ActivPower IRX

HUMAN KNOWLEDGE BASE • INGREDIENT SCIENCE

Food-Grade Diatomaceous Earth for Human Digestive & Nutritional Wellness

A naturally occurring source of amorphous silica studied as a dietary silicon source — with an honest look at the limits of current evidence.

IRx-ZEUS® | COGNEX® | HuBiome Plus™ | Food-Grade Silica

What Is Food-Grade Diatomaceous Earth?

Diatomaceous earth (DE) is a naturally occurring mineral-rich powder made from the fossilized remains of microscopic aquatic organisms called diatoms. Food-grade DE consists primarily of **amorphous silica** (silicon dioxide), typically 80–90% of its composition, and differs significantly from industrial or filter-grade forms, which are not intended for consumption. Its primary nutritional interest stems from its silica content, which may contribute to overall mineral intake. It is included in **IRx-ZEUS®**, **COGNEX®**, **HuBiome Plus™**, and **LactImmune™**.

> **Important: Evidence Is Still Emerging**
>
> Human clinical research on food-grade diatomaceous earth remains limited, and many commonly promoted claims — digestive “cleansing,” detoxification, and similar outcomes — have not been conclusively established in well-controlled studies. DE is included for its silica content and history of use, not as a treatment for any condition.

Areas of Scientific Discussion

Food-grade DE is largely inert and not significantly digested. Current scientific discussion generally centers on three areas:

- **Physical characteristics in the digestive tract** — laboratory adsorptive properties that do not automatically translate into measurable human health benefits.
- **Source of dietary silicon** — a trace mineral involved in normal connective-tissue and structural processes; some silica may hydrate in the gut and contribute to the body’s silicon pool.
- **Overall nutritional wellness** — preliminary animal and laboratory signals on metabolic health, intestinal barrier function, and nutrient utilization.

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What the Human & Silicon Literature Shows

The strongest emerging human-relevant evidence concerns dietary silicon derived from diatomaceous earth.

- A 2025 pilot randomized controlled study in humans examined the postprandial metabolism of a reduced-fat meat product with added silicon from diatomaceous earth, investigating DE as a bioavailable silicon source.
- Reviews of silicon sources, bioavailability, and safety describe silicon's role in connective-tissue and skeletal health and evaluate silica added for nutritional purposes.
- Regulatory assessments (EFSA) address silicon dioxide (E551) as a food additive and processing aid.

Researchers consistently emphasize that many circulated claims — digestive cleansing, detoxification — have not been confirmed in robust clinical trials, and that DE is best discussed as a silicon source pending further research.

Safety Considerations

Only **food-grade** diatomaceous earth should be considered for nutritional use. Industrial-grade and pool-filter grades contain substantially higher levels of crystalline silica and are not intended for consumption. Food-grade products should always be sourced from reputable manufacturers with appropriate quality control. Individuals with medical conditions, those taking medications, and pregnant or nursing women should consult a qualified healthcare professional before use.

The ActivPower Perspective

ActivPower includes food-grade diatomaceous earth in IRx-ZEUS®, COGNEX®, HuBiome Plus™, and LactImmune™ because of its long history of use, its silica content, and emerging scientific interest as a supportive nutritional ingredient — presented with appropriate caution given the current state of the evidence.

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Selected References — Human Literature

1. Postprandial metabolism of a reduced-fat meat product with added silicon from diatomaceous earth: a pilot randomized controlled four-way assay in humans. *Food Funct.* 2025.
2. European Food Safety Authority (EFSA). Scientific opinions regarding silicon dioxide (E551) as a food additive and food processing aid.
3. Sources, bioavailability, and safety of silicon derived from foods and other sources added for nutritional purposes in food supplements and functional foods. *Appl Sci.* 2020;10(18):6255.
4. Silicon: a neglected micronutrient essential for bone health. *Exp Biol Med.* 2021. (silicon & connective-tissue review)
5. Mwangi J. Usage of human diatomaceous earth. *Ann Life Sci Agric.* 2023.

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DISCLAIMER

This article is provided solely for educational and informational purposes and summarizes selected scientific literature concerning food-grade diatomaceous earth as a nutritional ingredient in humans. Nothing herein is intended to diagnose, treat, cure, mitigate, or prevent any disease, injury, arthritis, inflammatory disorder, or medical condition in humans.

Statements regarding dietary supplements have not been evaluated by the U.S. Food and Drug Administration (FDA). Individual responses may vary. Consumers should consult a qualified healthcare professional before introducing any new supplement or nutritional ingredient into a wellness program. No claim beyond the educational discussion of current scientific literature is stated or implied.

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