IS 11744: 2020 PHOSPHOROUS PENTACHLORIDE TECHNICAL — SPECIFICATION

Phosphorous pentachloride is mainly used as a protective chlorinating agent in the manufacture of pharmaceutical and dyestuffs. Phosphorous pentachloride also serves as a catalyst for condensation and cyclization reactions and for improving grain structure of light metal castings and as a reagent in analytical laboratory. It is also used as dehydrating agent.

This Indian Standard (IS 11744: 2020) outlines the requirements for phosphorous pentachloride, a chemical commonly used in various industries.

First, the standard describes the product, phosphorous pentachloride, as a pale yellow, finely granulated powder with an irritating odour. It's soluble in carbon disulphide and carbon tetrachloride. The standard then lists specific requirements for the material, including:

- Minimum phosphorous pentachloride content (97.0% by mass).
- Bulk density (0.9 g/ml).
- Maximum limits for impurities like sulphate (50 ppm), iron (5 ppm), and lead (5 ppm).

Second, based on these requirements, consumers can expect a product of high purity and consistency. The high minimum phosphorous pentachloride content ensures its effectiveness as a chlorinating agent and catalyst in various applications. The limits on impurities guarantee the quality and safety of the product.

Thirdly, the standard outlines specific methods of sampling and testing to ensure that these expectations are met. These methods, detailed in Annexes A and B, cover procedures for determining the percentage of phosphorous pentachloride, bulk density, and the levels of sulphate, iron, and lead. The standard also includes criteria for conformity based on the average and range of test results, ensuring the reliability and consistency of the product.