



## **IS 12540, Acrylonitrile- Specification**

**Acrylonitrile** is a critical organic compound primarily used in the production of synthetic fibers (such as acrylic fibers), plastics, and resins, as well as in the manufacture of elastomers, and in the production of chemicals like adiponitrile and acrylamide. Due to its broad industrial applications it is essential to ensure its performance in key quality parameters such as **Distillation Range, Refractive Index, Specific Gravity, Purity Water Content, pH, Non-volatile Matter and Other Impurities Content** so that they do not affect **polymerization** processes or degrade product performance.

To ensure that acrylonitrile meets these requirements, **IS 12540**, a standard formulated by the Bureau of Indian Standards (BIS), provides a comprehensive framework for determining the physical, chemical, and safety properties of acrylonitrile. The standard specifies the testing methods for these key parameters, ensuring consistency and reliability in the product quality.

Given that acrylonitrile is highly reactive and sensitive to air and moisture, IS 12540 also establishes packaging and labeling requirements. These measures help protect the product during transport and storage, maintaining its stability and integrity. The packaging specifications also ensure that the product is properly handled, reducing the risk of contamination or degradation before it reaches the consumer.

The **Quality Control Order** issued by the Department of Chemicals and Petrochemicals mandates that all **acrylonitrile sold, manufactured or imported in India shall comply with IS 12540 under a certification from BIS**. This regulatory directive aims to ensure that only high-quality acrylonitrile is available in the market, supporting safe and efficient industrial applications.

IS 12540 is an essential standard for the production, testing and quality assurance of acrylonitrile which ensures that it meets the rigorous demands of its industrial applications, including **polymerization processes, fiber production, and chemical manufacturing**. Compliance with IS 12540 coupled with appropriate packaging and labeling, guarantees the product's stability, safety, and optimal performance, benefiting both manufacturers and end users. The upcoming regulatory requirements further underscore the importance of adhering to these quality standards to promote consistency, reliability, and safety in the use of acrylonitrile in various sectors.