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The Big Picture: Visakhapatnam Gas Leak

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A major leak from a polymer plant LG Polymers near Visakhapatnam impacted villages in a five-km radius, leaving at least 9 people dead and thousands of citizens suffering from breathlessness and other problems in an early morning mishap that **raised fears of a serious industrial disaster.**

The leak occurred early morning on May 7, 2020, at a private plastic making plant owned by LG Polymers Pvt Ltd, a part of South Korean conglomerate LG Corp. The chemical plant was closed due to the lockdown for a long time and attempts were made to restart the operation. During this course, some chemical activity got started in the tank and **a large amount of Styrene gas was leaked in surroundings.** The exact cause of this incident is still unknown and further investigations are going on.

Fire engines, the police, and ambulances reached the area to control the situation. The trained chemical, biological, radiological, and nuclear (CBRN) defense team of NDRF rushed to the spot and evacuated 1,200 families to safe locations, and about 400 people were admitted to the hospital.

The National Human Rights Commission of India issued a notice to the Andhra Pradesh government and the Centre following the leakage of poisonous gas.

Styrene and Its Impact

- **Styrene** is a flammable liquid that is used in the manufacturing of polystyrene plastics, fiberglass, rubber, and latex.
- It is also found in vehicle exhaust, cigarette smoke, and in natural foods like fruits and vegetables.
- A short-term exposure to the substance can result in respiratory problems, irritation in the eyes, irritation in the mucous membrane, and gastrointestinal issues.
- Long-term exposure could drastically affect the central nervous system and lead to other related problems like peripheral neuropathy.
- It could also lead to cancer and depression in some cases, though there isn't much evidence to indicate there may be an association between styrene exposure and an increased risk of leukemia.
- Styrene is included in the schedule of the **Manufacture, Storage and Import of Hazardous Chemical Rules, 1989**. The rules lay down strict norms on how it should be handled and stored.

Role of NGT

- The National Green Tribunal slapped an interim penalty of Rs 50 crore on LG Polymers India, and sought response from the Centre and others for the “damage to life, public health, and environment”.
- The National Green Tribunal (NGT) took suo-motu cognizance of the matter
- It formed a committee under a retired judge of the Andhra Pradesh high court to inspect the site and determine the cause of the incident, the damage caused to life, environment and health, and steps to compensate victims.
- In its order, the NGT directed the application of a **strict liability principle** for damage to the people and the environment.

Strict Liability Act

- The principle of strict liability evolved in the case of Rylands v Fletcher in the year 1868.

- It states that “the person who, for purposes of his own, brings on his land, and collects and keeps there anything likely to do mischief if it escapes, must keep it in at his peril, and, if he does not do so, he is prima facie answerable for all the damage which is the natural consequence of its escape.”

Essentials of Strict Liability

- **Dangerous Substances:** The defendant will be held strictly liable only if a “dangerous” substance escapes from his premises.
- **Escape:** The material should escape from the premises and shouldn’t be within the reach of the defendant after its escape.
- **Non-natural Use:** To constitute a strict liability, there should be a non-natural use of the land.

These three conditions need to be satisfied simultaneously to constitute a strict liability.

Laws to Protect Against Chemical Disasters in India

- **Laws Before and During Bhopal Gas Tragedy (1984):**
At the time of the **Bhopal gas tragedy**, the Indian Penal Code (IPC) was the only relevant law specifying criminal liability for such incidents.
- **Laws After Bhopal Gas Tragedy (1984):**
 - **Bhopal Gas Leak (Processing of Claims) Act, 1985:** It gives powers to the central government to secure the claims arising out of or connected with the Bhopal gas tragedy.
Under the provisions of this Act, such claims are dealt with speedily and equitably.
 - **The Environment Protection Act, 1986:** It gives powers to the central government to undertake measures for improving the environment and set standards and inspect industrial units.
 - **The Public Liability Insurance Act, 1991:** It is an insurance meant to provide relief to persons affected by accidents that occur while handling hazardous substances.
 - **The National Environment Appellate Authority Act, 1997:** Under this Act, the National Environment Appellate Authority can hear appeals regarding the restriction of areas in which any industries, operations or processes or class of industries shall not be carried out or shall be carried out subject to certain safeguards under the Environment (Protection) Act, 1986.
 - **National Green Tribunal, 2010:** It provided for the establishment of the **National Green Tribunal** for effective and expeditious disposal of cases related to environmental protection and conservation of forests.

Way Forward

The Andhra Pradesh government must focus immediately on the medical needs of those who have been grievously affected by the gas leak, which has inevitably led to comparisons with the 1984 Bhopal gas disaster.

- **Access to health care:** Solatium payments and compensation for the victims and families are important, but so is access to the highest quality of health care for the victims. The incident is also a warning for industries across India.
- **Develop safety culture:** There's a need to adopt proper safety measures following the best international standards. Three-tier measures are required, which involves
 - Passive safety measures like having a green belt of trees around the periphery of industries should be adopted;
 - Industries should pre-announce to the local people if they use hazardous chemicals;
 - Precautionary drills must be conducted by industries as a part of their CSR programs;
- **Plant Inspection:** Proper plant inspection should be done even during the closure
 - A proper audit of all plants must take place as prevention is better than cure and in this case, it is life-saving.
 - Monitor the health of cattle by bringing in teams of veterinary doctors.
- **Fix Accountability:** Maintenance of Hazardous Chemicals; Have strict legal actions and fix accountability after having a thorough investigation; State government should keep a check on the number of people living near hazardous industries and proper disaster planning must be adopted.

Authorities must look at the safety aspects and take all precautionary measures beforehand, as the lockdown starts being gradually lifted. As India aims for a wider manufacturing base, it needs to strengthen its approach to public and occupational safety. Transparent oversight is not a hurdle to industrial growth. It advances sustainable development by eliminating terrible mistakes.



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<https://youtu.be/UF7ixCcKiHA>

Learn more: Editorial analysis on Vizag Gas Leak.