

Органическая химия

Современная химия органических пероксидов

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It is now clear that organic peroxides, which were once considered to be exotic and dangerous compounds of little importance, can lead to new breakthroughs like medicinal chemistry or in agricultural chemistry.

In the last decade, the progress of chemistry of organic peroxides was catalyzed by numerous reports of their antifungicide, antimalarial, anthelmintic, antitumor, growth regulation and antitubercular activity. The organic peroxides have also making great changes in the field of environment protection as additives in fuels or purification of water.

In the near future, they make be even used in the production of lithium batteries as electrolyte additives, which is supposed to improve the performance and safety of these batteries.

On a cautionary note, organic peroxides can also present hazards due to their potential for decomposition. The O-O bond, although stable, can undergo homolytic cleavage, releasing reactive free radicals. This decomposition process can be triggered by heat, light, or contamination, leading to explosions or fires. Therefore, proper handling, storage, and disposal procedures are essential to ensure the safe utilization of organic peroxides, which are all provided in the meantime and that allowed the safe use of peroxides and its application in many fields.

In summary, organic peroxides are indispensable compounds in modern chemistry, finding applications in many sorts of areas. While their reactivity provides opportunities for various chemical transformations, it is crucial to handle them safely to mitigate the associated risks.

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