      | 1.2 mg / 1 ml                                                       | NP                                | NP                                                     |
| 1.7 mg / 1 chewable                                                                                    | -                                                             | 1.7 mg / 1 chewable                | 1.7 mg / 1 chewable                                                 | NP                                | 1.7 mg / 1 chewable                                    |
| 3.4 mg / 2 softgels or 4 minis                                                                         | -                                                             | NP                                 | 3.4 mg / 2 softgels                                                 | 1.7 mg / 1 softgel                | 3.4 mg / 2 softgels                                    |
| Vitamin B-3 (as Niacinamide) mg Niacin Equivalents (NE)                                                |                                                               |                                    |                                                                     |                                   |                                                        |
| 6 mg / 0.5 ml                                                                                          | -                                                             | 6 mg / 1 ml                        | 6 mg / 0.5 ml                                                       | NP                                | NP                                                     |
| 12 mg / 1 ml                                                                                           | -                                                             | 12 mg / 2 ml                       | 12 mg / 1 ml                                                        | NP                                | NP                                                     |
| 10 mg / 1 chewable                                                                                     | -                                                             | 10 mg / 1 chewable                 | 10 mg / 1 chewable                                                  | NP                                | 10 mg / 1 chewable                                     |
| 40 mg / 2 softgels / 4 minis                                                                           | -                                                             | NP                                 | 40 mg / 2 softgels                                                  | 10 mg / 1 softgel                 | 40 mg / 2 softgels                                     |
| Pyridoxine HCL Vitamin-B6 mg                                                                           |                                                               |                                    |                                                                     |                                   |                                                        |
| 0.6 mg / 0.5 ml                                                                                        | -                                                             | 0.6 mg / 1 ml                      | 0.6 mg / 0.5 ml                                                     | NP                                | NP                                                     |
| 1.2 mg / 1 ml                                                                                          | -                                                             | 1.2 mg / 2 ml                      | 1.2 mg / 1 ml                                                       | NP                                | NP                                                     |
| 1.9 mg / 1 chewable                                                                                    | -                                                             | 1.9 mg / 1 chewable                | 1.9 mg / 1 chewable                                                 | NP                                | 1.9 mg / 1 chewable                                    |
| 3.8 mg / 2 softgels / 4 minis                                                                          | -                                                             | NP                                 | 3.8 mg / 2 softgels                                                 | 1.9 mg / 1 softgel                | 3.8 mg / 2 softgels                                    |
| Vitamin B-12 mcg – Liquid Formulations Do Not Contain B12                                              |                                                               |                                    |                                                                     |                                   |                                                        |
| 6 mcg / 1 chewable                                                                                     | -                                                             | 12 mcg / 1 chewable                | 6 mcg / 1 chewable                                                  | NP                                | 6 mcg / 1 chewable                                     |
| 12 mcg / 2 softgels or 4 minis                                                                         | -                                                             | NP                                 | 12 mcg / 2 softgels                                                 | 12 mcg / 1 softgel                | 12 mcg / 2 softgels                                    |
| Biotin mcg                                                                                             |                                                               |                                    |                                                                     |                                   |                                                        |
| 15 mcg / 0.5 ml                                                                                        | -                                                             | 15 mcg / 1 ml                      | 15 mcg / 0.5 ml                                                     | NP                                | NP                                                     |
| 30 mcg / 1 ml                                                                                          | -                                                             | 30 mcg / 2 ml                      | 30 mcg / 1 ml                                                       | NP                                | NP                                                     |
| 100 mcg / 1 chewable                                                                                   | -                                                             | 100 mcg / 1 chewable               | 100 mcg / 1 chewable                                                | NP                                | 100 mcg / 1 chewable                                   |
| 200 mcg / 2 softgels or 4 minis                                                                        | -                                                             | NP                                 | 200 mcg / 2 softgels                                                | 100 mcg / 1 softgel               | 200 mcg / 2 softgels                                   |
| Folic Acid mcg / mcg Dietary Folate Equivalents (DFE ) – Liquid Formulations Do Not Contain Folic Acid |                                                               |                                    |                                                                     |                                   |                                                        |
| 200 mcg / 340 mcg DFE / 1 chewable                                                                     | -                                                             | 200 mcg / 340 mcg DFE / 1 chewable | 200 mcg / 340 mcg DFE / 1 chewable                                  | NP                                | 200 mcg / 340 mcg DFE / 1 chewable                     |
| 400 mcg / 680 mcg DFE / 2 softgels or 4 minis                                                          | -                                                             | NP                                 | 400 mcg / 680 mcg DFE / 2 softgels                                  | 200 mcg / 340 mcg DFE / 1 softgel | 400 mcg / 680 mcg DFE / 2 softgels                     |
| Vitamin C mg (as Sodium Ascorbate, Zinc Ascorbate or Ascorbic Acid) – Varies By Product                |                                                               |                                    |                                                                     |                                   |                                                        |
