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# Green Chemistry and its Prospects in Present Era

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**Abstract:** *Green chemistry has emerged as a central framework for addressing the environmental and health challenges associated with conventional chemical practices in the pharmaceutical industry. Rather than relying on post-production waste management and remediation, green chemistry emphasizes the design of chemical products and processes that inherently reduce or eliminate hazardous substances. This preventive approach has gained increasing relevance in the context of resource depletion, pollution, and increasing regulatory scrutiny.*

*This article examines various aspects of green chemistry, including its conceptual foundations, guiding principles, technological strategies, and practical applications across industrial sectors. Particular attention is paid to green synthesis, catalysis, solvent selection, renewable feedstocks, and the integration of sustainability into industrial chemistry. This discussion also considers the environmental and societal implications of adopting green chemistry practices, as well as the technical and economic challenges that continue to limit widespread implementation.*

*By synthesizing theoretical perspectives with applied examples, this article highlights green chemistry as a pragmatic and evolving discipline rather than a purely idealistic concept. The analysis suggests that continued research, policy support, and education are essential for embedding green chemistry as a standard approach in chemical science and industry, thereby contributing to long-term environmental sustainability and responsible technological development.*

**Keywords**: *Green chemistry*