

AUTO-THERMAL REFORMING FOR HYDROGEN PRODUCTION

**SAGAR S. KOLAMBE¹, AVINASH. P. KULKARNI²
AND GANESH R. KALE³**

^{1, 2}Department of Chemical Engineering, Sinhgad College of Engineering Pune, India.
³C. E. & P. D., National Chemical Laboratory, Pune – 411008, India.

Abstract

Auto thermal reforming of hydrocarbon is a combination of steam reforming and partial oxidation reactions occurring over the same catalyst, Hydrogen generation in Auto-thermal reformer (ATR) using gaseous hydrocarbon fuels was studied at various conditions of S/C ratios, O₂/C ratios and also at various conditions of O₂ enrichment in feed air. The ATR outlet gas is mixture of gases (H₂, CO, CO₂, CH₄, H₂O and N₂). The thermodynamic equilibrium studies for ATR of methane and LPG (50 %:50 %, propane: butane) was done.

Keywords: Auto-thermal reformer, Steam reforming, Partial oxidation, Hydrogen, Thermodynamic analysis, Oxygen enrichment etc.