



DAFTAR PUSTAKA

- Abdullah, N., Ujang, Z., & Yahya, A. (2011). Aerobic granular sludge formation for high strength agro-based wastewater treatment. *Bioresource Technology*, 102(12), 6778–6781. <https://doi.org/10.1016/j.biortech.2011.04.009>
- Adav, S. S., Lee, D. J., & Lai, J. Y. (2009). Aerobic granulation in sequencing batch reactors at different settling times. *Bioresource Technology*, 100(21), 5359–5361. <https://doi.org/10.1016/j.biortech.2009.05.058>
- Adav, S. S., Lee, D. J., Show, K. Y., & Tay, J. H. (2008). Aerobic granular sludge: Recent advances. *Biotechnology Advances*, 26(5), 411–423. <https://doi.org/10.1016/j.biotechadv.2008.05.002>
- Al-Kdasi, A., Idris, A., Saed, K., & Guan, C. T. (2004). Treatment of textile wastewater by advanced oxidation processes— A review. *Global Nest Journal*, 6(1), 222–230.
- Baird, R. B., Eaton, A. D., & Rice, E. W. (2017). Standard Methods for the Examination of Water and Wastewater, 23rd edition. In *American Public Health Association*. <https://doi.org/10.1016/B978-0-12-382165-2.00237-3>
- Beun, J. J., Heijnen, J. J., & Loosdrecht, M. C. M. Van. (2001). N-Removal in a Granular Sludge Sequencing Batch Airlift Reactor. *Biotechnology and bioengineering*, 75(1), 82–92.
- Beun, J. J., Van Loosdrecht, M. C. M., & Heijnen, J. J. (2002). Aerobic granulation in a sequencing batch airlift reactor. *Water Research*, 36(3), 702–712. [https://doi.org/10.1016/S0043-1354\(01\)00250-0](https://doi.org/10.1016/S0043-1354(01)00250-0)
- Castro-Barros, C. M. (2013). Guideline for granular sludge reactor design. *SANITAS Technical Reports Series: Modelling*, 10, 18.
- Chan, Y. J., Chong, M. F., Law, C. L., & Hassell, D. G. (2009). A review on anaerobic-aerobic treatment of industrial and municipal wastewater. *Chemical Engineering Journal*, 155(1–2), 1–18. <https://doi.org/10.1016/j.cej.2009.06.041>
- Coma, M., Verawaty, M., Pijuan, M., Yuan, Z., & Bond, P. L. (2012). Enhancing



UNIVERSITAS
GADJAH MADA

EVALUASI DURASI AEROBIK - ANAEROBIK AEROBIC GRANULAR SLUDGE - SEQUENCING BATCH

REACTOR (AGS-SBR)

PADA PENGOLAHAN LIMBAH CAIR BATIK

DIORA ANANDA, Ir. Wiratni., S.T., M.T., Ph.D., IPM.

Universitas Gadjah Mada, 2022 | Diunduh dari <http://etd.repository.ugm.ac.id/>

aerobic granulation for biological nutrient removal from domestic wastewater.

Bioresource Technology, 103(1), 101–108.

<https://doi.org/10.1016/j.biortech.2011.10.014>

de Kreuk, M. K., Kishida, N., & van Loosdrecht, M. C. M. (2007). Aerobic granular sludge - State of the art. *Water Science and Technology*, 55(8–9), 75–81.
<https://doi.org/10.2166/wst.2007.244>

de Kreuk, M. K., & van Loosdrecht, M. C. M. (2004). Selection of slow growing organisms as a means for improving aerobic granular sludge stability. *Water Science and Technology*, 49(11–12), 9–17.
<https://doi.org/10.2166/wst.2004.0792>

De Kreuk, M. K., Van Loosdrecht, M. C. M., & Heijnen, J. J. (2006). Aerobic granular sludge : scaling up a new technology. In *Department of Biochemical Engineering*.

de Sousa Rollemburg, S. L., Mendes Barros, A. R., Milen Firmino, P. I., & Bezerra dos Santos, A. (2018). Aerobic granular sludge: Cultivation parameters and removal mechanisms. *Bioresource Technology*, 270, 678–688.
<https://doi.org/10.1016/j.biortech.2018.08.130>

Dionisi, D., Rasheed, A. A., & Majumder, A. (2016). A new method to calculate the periodic steady state of sequencing batch reactors for biological wastewater treatment: Model development and applications. *Journal of Environmental Chemical Engineering*, 4(3), 3665–3680.
<https://doi.org/10.1016/j.jece.2016.07.032>

Giesen, A., de Bruin, L. M. M., Niermans, R. P., & van der Roest, H. F. (2013). Advancements in the application of aerobic granular biomass technology for sustainable treatment of wastewater. *Water Practice and Technology*, 8(1), 47–54. <https://doi.org/10.2166/wpt.2013.007>

Hadiwidodo, M., & Huboyo, H. S. (2009). Penurunan Warna, Cod Dan Tss Limbah Cair Industri Tekstil Menggunakan Teknologi Dielectric Barrier Discharge Dengan Variasi Tegangan Dan Flow Rate Oksigen. *Jurnal Presipitasi*, 6(2), 16–22. <https://doi.org/10.14710/presipitasi.v6i2.16-22>



EVALUASI DURASI AEROBIK - ANAEROBIK AEROBIC GRANULAR SLUDGE - SEQUENCING BATCH

REACTOR (AGS-SBR)

PADA PENGOLAHAN LIMBAH CAIR BATIK

DIORA ANANDA, Ir. Wiratni., S.T., M.T., Ph.D., IPM.

