Hydrogen Peroxide

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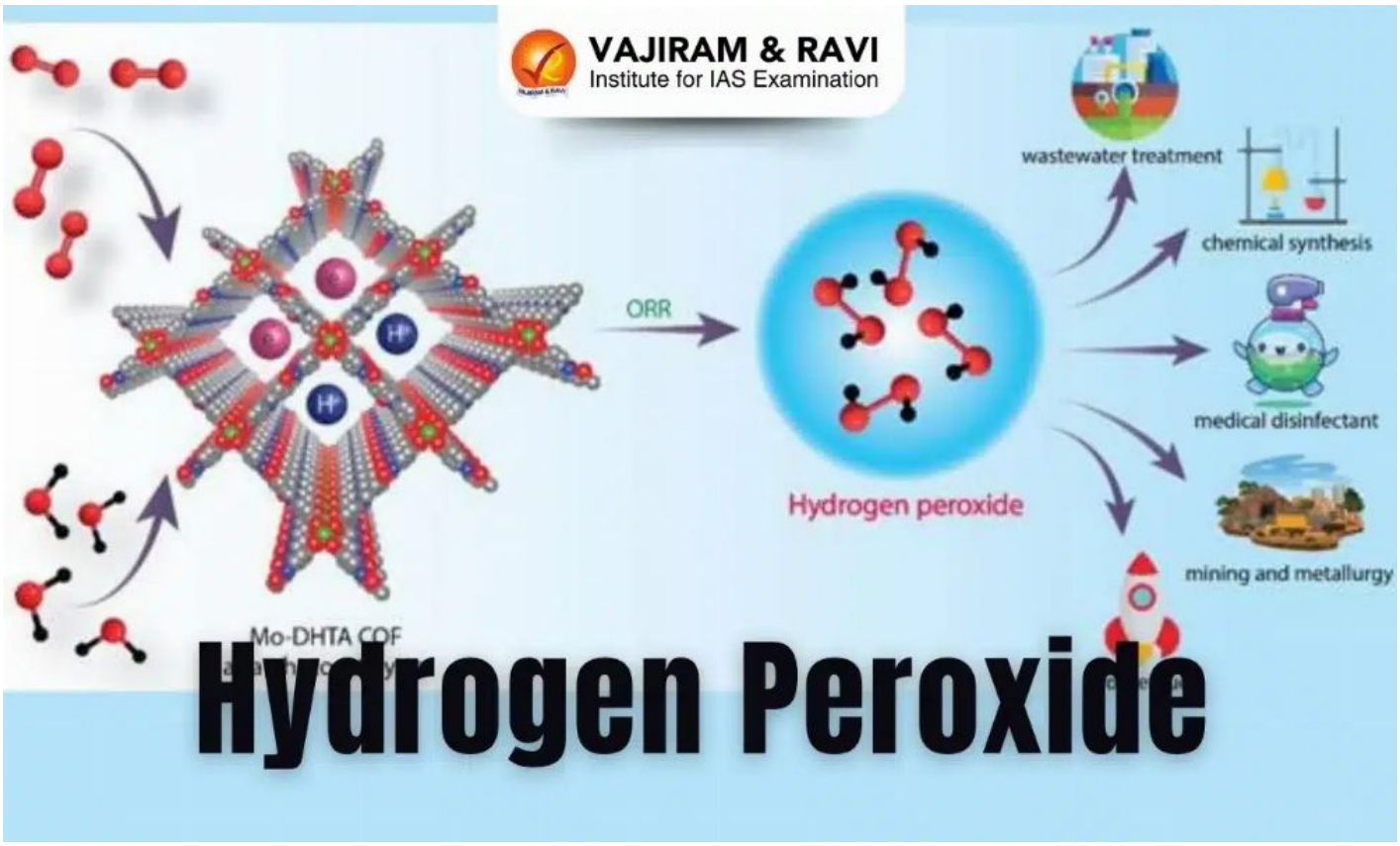

Hydrogen Peroxide Latest News

Recently, scientists have developed a novel approach for using a cutting-edge material called Mo-DHTA COF, short for dimolybdenum paddlewheel-embedded covalent organic framework for synthesizing hydrogen peroxide (H_2O_2) directly from water and sunlight.

About Hydrogen Peroxide

- It is a **colorless liquid** at room temperature with a bitter taste.
- Small amounts of gaseous hydrogen peroxide occur naturally in the air.

Features of Hydrogen Peroxide

- It is known for its **eco-friendly nature of degrading** or breaking down into only water and oxygen.
- Hydrogen peroxide is **unstable, decomposing readily to oxygen** and water with release of heat.
- It is **nonflammable**; it is a powerful oxidizing agent that can cause spontaneous combustion when it comes in contact with organic material.

- Hydrogen peroxide is found in many households at low concentrations (3-9%) for medicinal applications and as a clothes and hair bleach.
- It is a key component in **sustainable chemical processes**. However, its conventional production methods are energy-intensive, environmentally hazardous, and costly.

Applications of Hydrogen Peroxide

- It is a vital oxidizing agent with broad applications in **chemical synthesis, sterilization, wastewater treatment, and fuel cells.**
- In industry, hydrogen peroxide in higher concentrations is used as a **bleach for textiles and paper**, as a component of rocket fuels, and for producing foam rubber and organic chemicals.

Source: PIB

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