

Oleum Gas Leak

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Why in News?

A fresh oleum gas leak at a chemical unit in Boisar has once again brought attention to recurring industrial safety incidents in the Tarapur-Boisar belt of Palghar district, Maharashtra.

- **Oleum (fuming sulphuric acid)** - It is a highly corrosive, dense, *oily liquid* ranging from colourless to pale yellow, formed by dissolving *sulfur trioxide in sulfuric acid*.
- **Application** - It is primarily used in industrial sulfonations, explosives, dye manufacturing, and producing high-strength sulfuric acid.
- **Impact** - It reacted with air to release sulphur dioxide and other sulphur oxides.
- This produced a dense white cloud that reduced visibility within the factory premises and surrounding areas.
- **Tarapur-Boisar Industrial Estate** - Together form one of Maharashtra's *oldest and largest industrial estates*.
- This area houses a large number of chemical, pharmaceutical, and allied manufacturing units operating in close proximity.
- **Risk** - Because many hazardous processes take place within a relatively small area, the probability of accidents involving gases, chemicals or industrial spills increases.
- **Other Hazardous Substances in Use** - Many of the factories in the area handle highly reactive or toxic substances such as *chlorine, nitrogen derivatives, and other industrial gases*.
- These materials require stringent safety systems, specialised storage infrastructure, and continuous monitoring.

Safeguards against chemical disasters in India

- Indian Penal Code (IPC)
- Various guidelines under the Disaster Management Authority (NDMA).
- Environment Protection Act, 1986
- Manufacture, Storage and Import of Hazardous Chemical (MSIHC) Rules, 1989 & Chemical Accident Rules, 1996
- Public Liability Insurance Act, 1991
- National Environment Appellate Authority Act, 1997
- National Green Tribunal Act, 2010

Quick Fact

Major Toxic Industrial accident	
Incident	Nature of Hazard
Ammonia Gas Leak (Mumbai, 2024)	Toxic in concentrated form, absorbed by inhalation, ingestion, eye/skin contact.
Propylene Gas , 2024	Highly flammable, but not toxic to breathe. PPE required for responders.
Monomethylamine (MMA) Gas , 2024	Highly inflammable, fishy odour, causes respiratory toxicity, lung congestion, oedema, and eye damage.
Hydrogen Sulphide Gas (Punjab, 2023)	Neurotoxin affecting the nervous system. Common toxic gases: methane, H ₂ S, CO, CO ₂ .
Styrene Gas Leak , (Vizag, Andhra Pradesh, 2020)	Affects the central nervous system, long-term exposure is linked to headaches and possible leukaemia.
Methyl Iso Cyanate (MIC) (Bhopal, Madhya Pradesh, 1984)	Severe lung damage, pulmonary oedema, corneal injury, and death from acute exposure.

Reference

[Indian Express | Oleum gas leak at the Tarapur-Boisar belt](#)