UNIVERSITAS

GADJAH MADA

Universitas Gadjah Mada, 2022 | Diunduh dari <http://etd.repository.ugm.ac.id/>

Jannah, I. N., & Muhammatin, I. (2019). Pengelolaan Limbah Cair Industri Batik

menggunakan Mikroorganisme di Kecamatan Cluring Kabupaten Banyuwangi.

Warta Pengabdian, 13(3), 106–115. <https://doi.org/10.19184/wrtp.v13i3.12262>

Liu, Y.-Q., & Tay, J.-H. (2006). Variable aeration in sequencing batch reactor with aerobic granular sludge. *Journal of Biotechnology*, 124(2), 338–346.
<https://doi.org/10.1016/j.jbiotec.2005.12.037>

Liu, Y. Q., & Tay, J. H. (2003). The competition between flocculent sludge and aerobic granules during the long-term operation period of granular sludge sequencing batch reactor. *Environmental Technology (United Kingdom)*, 33(23), 2619–2626. <https://doi.org/10.1080/09593330.2012.673011>

Liu, Y. Q., & Tay, J. H. (2007). Influence of cycle time on kinetic behaviors of steady-state aerobic granules in sequencing batch reactors. *Enzyme and Microbial Technology*, 41(4), 516–522.
<https://doi.org/10.1016/j.enzmicro.2007.04.005>

Liu, Y. Q., & Tay, J. H. (2015). Fast formation of aerobic granules by combining strong hydraulic selection pressure with overstressed organic loading rate. *Water Research*, 80, 256–266. <https://doi.org/10.1016/j.watres.2015.05.015>

Liu, Y. Q., Wu, W. W., Tay, J. H., & Wang, J. L. (2007). Starvation is not a prerequisite for the formation of aerobic granules. *Applied Microbiology and Biotechnology*, 76(1), 211–216. <https://doi.org/10.1007/s00253-007-0979-8>

Lourenco, N. D., Novais, J. M., & Pinheiro, H. M. (2000). Reactive textile dye colour removal in a sequencing batch reactor. *Water Science and Technology*, 42(5–6), 321–328. <https://doi.org/10.2166/wst.2000.0531>

Martins, A. M. P., Pagilla, K., Heijnen, J. J., & Van Loosdrecht, M. C. M. (2004). Filamentous bulking sludge - A critical review. *Water Research*, 38(4), 793–817.
<https://doi.org/10.1016/j.watres.2003.11.005>

Mata, A. M. T., Pinheiro, H. M., & Lourenço, N. D. (2015). Effect of sequencing batch cycle strategy on the treatment of a simulated textile wastewater with aerobic granular sludge. *Biochemical Engineering Journal*, 104.
<https://doi.org/10.1016/j.bej.2015.04.005>



- Moertinah, S., Djarwanti, Sartamto, Yuliastuti, R., & Yuliasni, R. (2010). Peningkatan Kinerja Lumpur Aktif dengan Penambahan Karbon Aktif dalam Pengolahan Air Limbah Industri Tekstil Pewarnaan dengan Zat Warna Indigo & Sulfur. In *Jurnal Riset Industri: Vol. IV* (Nomor 1, hal. 23–33).
- Morales, N., Figueroa, M., Mosquera-Corral, A., Campos, J. L., & Méndez, R. (2012). Aerobic granular-type biomass development in a continuous stirred tank reactor. *Separation and Purification Technology*, 89, 199–205. <https://doi.org/10.1016/j.seppur.2012.01.024>
- Ni, B.-J. (2012). *Formation, Characterization and Mathematical Modeling of the Aerobic Granular Sludge*. Springer Theses.
- Nicolella, C., Van Loosdrecht, M. C. M., & Heijnen, J. J. (2000). Wastewater treatment with particulate biofilm reactors. *Journal of Biotechnology*, 80(1), 1–33. [https://doi.org/10.1016/S0168-1656\(00\)00229-7](https://doi.org/10.1016/S0168-1656(00)00229-7)
- Pishgar, R., Kanda, A., Gress, G. R., Gong, H., Dominic, J. A., & Tay, J. H. (2018). Effect of aeration pattern and gas distribution during scale-up of bubble column reactor for aerobic granulation. *Journal of Environmental Chemical Engineering*, 6(5), 6431–6443. <https://doi.org/10.1016/j.jece.2018.10.006>
- Pishgar, Roya, Dominic, J. A., Tay, J. H., & Chu, A. (2020). Pilot-scale investigation on nutrient removal characteristics of mineral-rich aerobic granular sludge: Identification of uncommon mechanisms. *Water Research*, 168, 115151. <https://doi.org/10.1016/j.watres.2019.115151>
- Qin, L., Liu, Y., & Tay, J. H. (2004). Effect of settling time on aerobic granulation in sequencing batch reactor. *Biochemical Engineering Journal*, 21(1), 47–52. <https://doi.org/10.1016/j.bej.2004.03.005>
- Rosman, N. H., Nor Anuar, A., Othman, I., Harun, H., Sulong, M. Z., Elias, S. H., Mat Hassan, M. A. H., Chelliapan, S., & Ujang, Z. (2013). Cultivation of aerobic granular sludge for rubber wastewater treatment. *Bioresource Technology*, 129, 620–623. <https://doi.org/10.1016/j.biortech.2012.12.113>



