

МОДЕЛИРОВАНИЕ НАЧАЛЬНЫХ СТАДИЙ ПРОЦЕССА ОКИСЛЕНИЯ АКТИВИРОВАННОГО АЛЮМИНИЯ В ВОДЕ

- [1] Comparative analysis of hydrogen production technologies: Hydrothermal oxidation of the “carbonless” aluminum and water electrolysis / Zhuk A Z, Borzenko V I, Buzoverov E A, Ivanov P P, and Shkolnikov E I // *Renew Energy*. — 2022. — Vol. 197. — P. 1244–50.
- [2] Aluminum and its role as a recyclable, sustainable carrier of renewable energy / Trowell K A, Goroshin S, Frost D L, and Bergthorson J M // *Applied Energy*. — 2020. — Vol. 275. — P. 115112.
- [3] Enhanced hydrogen production properties of a novel aluminum-based composite for instant on-site hydrogen supply at low temperature / Su M, Wang H, Xu H, Chen F, Hu H, and Gan J // *Int. J. of Hydrogen Energy*. — 2022. — Vol. 47, no. 17. — P. 9969–9985. — Access mode: <https://www.sciencedirect.com/science/article/pii/S0360319922001793>.
- [4] Nie H, Schoenitz M, Dreizin E I. Calorimetric investigation of the aluminum–water reaction // *Int. J Hydrogen Energy*. — 2012. — Vol. 37, no. 15. — P. 11035–11045. — Hydrogen Enriched Methane. Access mode: <https://www.sciencedirect.com/science/article/pii/S036031991201155X>.
- [5] Enhanced hydrogen generation from aluminum–water reactions / Yavor Y, Goroshin S, Bergthorson J M, Frost D L, Stowe R, and Ringuette S // *Int J Hydrogen Energy*. — 2013. — Vol. 38, no. 35. — P. 14992–15002. — Access mode: <https://www.sciencedirect.com/science/article/pii/S0360319913022933>.
- [6] Deng Zhen-Yan, Ferreira José. Physicochemical Mechanism for the Continuous Reaction of -Al₂O₃ Modified Al Powder with Water // *J. Am. Ceram. Soc.* — 2007. — 04. — Vol. 90. — P. 1521–1526.
- [7] Razavi-Tousi S S, Szpunar J A. Modification of the Shrinking Core Model for Hydrogen Generation by Reaction of Aluminum Particles with Water // *Int. Journal of hydrogen energy*. — 2016. — Vol. 41. — P. 87.
- [8] Wang Xinyang, Li Gang, Eckhoff Rolf K. Kinetics study of hydration reaction between aluminum powder and water based on an improved multi-stage shrinking core model // *International Journal of Hydrogen Energy*. — 2021. — Vol. 46, no. 67. — P. 33635–33655. — Access mode: <https://www.sciencedirect.com/science/article/pii/S0360319921029207>.
- [9] Rebinder P A, Shchukin E D. Surface phenomena in solids during the course of their deformation and failure // *Sov. Phys. Usp.* — 1973. — Vol. 15. — P. 533–54.
- [10] Activation of aluminum metal and its reaction with water / Kravchenko O V, Semenenko K N, Bulychev B M, and Kalmykov K B // *J Alloys Compd.* — 2005. — Vol. 397. — P. 58–62.
- [11] Enhanced hydrogen generation from Al-water reaction mediated by metal salts / Guo J, Su Z, Tian J, Deng J, Fu T, and Liu Y // *International Journal of Hydrogen Energy*. — 2021. — Vol. 46. — P. 3453–63.
- [12] Enhanced hydrogen production properties of a novel aluminum-based composite for instant on-site hydrogen supply at low temperature / Su M, Wang H, Xu H, Chen F, Hu H, and Gan J // *International Journal of Hydrogen Energy*. — 2022. — Vol. 47. — P. 9969–85.
- [13] Жук А З, Школьников Е И, Долженко А В. Экспериментальное исследование рабочих параметров алюмоводного генератора водорода // *ТВТ*. — 2022. — Т. 60. — С. 637–40.
- [14] Aluminium – Water hydrogen generator for domestic and mobile application / Zhuk A Z, Shkolnikov E I, Borodina T I, Valiano G E, Dolzhenko A V, Kiseleva E A, Kochanova S A, Filippov E D, and Semenova V A // *Applied Energy*. — 2023. — Vol. 334. — P. 120693. — Access mode: <https://www.sciencedirect.com/science/article/pii/S0306261923000570>.
- [15] Reaction of Al powder with water for hydrogen generation under ambient condition / Gai W, Liu W, Deng Z, and Zhou J // *Int.J of Hydrogen Energy*. — 2012. — Vol. 37. — P. 13132–140.
- [16] Metal-water combustion for clean propulsion and power generation / Bergthorson J, Yavor Y, Palecka J, Georges W, Soo M, Vickery J, Goroshin S, Frost D, and Higgins A // *Applied Energy*. — 2017. — Vol. 186. — P. 13–27. — Access mode: <https://www.sciencedirect.com/science/article/pii/S0306261916314726>.
- [17] Vlaskin M.S., Shkolnikov E.I., Bersh A.V. Oxidation kinetics of micron-sized aluminum powder in high-temperature boiling water // *Int J Hydrogen Energy*. — 2011. — Vol. 36, no. 11. — P. 6484–95. — Access mode: <https://www.sciencedirect.com/science/article/pii/S0360319911005726>.
- [18] Oxidation of coarse aluminum in pressured water steam for energy applications / Vlaskin M S, Valiano G E, Zhuk A Z, and Shkolnikov E I // *Int J Energy Res.* — 2020. — Vol. 44. — P. 8689–715.
- [19] Reaction of Al powder with water for hydrogen generation under ambient condition / Zhuk A Z, Sheindlin A E, Kleymenov B V, et al. // *Journal of Power Sources*. — 2006. — Vol. 157. — P. 921–6.
- [20] du Preez Stephanus, Bessarabov D.G. The effects of bismuth and tin on the mechanochemical processing of aluminum-based composites for hydrogen generation purposes // *Int J Hydrogen Energy*. — 2019. — 07. — Vol. 44. — P. 21896–912.