



Rules for Ammonium Nitrate

Why in News

Recently, the Government has amended the **rules for Ammonium Nitrate** to curb its **pilferage**, **introduce fire-fighting provisions** as well as **improve ways to handle** and store the chemical.

- These rules have been amended from the lesson learnt from the [Beirut Explosion](#) in 2020. Nearly 3,000 tons of ammonium nitrate was stored at **Beirut's port for six years** that detonated in 2020, wreaking death and destruction.

Key Points

▪ About New Rules:

- The rules require that ammonium nitrate received at ports be transferred to storage houses **500 metres beyond the port area**.
- The rules also permit the **auction of seized lots of ammonium nitrate** to ensure safe and speedy disposal besides requiring that Ammonium Nitrate be imported in bagged form only.
- The amendments include **provision for adequate fire-fighting facilities in storage and handling areas**, improvement of flooring in storage and handling areas.
- This will reduce the handling of loose chemicals at port and therefore enhance safety.

▪ About Ammonium Nitrate:

- **Ammonium Nitrate (NH_4NO_3)** is a nitrogen-rich white, crystalline chemical which is soluble in water.
- **Uses:**
 - It is a common chemical ingredient of **agricultural fertilisers**.
 - It is used as an ingredient for the production of **anaesthetic gases** and **cold packs**.
 - It is also the main ingredient in the manufacture of **commercial explosives** used in mining and construction.
- **As Explosive:**
 - It is the main component of the explosive composition known as **ANFO-Ammonium Nitrate Fuel Oil**.
 - Pure ammonium nitrate is not an explosive on its own. For Ammonium nitrate to be explosive, a **primary explosive or detonator** like RDX or TNT is required.
 - Many **Improvised Explosive Devices** (IEDs) used by terrorists around the world have ANFO as the main explosive.
 - **Stored ammonium nitrate is a fire hazard** and can explode in two ways.
 - It may come in contact with some explosive mixture.
 - Due to the oxidation process at large scale, heat may be generated starting a fire and then explosion. This seems to be the primary likely cause of the incident at Beirut port.

◦ **Regulations:**

- **Global:** It is classified as an **oxidising content** (Grade 5.1) under the **United Nations classification of dangerous goods**.
 - The United Nations Committee of Experts on the Transport of Dangerous Goods categorizes the types of dangerous goods, under nine classes like Explosive Materials, Inflammable liquids, Easily oxidising contents etc.
- **India:** In India, the manufacture, conversion, bagging, import, export, transport, possession for sale or use of ammonium nitrate is covered under The **Ammonium Nitrate Rules, 2012**.
 - The **Explosives Act, 1884**, define ammonium nitrate as the “compound with formula **NH_4NO_3** including any mixture or compound having more than 45% ammonium nitrate by weight including emulsions, suspensions, melts or gels but **excluding** emulsion or slurry explosives and non explosives emulsion matrix and fertilizers from which the ammonium nitrate cannot be separated”.
 - Storage of ammonium nitrate in large quantities in populated areas is illegal in India.
 - For the manufacture of ammonium nitrate, an Industrial licence is required under the **Industrial Development and Regulation Act, 1951**.
 - A **license** under the Ammonium Nitrate Rules, 2012 is also required for any activity related to ammonium nitrate.

Source: IE

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