



## Ammonia Gas Leak in Kota

### Why in News?

**Ammonia gas** leaked from a **Chambal Fertilisers and Chemicals Limited (CFCL)** plant near Gadepan village in **Kota district of Rajasthan**. This leak caused **students of a government school to fall sick**, with the children complaining of nausea and fainting after inhaling the gas's sharp, suffocating odor.

### Key Points

- **Impact of the Gas Leak:**
  - The gas leak affected students who went to the school grounds to fetch water, with some **complaining of breathlessness and abdominal pain**.
  - The **school and the CFCL factory share boundaries**, likely contributing to the exposure.
  - School staff immediately transported the students to the hospital in their own vehicles as their condition worsened.
- **Precautionary Measures:**
  - As a precautionary measure, the school was closed, and children were sent home after the incident, which caused panic in the village.
  - **Lok Sabha Speaker** and local officials visited the hospital to check on the affected students.

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## Ammonia Gas (NH<sub>3</sub>)

- **About:**
  - It is a compound of Nitrogen and Hydrogen.
  - It is a colorless gas with a pungent, penetrating odor.
  - Ammonia is highly reactive and a soluble alkaline gas.
- **Mode of Production:**
  - **Natural:**
    - Produced in soil through bacterial processes.

- Generated during the decomposition of organic matter, including plants, animals, and animal waste.
- Bacteria in the intestines also produce ammonia, and a small amount is generated by lightning strikes.
- **Commercial:**
  - Produced through steam reforming of natural gas and coal gasification.
- **Uses:**
  - Used to **produce nitrogen compounds like urea**, the most commonly used **source of nitrogen in fertilizers**.
  - **Applied directly to soil** for crops, lawns, and plants.
  - Utilized in various **cleaning products**.
  - Forms compounds like **ammonium nitrate, ammonium sulfate, and various ammonium phosphates**.
  - Used in the **manufacture of explosives**.
  - Used in **refrigeration and cooling systems**.
- **Impact:**
  - **Plants:**
    - Causes **direct toxic damage to leaves**.
    - Alters plant susceptibility to **frost, drought, and pathogens**, including insect pests and invasive species.
  - **Health Risks:**
    - Long-term exposure to low concentrations or short-term exposure to high concentrations can cause **adverse health effects from inhalation**.
    - Symptoms may include **burning sensations in the nose, throat, and respiratory tract irritation**.

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