Sengar, A., Basheer, F., Aziz, A., & Farooqi, I. H. (2018). Aerobic granulation technology: Laboratory studies to full scale practices. *Journal of Cleaner Production*, 197, 616–632. <https://doi.org/10.1016/j.jclepro.2018.06.167>

Setiadi, T., Andriani, Y., & Erlania, M. (2002). *by a Combination of Treatment of Textile Wastewater A Denim Processing Plant Case and Aerobic Processes : Anaerobic.*

Show, K. Y., Lee, D. J., & Tay, J. H. (2012). Aerobic granulation: Advances and challenges. *Applied Biochemistry and Biotechnology*, 167(6), 1622–1640. <https://doi.org/10.1007/s12010-012-9609-8>

Shuler, M. L., & Kargi, F. (2002). *in the Physical and Chemical Engineering Sciences*. Bioprocess Engineering.

Silva, F. C., Martins, M. A. S., Bilro, L., Nogueira, R. N., Capela, I., & Keizer, J. J. (2015). Optical Fiber Technology for Monitoring and Preventing Biomass Washout from Bioreactors: A Case Study with a Sequencing Batch Reactor (SBR). *Water, Air, and Soil Pollution*, 226(6). <https://doi.org/10.1007/s11270-015-2448-9>

Suprihatin, H. (2014). Kandungan Organik Limbah Cair Industri Batik Jetis Sidoarjo Dan Alternatif Pengolahannya [Organic Content of Liquid Waste in the Batik Jetis Industry in Sidoarjo and its Alternative Processing]. *Pusat Penelitian Lingkungan Hidup Universitas Riau*, 130–138.

von Sperling, M. (1998). A new method for the design of sequencing batch reactors (sbr) using the concept of the hindered settling velocity of the sludge. *Environmental Technology (United Kingdom)*, 19(12), 1223–1231. <https://doi.org/10.1080/09593331908616782>

Wang, S. G., Liu, X. W., Gong, W. X., Gao, B. Y., Zhang, D. H., & Yu, H. Q. (2007). Aerobic granulation with brewery wastewater in a sequencing batch reactor. *Bioresource Technology*, 98(11), 2142–2147. <https://doi.org/10.1016/j.biortech.2006.08.018>

Wang, Z. W., Liu, Y., & Tay, J. H. (2006). The role of SBR mixed liquor volume exchange ratio in aerobic granulation. *Chemosphere*, 62(5), 767–771.



UNIVERSITAS
GADJAH MADA

EVALUASI DURASI AEROBIK - ANAEROBIK AEROBIC GRANULAR SLUDGE - SEQUENCING BATCH

REACTOR (AGS-SBR)

PADA PENGOLAHAN LIMBAH CAIR BATIK

DIORA ANANDA, Ir. Wiratni., S.T., M.T., Ph.D., IPM.

Universitas Gadjah Mada, 2022 | Diunduh dari <http://etd.repository.ugm.ac.id/>

<https://doi.org/10.1016/j.chemosphere.2005.04.081>

Yan S, N. K., & Tyagi, R. (2016). EPS producing microorganisms from municipal wastewater activated sludge. *Journal of Petroleum & Environmental Biotechnology*, 07(01), 1–13. <https://doi.org/10.4172/2157-7463.1000255>

Yang, S. F., Liu, Q. S., Tay, J. H., & Liu, Y. (2004). Growth kinetics of aerobic granules developed in sequencing batch reactors. *Letters in Applied Microbiology*, 38(2), 106–112. <https://doi.org/10.1111/j.1472-765X.2003.01452.x>

Zahra, N. L., Sugiyana, D., & Notodarmojo, S. (2014). Liat Lokal Alami Adsorption of Reactive Red 141 Textile Dye Onto Natural. *Arena Tekstil*, 29(2), 68–72.

Zheng, Y. M., Yu, H. Q., Liu, S. J., & Liu, X. Z. (2006). Formation and instability of aerobic granules under high organic loading conditions. *Chemosphere*, 63(10), 1791–1800. <https://doi.org/10.1016/j.chemosphere.2005.08.055>