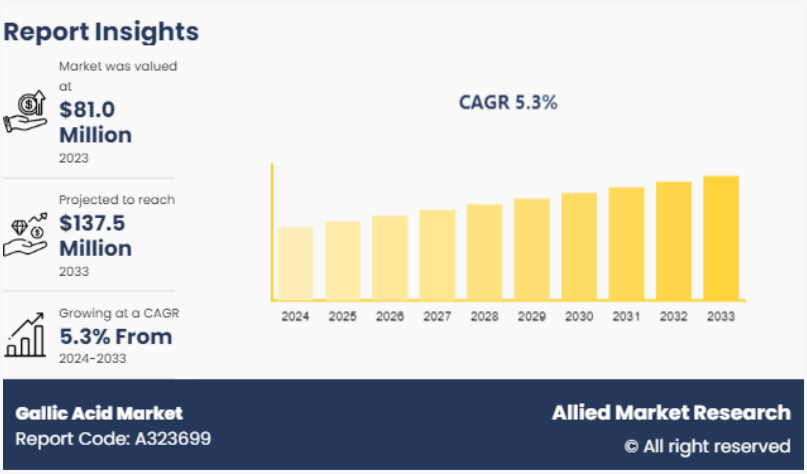
CAGR of 5.3% | Gallic Acid Market Opportunity Analysis and Industry Forecast, 2025-2033

The global gallic acid market is projected to reach $137.5 million by 2033, growing at a CAGR of 5.3% from 2024 to 2033.



Gallic Acid Market Analysis

WILMINGTON, DE, UNITED STATES, September 10, 2025 / EINPresswire.com/ -- Gallic acid ($C_7H_6O_5$), also known as 3,4,5-trihydroxybenzoic acid, is a naturally occurring phenolic acid found in many plants, fruits, and natural substances like tea, grapes, berries, and oak bark. It is a secondary plant metabolite that plays a key role in plant defense mechanisms. The global gallic acid market was valued at $81.0 million in 2023, and is projected to reach $137.5 million by 2033, growing at a CAGR of 5.3% from 2024 to 2033.

Gallic acid is widely known for its antioxidant, antimicrobial, and anti-inflammatory properties, making it valuable in food, pharmaceuticals, cosmetics, and the dyeing and tanning industries.

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Biological Properties of Gallic Acid

Gallic acid has a wide range of biological activities that make it valuable for therapeutic and commercial use.

Antioxidant: Neutralizes free radicals, reducing oxidative stress and protecting cells from damage.

Anti-inflammatory: Inhibits the production of inflammatory mediators like cytokines and enzymes (e.g., cyclooxygenase, COX).

Antimicrobial: Exhibits antibacterial, antifungal, and antiviral activity, which is useful in food preservation.

Anti-cancer: Promotes apoptosis (programmed cell death) in cancer cells without harming healthy cells, making it a promising anticancer agent.

Anti-diabetic: Lowers blood sugar levels and prevents oxidative damage caused by high glucose levels.

Neuroprotective: Protects neurons from oxidative stress, potentially useful in neurodegenerative diseases like Alzheimer's and Parkinson's.

Uses and Applications of Gallic Acid

1. Food and Beverages

Antioxidant and Preservative: Used as a food additive (E310) to prevent oxidation and rancidity in fats, oils, and processed foods.

Food Packaging: Added to food packaging materials to extend shelf life by preventing microbial growth and oxidation.

Functional Foods and Supplements: Included in health supplements due to its antioxidant and anti-inflammatory benefits.

Wine Production: Present naturally in wine, especially red wine, where it enhances the wine's taste, aroma, and antioxidant properties.

2. Pharmaceuticals and Medicine

Antioxidant Supplements: Used as a health supplement to combat oxidative stress and promote general well-being.

Anti-Cancer Therapy: Gallic acid induces apoptosis in cancer cells and is being researched as an anti-cancer drug.

Anti-Diabetic Agent: Included in natural remedies and supplements for diabetes management due to its ability to lower blood sugar levels.

Neuroprotection: Used in research for Alzheimer's, Parkinson's, and other neurodegenerative

conditions.

Anti-inflammatory and Pain Relief: Incorporated in topical creams and ointments for joint pain, swelling, and inflammation.

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3. Cosmetics and Personal Care

Anti-Aging Skincare: Due to its ability to neutralize free radicals, gallic acid is used in anti-aging creams, lotions, and serums.

Skin Lightening: Reduces melanin production, which can lead to a skin-lightening effect.

Anti-Acne Formulations: Its antimicrobial properties help fight acne-causing bacteria, making it useful in acne creams.

4. Dyes, Ink, and Tanning

Tannins Production: Gallic acid is a key component in the production of tannins, which are used in leather tanning.

Inks and Dyes: Historically used to produce iron gall ink, a permanent ink used in medieval manuscripts and official documents.

Colorants: Used as a natural dye for fabrics and textiles.

5. Industrial Applications

Photographic Chemicals: Used in photographic developers to enhance image clarity.

Corrosion Inhibitor: Coatings made with gallic acid protect metal surfaces from corrosion.

Bio-based Polymers: Incorporated into the production of sustainable, biodegradable polymers.

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