

## Essential Minerals that Support Heart Health

### National Heart Month

**February is American Heart Month!**<sup>1</sup> American Heart Month is a time to focus on and bring awareness to the importance of cardiovascular health. A healthy heart is vital to living a long, active lifestyle. According to the CDC, heart disease is also the leading cause of death for both men and women in the US, resulting in roughly 697,000 deaths annually. Every 34 seconds, someone in the US dies of cardiovascular disease, resulting in an estimated healthcare cost of \$229 billion/year.<sup>2</sup>

#### Why should you care about having a healthy heart?

Taking proactive steps to support your heart health is a cornerstone of a healthy lifestyle. Adopting healthy habits that are essential steps in maintaining heart health<sup>3</sup> include (but are not limited to):

- Avoiding smoking
- Getting regular physical activity
- Maintaining a healthy weight
- And, eating a healthy diet

Additionally, there are several essential nutrients that are known to promote healthy heart function.

#### Magnesium & Heart Health

Magnesium is an essential mineral that helps to support both a steady heart rhythm and helps to maintain normal blood pressure.<sup>4</sup> While data are still emerging, there is a significant body of evidence showing that Magnesium supplementation may aid in lowering blood pressure in adults.<sup>5</sup> In January 2022, the FDA formally acknowledged this emerging relationship and announced a Qualified Health Claim regarding Magnesium and hypertension: *"Inconsistent and inconclusive scientific evidence suggests that diets with adequate magnesium may reduce the risk of high blood pressure (hypertension), a condition associated with many factors."*<sup>6</sup>

The current Recommended Dietary Allowance (RDA) for Magnesium is 420 mg/day and 320 mg/day for adult men and



women, respectively<sup>7</sup>. Magnesium can be found in a variety of foods, our everyday diets, through foods such as nuts and seeds, soy products, leafy greens, and legumes<sup>4</sup> – yet roughly half of all Americans do not get enough Magnesium in their diet.<sup>8</sup>

#### Calcium & Heart Health

Calcium, while perhaps best known for supporting strong bones, is also a key mineral that helps maintain blood vessel function and blood pressure control.<sup>9</sup> It also helps with blood clotting, muscle contraction, and maintaining a normal heart rhythm. Calcium carries an authorized health claim on its relationship to a reduced risk of osteoporosis.<sup>11</sup> However, it's important to remember that, like Magnesium, Calcium also carries a qualified health

\*These statements have not been evaluated by Federal Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease. Ingredient users are solely responsible for ensuring the compliance of formulation and labeling (inclusive of claims) with applicable regulations.

## National Heart Month *continue*

claim for the reduction of hypertension risk (“Some scientific evidence suggests that calcium supplements<sup>10</sup> may reduce the risk of hypertension. However, FDA has determined that the evidence is inconsistent and not conclusive”).<sup>12</sup>

The body's need for calcium increases as we age. Experts recommend that adults aged 19-50y get 1000 mg/day of calcium in their diets, however, this requirement increases to 1200 mg/day for women beginning at age 51y and for men beginning at age 71y.<sup>9</sup> Calcium is found in a wide range of foods, specifically dairy products such as milk and cheese, but also fortified plant milk, almonds, and calcium-fortified orange juice. However, nearly half (44%) of all Americans do not get enough calcium in their diet<sup>8</sup>. Due to the high prevalence of inadequate calcium intake and the public health consequences related to it, the 2020-2025 Dietary Guidelines for Americans lists calcium as a “Dietary Component of Public Health Concern” for nearly all ages and stages of life.<sup>13</sup>

### Potassium & Heart Health

Lastly, and perhaps among the most under-appreciated nutrients with respect to heart health, is potassium. Potassium is an essential mineral that works in concert with sodium to help regulate the movement of fluids in the body, which is critical for maintaining healthy blood pressure.<sup>14</sup> This is a well-established diet & heart health relationship, with the FDA authorizing a health claim for potassium and hypertension/ stroke, reading “Diets containing foods that are good sources of potassium and that are low in sodium may reduce the risk of high blood pressure and stroke”.<sup>15</sup>

The Dietary Reference Intakes (DRIs) for Potassium were recently revised in 2019, with the recommended intake being updated to 3400 mg/day and 2600 mg/day for men and women, respectively.<sup>16</sup> Unfortunately, most Americans fall well below that recommendation, with less than 1/3 (29%) of all Americans getting enough potassium in their diets from food and beverages alone. Like calcium, potassium was listed by the 2020-2025 Dietary Guidelines For Americans as a

“Dietary Component of Public Health Concern” for all Americans over age 1y, due to the high prevalence of inadequate intakes is widespread and the public health challenges associated with it.<sup>13</sup> Potassium can be found in foods such as apricots, raisins, potatoes, and orange juice.<sup>14</sup>

### Where does Balchem fit in?

Balchem's **Albion® Minerals** portfolio utilizes multiple technologies with a range of benefits, including greater bioavailability and improved solubility. Our line of specialty mineral brands includes **Calci-K®**, **Calcium Citrate Malate (CMM)**, **MetaMag®**, as well as **Potassium Glycinate**, which all play an important role in maintaining cardiovascular health.

