N-Dodecane, also known as dodecane or normal dodecane, is a saturated hydrocarbon with the chemical formula C12H26.Conclusion: N-Dodecane is a versatile and important chemical in various industrial applications, primarily valued for its stability, non-reactivity, and solvent properties.Physical State and Appearance: State: Liquid at room temperature Color: Colorless Odor: Odorless Melting and Boiling Points: Melting Point: -9.6?C (14.7?F) Boiling Point: 216.2?C (421.2?F) Density: Density: Approximately 0.75 g/cm3 at 20?C Solubility: Water Solubility: Insoluble in water Solubility in Organic Solvents: Soluble in organic solvents such as alcohols, ethers, and benzene Viscosity: Viscosity: Low viscosity, which increases slightly with decreasing temperature Flash Point: Flash Point: Approximately 74?C (165?F) Applications: Industrial Solvent: Due to its non-polarity and chemical inertness, n-dodecane is commonly used as a solvent in organic reactions and in the formulation of coatings, paints, and varnishes.Chemical and Physical Properties: Molecular Structure: Chemical Formula: C12H26 Molecular Weight: 170.33 g/mol Structure: Linear chain of 12 carbon atoms, each bonded to sufficient hydrogen atoms to satisfy the valency of carbon (C?C?C?C?C?C?C?C?C?C?C?C).Fuel Research: N-Dodecane is used as a reference fuel in combustion research and studies related to internal combustion .engines due to its similarity to diesel fuels