



Explosive Substances Act and Peroxide Chemicals

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A chemical explosion in a Thane (Maharashtra)-based factory, claiming 11 lives, highlights critical safety flaws. Caused by **reactive peroxide chemicals**, the accused have been charged under [Explosive Act 1884](#), and **Explosive Substances Act 1908**.

- The Explosives Act of 1884, enacted by the British colonial government in India, regulates the **manufacture, storage, possession, use, sale, import, and export of explosives**. It sets safety standards for handling, transportation, and storage of explosives to prevent accidents.
- The Explosive Substances Act of 1908 encompasses provisions **defining explosive substances** and special category explosive substances, including notable compounds like [RDX](#).
 - The Act delineates punishments for causing explosions likely to endanger life or property, along with penalties for attempts to cause explosions or possession of explosives with malicious intent.
- Peroxide chemicals are **organic compounds** that contain a peroxide functional group, which is characterised by **two oxygen atoms linked together**.
 - The general structure for peroxides can be represented as $R-O-O-R$, where 'R' can be any element. The linkage between the two oxygen atoms (O–O) is known as the **peroxide group or peroxy group**.
 - **Example:** Hydrogen peroxide, Benzoyl peroxide.
 - The bond in **peroxides is weak, making them very reactive** and allowing other chemicals to alter their structure.
 - Peroxides can be **hazardous and can cause fires and explosions** when exposed to heat, shock, or friction.

Read More: [Forever Chemicals](#)

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