*“Minerals play incredibly important roles in maintaining heart health, and millions of Americans do not get enough in their diets. Balchem's Albion Minerals portfolio offers a wide variety of options of these essential minerals tailored to provide unique benefits\* and fantastic performance in multiple applications.”*

**ERIC CIAPPIO, BALCHEM STRATEGIC DEVELOPMENT MANAGER,  
NUTRITION SCIENCE**

### Balchem Solutions

With a wide range of delivery methods, Balchem can help you formulate high-quality products that meet the nutritional needs of consumers.

Our delivery methods include:

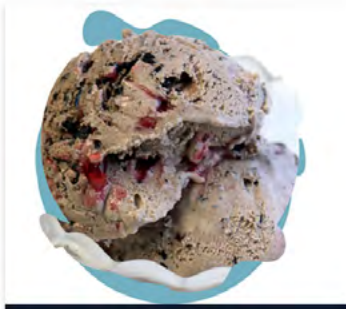
- Capsules
- Tablets
- Fortified food & beverages
- Chewables
- Powdered drinks

### Contact Us Today

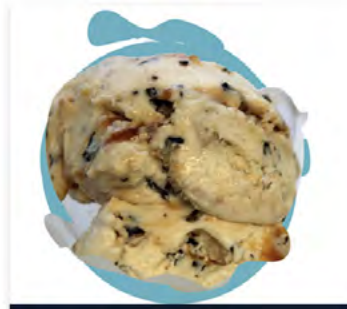
\*These statements have not been evaluated by Federal Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease. Ingredient users are solely responsible for ensuring the compliance of formulation and labeling (inclusive of claims) with applicable regulations.



**Alfajores (Dulce de Leche Shortbread)**



**The Good Life (Pomegranate Chocolate)**



**Angel's Share (Bourbon Caramel Blondie)**

## 2023 Consumer Trend: Focus on Value-Added Benefits

TrenDish™ by Balchem® is a curated story told with insights and information about consumer trends. We aim help shape your product development and innovation plans. Our latest round of macro trends is all about how consumers are redefining the definition of value and how to maximize the overall benefit of a product. Our food trends focus on satiety, snacking, flavor fusion, pleasure, well-being, and indulgence. Connect with us and [check out our tasty concepts](#) that bring these food trends to life. Want more? [Check out our variegates](#)

## Balchem Corporation Named on Newsweek's 2023 List of America's Most Responsible Companies

Balchem Corporation announced that the Company has been named one of America's Most Responsible Companies by Newsweek and Statista Inc., the world-leading statistics portal and industry ranking provider. Balchem has earned a ranking amongst this prestigious list of companies for the third consecutive year.

America's Most Responsible Companies were selected based on publicly available key performance indicators derived from CSR Reports, Sustainability Reports, and other reports as well as an independent survey. The KPIs focused on company performance in the environmental, social, and corporate governance areas, while the independent survey asked U.S. citizens about their perception of company activities related to corporate social responsibility.

*"As a company committed to making the world a healthier place, we are thrilled to once again be included on Newsweek's list of America's Most Responsible Companies," said Ted Harris, Balchem's Chairman, President, and CEO. "As mentioned in our most recent sustainability report, we are hard at work and making good progress to deliver on our 2030 environmental goals to reduce greenhouse gas emissions and water usage by 25%. This honor reflects our progress in driving a culture of responsibility and our commitment to operating with excellence as strong stewards of the planet and our stakeholders while providing innovative solutions for the health and nutritional needs of the world."* [Balchem-Newsweek-PR.pdf](#)



## SCIENCE UPDATE

### Ferrochel® Featured in a NEW Systematic Review and Meta-Analysis of Randomized Controlled Trials on the Effects of Supplementation on Hemoglobin and Ferritin Concentrations in Adults and Children

Ferrous Bisglycinate, the active ingredient in [Ferrochel®](#), has been extensively studied since mineral chelates were first developed by Albion Minerals in the 1960's. There are over 60 scientific publications on Ferrous Bisglycinate listed on PubMed, more than half of which are clinical trials in humans. With all these data available – what can we say about the state of the science?

Scientists at the University of British Columbia conducted a meta-analysis of randomized, controlled trials (RCTs) comparing Ferrous Bisglycinate to other iron salts (e.g., Ferrous Sulfate, Ferrous Fumarate, etc) to determine the impact on iron status and GI adverse events.

In pregnant women, pooling the data from nine separate RCTs showed that Ferrous Bisglycinate had a significantly greater impact on iron status (Hemoglobin) when compared to other iron salts. What's more, across the trials roughly 1/3 of the elemental iron from Ferrous Bisglycinate was used to deliver a greater impact on iron status, making the results even more impressive.

When looking at tolerability, the investigators found that the rate of adverse GI effects was 64% lower in women receiving ferrous bisglycinate compared with women receiving other iron supplements. Issues with tolerability are a major consideration when trying to ensure that women continue supplementing during pregnancy, with lower compliance potentially leading to lower efficacy.

