

## Application of carbon, a by-product of CH<sub>4</sub> decomposition hydrogen production using redmud

손남규, 강미숙<sup>†</sup>

영남대학교

(mskang@ynu.ac.kr<sup>†</sup>)

Hydrogen has been produced in various ways as demand for hydrogen economy and eco-friendly fuels has increased. Among them, the simplest way to produce hydrogen is to obtain hydrogen through dry improvement of CH<sub>4</sub>, a natural gas, and it can be easily purified because only hydrogen and carbon are obtained after being improved. However, the disadvantage of this carbon is that it can cause environmental pollution as a result of waste. Therefore, in this study, the dry improvement of CH<sub>4</sub> was carried out using Redmud, which contains a large amount of Fe, and the utilization of the carbon obtained was evaluated in various ways. Redmud responded by coating the alumina balls, and the large amount of carbon produced was intended to be used as graphene manufacturing, battery musicants, and de-heavy metal catalysts by reducing processing.