

## **IS 17916 : 2022 TOLUENE DIISOCYANATE (TDI-80) - SPECIFICATION**

Toluene Diisocyanate (TDI) is an Organic Compound with the formula  $\text{CH}_3\text{C}_6\text{H}_3(\text{NCO})_2$ . There are two isomers of TDI — 2,4-TDI and 2,6-TDI. TDI is marketed as TDI 80/20 (TDI-80) which is a mixture of 80 percent 2,4-toluene diisocyanate (2,4-TDI) and 20 percent 2,6-toluene diisocyanate (2,6-TDI) and also as TDI 65/35 which contains 2,4-TDI and 2,6-TDI isomers in the ratio of 65 : 35, respectively. TDI-80 is available in two types, Type I (for low acidity) and Type II (for high acidity). TDI-80 is mainly used in the production of polyurethane foam and other polyurethane products including elastomers, synthetic leather, coated fabrics, paints and adhesives. Toluene diisocyanate is an irritant to the eyes, skin, and respiratory system. Acute exposure can cause irritation of the nose and throat, shortness of breath, choking, coughing, nausea, vomiting, and abdominal pain.

Indian Standard IS 17916:2022, formulated by the Bureau of Indian Standards (BIS), specifies quality and testing standards for Toluene Diisocyanate (TDI-80), a chemical primarily used in polyurethane production. TDI-80 is a mixture composed of 80% 2,4-toluene diisocyanate and 20% 2,6-toluene diisocyanate. This standard outlines the requirements for TDI-80 with low acidity (Type I), including methods for sampling and testing to ensure consistency in product quality.

The standard includes references to other Indian Standards that provide testing methodologies, such as IS 1070:1992 for reagent-grade water, IS 5299:2001 for dye intermediate testing, and IS 8768:2000, which specifies methods for measuring the color in liquid chemical products.

This Standard issued under the BIS's Chemical Standards program, IS 17916:2022 aims to standardize the quality of TDI-80 used in Indian industries, which supports safety and quality assurance for its applications in manufacturing.

Packing and marking requirements given in the standard provides crucial information about selection of suitable containers and information to be marked on each container and cautionary notice to be marked. Bureau of Indian Standards (BIS) gives third party guarantee to the purchaser when you buy ISI marked product and also redresses the complaints with respect to quality of the products purchased.