

CSIR develops Less Polluting Firecrackers

30th Oct, 2018



What to study?

- **For Prelims: Features of the new crackers.**
- **For Mains: Pollution related to firecrackers and measures to reduce pollution.**

Context: CSIR develops Less Polluting Firecrackers named – safe water releaser (SWAS), safe minimal aluminium (SAFAL) and safe thermite cracker (STAR).

Technical Details:

- These crackers have unique property of releasing water vapour and /or air as dust suppressant and diluent for gaseous emissions and matching performance in sound with conventional crackers.
- SWAS crackers eliminates usage of (KNO₃) Potassium nitrate and Sulphur with consequent reduction in particulate matter (30-35%) SO₂ and NO_x. It has matching sound intensity with commercial crackers in the range of 105-110 dBA. SWAS has been tested for shelf life upto 3 weeks with consistent performance.
- STAR eliminates usage of KNO₃ and S with consequent reduction in particulate matter (35-40%), SO₂ and NO_x. It has matching sound intensity with commercial crackers in the range of 105-110 dBA.
- SAFAL has minimal usage of aluminium (only in flash powder for initiation) with consequent significant reduction in particulate matter (35-40 %) compared to commercial crackers. It has matching sound intensity with commercial crackers in the range of 110-115 dBA.

Benefits:

Indian Fireworks industry is over 6000-crore worth of annual turnover and provides employment opportunities to over 5 lakh families directly or indirectly. This endeavour of CSIR aims at addressing the pollution concerns at the same time protecting the livelihoods of those involved in this trade. These Firecrackers are not only environment friendly but 15-20 % cheaper than the conventional ones.

To be looked in UPSC Paper 3: Pollution and related issues