Iron is a major nutrient gap during pregnancy. In the United States, roughly [84% of pregnant women do not get enough iron](#) from food and beverages alone, and iron is considered a "[Dietary Component of Public Health Concern](#)" for pregnant women by the 2020-2025 Dietary Guidelines for Americans. Ferrochel is the industry leading source of Ferrous Bisglycinate, which is demonstrated to have superior absorption and tolerability in pregnant women. Let's work together to close this important nutrient gap to help women achieve a healthy pregnancy.\*

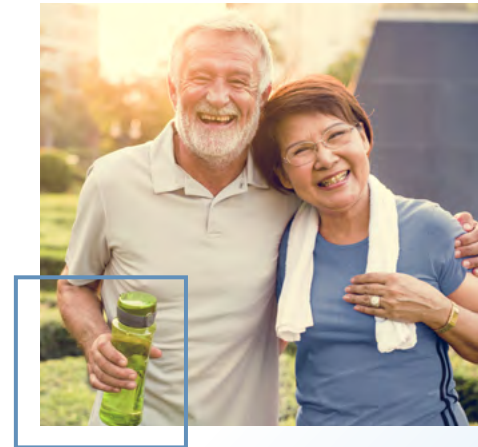
Interested in learning more about this latest meta-analysis? Check out the full publication [here](#).

# FERROCHEL®

\*These statements have not been evaluated by Federal Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease. Product users are advised to make their own determination of safety, suitability, and regulatory allowance of the intended use of the product referenced herein.

## References (National Heart Month):

1. [https://www.cdc.gov/heartdisease/american\\_heart\\_month.htm](https://www.cdc.gov/heartdisease/american_heart_month.htm). Accessed Jan 30, 2023.
2. <https://www.cdc.gov/heartdisease/facts.htm>. Accessed Jan 30, 2023.
3. [https://www.cdc.gov/heartdisease/risk\\_factors.htm](https://www.cdc.gov/heartdisease/risk_factors.htm). Accessed Jan 30, 2023.
4. <https://ods.od.nih.gov/factsheets/Magnesium-HealthProfessional/>. Accessed Jan 30, 2023.
5. Zhang X, et al. Hypertension 2016; 68(2): 324-333.
6. <https://www.fda.gov/media/155304/download>. Accessed Jan 30, 2023.
7. Institute of Medicine, 1997. <https://www.ncbi.nlm.nih.gov/books/NBK109816/>. Accessed Jan 30, 2023.
8. USDA, Agricultural Research Service, 2021. Usual Nutrient Intake from Food and Beverages, by Gender and Age, What We Eat in America, NHANES 2015-2018 Available <http://www.ars.usda.gov/nea/bhnrc/fsrg>. Accessed Jan 30, 2023.
9. Institute of Medicine, 2011. <https://www.ncbi.nlm.nih.gov/books/NBK56060/>. Accessed Jan 30, 2023.
10. Office of Dietary Supplements. Calcium. Available at: <https://ods.od.nih.gov/factsheets/Calcium-HealthProfessional/>. Accessed Jan 30, 2023.
11. FDA, 2008. Food Labeling: Health Claims; Calcium and Osteoporosis, and Calcium, Vitamin D, and Osteoporosis. Available at: <https://www.regulations.gov/document/FDA-2004-P-0205-0006>. Accessed Jan 30, 2023.
12. FDA, 2005. Qualified Health Claims: Letter of Enforcement Discretion - Calcium and Hypertension; Pregnancy-Induced Hypertension; and Preeclampsia (Docket No. 2004Q-0098). Available at: <http://wayback.archive-it.org/7993/20171114183741/https://www.fda.gov/Food/IngredientsPackagingLabeling/LabelingNutrition/ucm073030.htm>. Accessed Jan 30, 2023.
13. USDA, USDHHS. 2020-2025 Dietary Guidelines for Americans. Available at: <https://www.dietaryguidelines.gov/>. Accessed Jan 30, 2023.
14. Office of Dietary Supplements. Potassium. Available at: <https://ods.od.nih.gov/factsheets/Potassium-HealthProfessional/>. Accessed Jan 30, 2023.
15. FDA, 2000. Health Claim Notification for Potassium Containing Foods. Available at: <https://www.fda.gov/food/food-labeling-nutrition/health-claim-notification-potassium-containing-foods>. Accessed Jan 30, 2023.
16. Institute of Medicine, 2019. Dietary Reference Intakes for Sodium and Potassium. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK545428/>. Accessed Jan 20, 2023.



## Upcoming Events & Webinars

### Natural Products Expo West

March 7 - 11, 2023 | Anaheim, CA | [Request a meeting with us](#)

### Annual Meat Conference

March 8, 2023 | Dallas, TX | [Request a meeting with us](#)

### Southern California IFT

March 9, 2023 | Garden Grove, CA | [Request a meeting with us](#)

### Philadelphia IFT

April 7, 2023 | Cinnaminson, NJ | [Request a meeting with us](#)