

# Green crackers

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## Why in news?

- CSIR has developed green crackers.

## What are these crackers?

- They are firecrackers which have a **chemical formulation that produces water molecules**, which substantially reduces emission levels and absorbs dust.
- As the air pollution level went up 29 times above the WHO standards in November 2016, the Supreme Court suspended the sale of fireworks in the National Capital Region (NCR).
- Hence now, the green crackers can replace the conventional crackers.

## Benefits:

- They have reduced emissions and decibel levels.
- This helps in the reduction of particulate matter and harmful gases, like nitrous oxide and sulphur oxide, by 30- 35 per cent.
- The green crackers will be 25-30 per cent cheaper to manufacture.
- They are less harmful and less dangerous than the conventional ones.
- The manufacturers would not have to make any changes in their facilities.

## Chemicals that give color to the firecrackers:

- White: The burning of metals like magnesium, aluminum and titanium).
- Yellow: Sodium salts (Nitrates and oxalates of sodium).
- Red: Strontium salts (Nitrates, carbonates and sulphates of strontium).

- Blue: Copper salts (Carbonates and oxides of copper).
- Orange: Calcium salts (Carbonates, chlorides and sulphates of calcium).
- Green: Barium salts (Nitrates, carbonates, chlorides and chlorates of barium).
- Purple: A combination of copper and strontium compounds.