| 45 mg / 0.5 ml                                                                                         | 150 mg / 3 ml                                                 | 45 mg / 1 ml                       | 45 mg / 0.5 ml                                                      | NP                                | NP                                                     |
| 90 mg / 1 ml                                                                                           | 300 mg / 6 ml                                                 | 90 mg / 2 ml                       | 90 mg / 1 ml                                                        | NP                                | NP                                                     |
| 100 mg / 1 chewable                                                                                    | 400 mg / 2 chewables                                          | 70 mg / 1 chewable                 | 100 mg / 1 chewable                                                 | NP                                | 100 mg / 1 chewable                                    |
| 200 mg / 2 softgels or 4 minis                                                                         | 800 mg / 4 softgel minis                                      | NP                                 | 200 mg / 2 softgels                                                 | 75 mg / 1 softgel                 | 200 mg / 2 softgels                                    |
| Pantothenic Acid mg                                                                                    |                                                               |                                    |                                                                     |                                   |                                                        |
| 3 mg / 0.5 ml                                                                                          | -                                                             | 3 mg / 1 ml                        | 3 mg / 0.5 ml                                                       | NP                                | NP                                                     |
| 6 mg / 1 ml                                                                                            | -                                                             | 6 mg / 2 ml                        | 6 mg / 1 ml                                                         | NP                                | NP                                                     |
| 12 mg / 1 chewable                                                                                     | -                                                             | 12 mg / 1 chewable                 | 12 mg / 1 chewable                                                  | NP                                | 12 mg / 1 chewable                                     |
| 24 mg / 2 softgels or 4 minis                                                                          | -                                                             | NP                                 | 24 mg / 2 softgels                                                  | 12 mg / 1 softgel                 | 24 mg / 2 softgels                                     |
| Selenium mcg                                                                                           |                                                               |                                    |                                                                     |                                   |                                                        |
| -                                                                                                      | -                                                             | 10 mcg / 1 ml                      | -                                                                   | NP                                | NP                                                     |
| -                                                                                                      | -                                                             | 20 mcg / 2 ml                      | -                                                                   | NP                                | NP                                                     |
| -                                                                                                      | -                                                             | 75 mcg / 1 chewable                | -                                                                   | NP                                | -                                                      |
| -                                                                                                      | -                                                             | NP                                 | -                                                                   | 75 mcg / 1 softgel                | -                                                      |
| CoQ10 mg                                                                                               |                                                               |                                    |                                                                     |                                   |                                                        |
| -                                                                                                      | -                                                             | 2 mg / 1ml                         | -                                                                   | NP                                | NP                                                     |
| -                                                                                                      | -                                                             | 4 mg / 2 ml                        | -                                                                   | NP                                | NP                                                     |
| -                                                                                                      | -                                                             | 10 mg / 1 chewable                 | -                                                                   | NP                                | -                                                      |
| -                                                                                                      | -                                                             | NP                                 | -                                                                   | 10 mg / 1 softgel                 | -                                                      |

- Tangpricha V, Kelly A, Stephenson A, Maguiness K, Enders J, Robinson KA, Marshall BC, Borowitz D, for the Cystic Fibrosis Foundation Vitamin D Evidence-Based Review Committee. An update on the screening, diagnosis, management, and treatment of vitamin D deficiency in individuals with cystic fibrosis: Evidence-based recommendations from the CF Foundation. J Clin Endocrinol Metab. 2012;97(4):1082-93.
- DEKAs are manufactured by Callion Pharma, MVW Complete Formulation and MVW Modulator Formulation are registered trademarks of MVW Nutritionals, Inc.
- MANUFACTURER'S RECOMMENDED LIQUID DOSAGES:** DEKAs – Age 0-12 months: 1 ml daily, Age 1-3 years: 2 ml daily or as directed by physician. MVW – Age 0-12 months: 0.5 ml daily, Age 1-3 years: 1 ml daily or as directed by a physician. Modulator Formulation – Age 0-12 months: 3 ml daily, Age 1-3 years: 3ml twice daily or as directed by a physician.
- MANUFACTURER'S RECOMMENDED CHEWABLES DOSAGES:** DEKAs – Ages 4-10 years: As directed by a physician, Over age 10: 1 tablet daily or 1 tablet twice daily as directed by a physician. MVW – Age 4 to 9 years: 1 chewable daily or as directed by a physician, Over age 9 years: 1 chewable twice daily or as directed by a physician. Modulator Formulation - Age 4 to 9 years: 2 chewables daily or as directed by a physician, Over age 9 years: 2 chewables twice daily or as directed by a physician.
- MANUFACTURER'S RECOMMENDED GUMMIES DOSAGES:** MVW Gummies – Age 4-8 years: 2 gummies daily or as directed by a physician, Over age 9 years: 2 gummies twice daily or as directed by a physician.
- MANUFACTURER'S RECOMMENDED SOFTGEL MINIS DOSAGES:** MVW– Age 4-10 years: 2 softgels daily or as directed by a physician, Over age 10 years: 2 softgels twice daily or as directed by a physician. Modulator Formulation – Age 4-10 years: 2 softgels daily or as directed by a physician, Over age 10 years: 2 softgels twice daily or as directed by a physician.
- MANUFACTURER'S RECOMMENDED SOFTGEL DOSAGES:** DEKAs – Adults: 1 softgel daily or as directed by a physician, Children ≥ 10 years old: As directed by a physician. MVW – Age 4 to 10 years: 1 softgel daily or as directed by a physician, Over age 10 years: 1 softgel twice daily or as directed by a physician.