

## Summary of IS 6438 : 1980– Aluminium Phosphide



**Aluminium phosphide** is a highly effective **fumigant** primarily used for **pest control** in **stored food grains** and for **rodent control** in burrows. Available in **tablet** or **pellet** form, it releases **phosphine gas** when exposed to **moisture**, which is **toxic** but essential for **pest management**. The product is popular due to its ease of use and superior efficacy compared to **traditional fumigants**.

This Indian Standard specifies the requirements for **aluminium phosphide formulations**, including the **composition**, **testing methods**, and **safety measures**. The material must consist of **aluminium phosphide** as the **active ingredient**, along with a **chemical fire retardant** and a **suitable binder**. If required by the purchaser, a **warning gas like ammonia may be included**. The aluminium phosphide content should **not be less than 56 percent by mass**, ensuring effectiveness. The product should not release gas or lose shape within 30 minutes of unpacking when exposed to air.

**Packaging and labeling** are critical for **safety**. The container must have details such as **manufacturer's information**, **date of manufacture**, **batch number**, and a **cautionary notice in line with the Insecticides Act**.

**However, it is important to note that phosphine gas** is released during the testing which can be **lethal** if inhaled in high concentrations. **Acute exposure** to phosphine can lead to **severe respiratory distress**, and **cardiovascular collapse**, which may also result in severe illness. The gas interferes with cellular metabolism, affecting the **heart**, **liver**, and **kidneys**, leading to severe damage. **Proper safety measures** such as **ventilation**, **respiratory protection**, and **protective equipment** are essential to prevent exposure and ensure safety. Protective equipment and adherence to safety guidelines are essential when handling aluminium phosphide formulations.