

Hydrothermal Reaction of PCP with NaOH Addition

Benedictus Prabowo*, Antonius Indarto, 김재덕
한국과학기술연구원 청정기술연구센터
(beni@kist.re.kr*)

Study of PCP dechlorination in supercritical water is done with the addition of NaOH in a flow reactor at a pressure of 25 MPa. The temperature is varied between 573 K to 693 K. The residence times of the reactor ranges from 15 to 70 s. PCP is diluted in aqueous solution in the concentration of 500 ppm before the reaction, while the initial concentration of NaOH is varied between 0 and 25 times of the molar concentration of PCP. PCP is analyzed using HPLC and chloride ion using ion chromatography. GC/MS analysis of the effluent is done to identify the intermediate and the decomposed product. The result shows that all PCP is decomposed as the temperature and residence time increases and also very much depends upon the concentration of the added NaOH.