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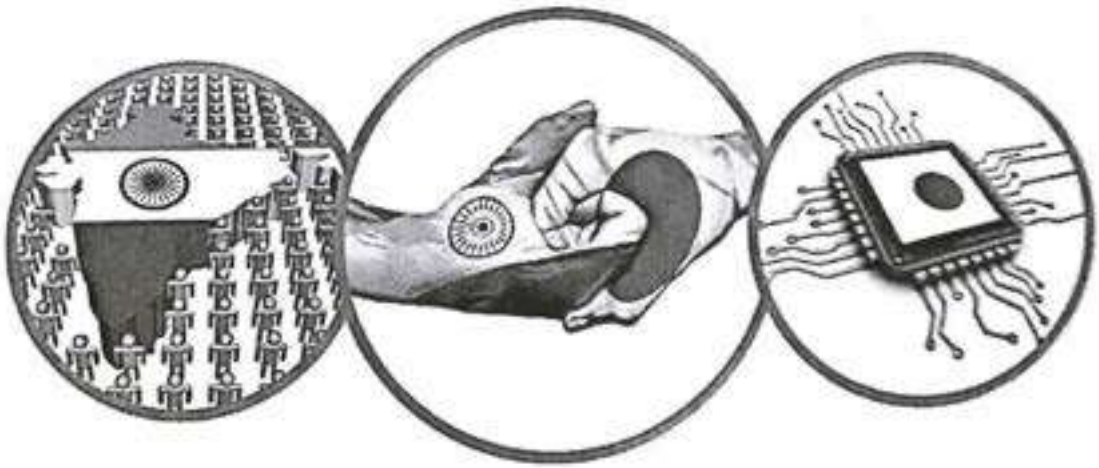
SUSTAINABLE DEVELOPMENT

Environmental Sensitivity and Sensitivity and Sustainable Development

Department of Science and Nursing



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Green Chemistry and its various aspects

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Abstract:

Green chemistry is the new and rapid emerging branch of chemistry. Green chemistry is known as sustainable chemistry. The beginning of green chemistry is considered as a respo to the need to reduce the damage of the environment by man-made materials and the proces used to produce them. Green chemistry applies diagonally the life cycle of a chemical prod including its manufacture, use, design, and ultimately disposal. Green chemistry is very help in prevention of pollution at the molecular level, it gives innovative scientific solutions reduces the negative impacts of chemical products on human and the environment health. chemical wastes should be disposed of in the best possible manner without causing any dama to the environment and living beings. This article presents selected examples of implementa of green chemistry principles in everyday life. This paper seeks to reveal basic informa related to green chemistry.

Keywords: Green chemistry, hazardous chemicals, Pollution, Sustainable chemistry.

Introduction: A unique program was initiated by (EPA) the Environmental Protection Age of US in 1991 to execute sustainable development in chemical technology and chemistry industry, government and academia. Presently, several complex products can be manufact easily. Nonetheless, chemical process not only yields the required product but also undesired and harmful substance in large quantities in the form of liquid, gases, and solid. T has become the massive threat for the chemistry. So for the synthetic chemists the reductio the chemical pollution has become the serious urgency. The concept of Green chemistry new approach towards the sustainability. Its concepts inspire the designing of innova processes and raw materials that minimizes the utilization of harmful substance and t production. [1]

Green chemistry's concepts stands for two most important components:-

1. First, Green chemistry depicts the predicament of efficient usage of starting materials synthesis and the associated reduction of waste due to their use.
2. Second, it accords with the safety, environmental issues and health which are correl with the manufacturing, usage of chemicals and their disposals.

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Principles of Green Chemistry:

Green Chemistry objective is to reduce threats at the design stage. It is beneficial for our health and the environment to eliminate hazardous practices from the chemical design process starting. It will be then helpful all the way through the design, production, use or reuse and dumping processes [2]. Following Twelve Principles of Green Chemistry are shown with suitable examples.

1. The utilization of techniques which makes the less solvent use
2. Use of catalyst for the hydrogenation of carboxylic acid to aldehyde
3. Oxidation of cyclohexane oxidation by the application of hydrogen peroxide adipic acid is synthesized.
4. Less dangerous pesticides use
5. Supercritical fluid extraction
6. Alternative for PWC,
7. Manufacturing of surfactants.
8. In the preparation of sample, the on-fibre derivatization against dervatization in solution is done
9. Synthesis of b-enaminones from 1,3-dicarbonyl compounds and amines in presence of Efficient Au [III] as a catalyst - Catalysis.
10. Manufacturing of biodegradable polymers
11. For wastewater monitoring in-line analysers used - Real-time analysis for Pollution Prevention:
12. Di-Me carbonate [DMC],an environmentally affable alternative for Di-Me sulphate and Me halides in methylation reactions - Inherently Safer Chemistry for Accident Prevention [3].

Future trends in Green Chemistry: Chemists are using their innovative and creative skills from all over the world to build up new processes, reaction conditions, synthetic methods, catalysts etc. Profitable applications of green chemistry have led to intellectual research to find out different alternatives to the active artificial methods and some environmental laws. These laws are in general have become "command and control" laws. Risk occurring with toxic chemical is a function of Hazard and Exposure. With the passage of time, these laws have completed a great deal in improving pollution prevention in coming years. [4]

Conclusion: Chemistry has invented many useful compounds but also yields the other harmful compounds and undesirable waste.This became a great problem and requires more effective technologies to get rid off these problems.Green chemistry include synthesis of environment

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friendly chemical compounds by more efficient chemical process,maximize yields and minimize the unwanted and hazardous waste.

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