

DAFTAR PUSTAKA

- American Petroleum Institute, 2016. API 650: Welded Steel Tanks for Oil Storage (Addendum 2), 12th ed. American Petroleum Institute, Washington, D.C.
- American Petroleum Institute, 2007. API 650: Welded Steel Tanks for Oil Storage, 11th ed. American Petroleum Institute, Washington, D.C.
- Aries, R.S., Newton, R.D., 1955. Chemical Engineering Cost Estimation. McGraw-Hill Book Company, Inc., New York.
- B&P Littleford, 2017. Podbielniak® Extractor Centrifuge.
- Bajpai, R.K., Reuß, M., 1980. A mechanistic model for penicillin production. *J. Chem. Technol. Biotechnol.* 30, 332–344. <https://doi.org/10.1002/jctb.503300140>
- Balcioğlu, I.A., Ötker, M., 2003. Treatment of pharmaceutical wastewater containing antibiotics by O₃ and O₃/H₂O₂ processes. *Chemosphere* 50, 85–95. [https://doi.org/10.1016/S0045-6535\(02\)00534-9](https://doi.org/10.1016/S0045-6535(02)00534-9)
- Barber, W.P., Stuckey, D.C., 1999. The use of the anaerobic baffled reactor (ABR) for wastewater treatment: A review. *Water Res.* [https://doi.org/10.1016/S0043-1354\(98\)00371-6](https://doi.org/10.1016/S0043-1354(98)00371-6)
- Beaudry, F., 2019. Is Road Salt Damaging to the Environment? [WWW Document]. ThoughtCo. URL <https://www.thoughtco.com/environmental-effects-of-road-salt-1204123> (accessed 3.26.20).
- BETE Fog Nozzle Inc., 2018. BETE Equipment and Tank Washing Solutions Brochure.
- Brown, G.G., Foust, A.S., Katz, D.L., Schneidewind, R., White, R.R., Wood, W.P., Brown, G.M., Brownell, L.E., Martin, J.J., Williams, G.B., Banchemo, J.T., York, J.L., 1950. Unit Operations. CBS Publishers & Distributors, New Delhi.
- Brownell, L.E., Young, E.H., 1959. Process Equipment Design. John Wiley & Sons, Inc., New York.
- Budidarmo, V., 2017. Kesiapan Pengembangan dan Produksi Bahan Baku Obat di Indonesia.
- Carl Roth, 2019. Penicillin G Potassium Salt, 100 g [WWW Document]. URL <https://www.carlroth.com/com/en/penicillin-g-potassium-salt/p/cn29.3> (accessed 6.8.20).
- Chong, S., Sen, T.K., Kayaalp, A., Ang, H.M., 2012. The performance enhancements of upflow anaerobic sludge blanket (UASB) reactors for domestic sludge treatment - A

- State-of-the-art review. *Water Res.* <https://doi.org/10.1016/j.watres.2012.03.066>
- Couper, J.R., Penney, W.R., Fair, J.R., Walas, S.M., 2012. *Chemical Process Equipment*, 3rd ed, Chemical Process Equipment. Elsevier Inc., Waltham. <https://doi.org/10.1016/C2011-0-08248-0>
- Crowl, D.A., Tipler, S.A., 2013. Sizing Pressure-Relief Devices. *Chem. Eng. Prog.* 68–76.
- Doran, P.M., 2013. *Bioprocess engineering principles*. Elsevier/Academic Press.
- Drugs.com, 2018. Penicillin G Potassium Uses, Side Effects & Warnings [WWW Document]. URL <https://www.drugs.com/mtm/penicillin-g-potassium.html> (accessed 5.1.20).
- Eawag, Spuhler, D., 2019. Anaerobic Baffled Reactor (ABR) [WWW Document]. *Sustain. Sanit. Water Manag.* URL <https://sswm.info/taxonomy/term/3931/anaerobic-baffled-reactor-%28abr%29> (accessed 3.18.20).
- Engineering ToolBox, 2009. Induction Motors - Synchronous and Full Load Speed [WWW Document]. URL https://www.engineeringtoolbox.com/synchronous-full-load-speed-induction-motors-d_1448.html (accessed 12.14.19).
- Engineering ToolBox, 2003a. ASME/ANSI B36.10/19 - Carbon, Alloy and Stainless Steel Pipes - Dimensions [WWW Document]. URL https://www.engineeringtoolbox.com/steel-pipes-dimensions-d_43.html (accessed 12.13.19).
- Engineering ToolBox, 2003b. Air - Density, Specific Weight and Thermal Expansion Coefficient at Varying Temperature and Constant Pressures [WWW Document]. URL https://www.engineeringtoolbox.com/air-density-specific-weight-d_600.html (accessed 12.30.19).
- Gandy, D., 2007. *Carbon Steel Handbook*. Palo Alto.
- Goldrick, S., Ștefan, A., Lovett, D., Montague, G., Lennox, B., 2015. The development of an industrial-scale fed-batch fermentation simulation. *J. Biotechnol.* 193, 70–82. <https://doi.org/10.1016/J.JBIOTECH.2014.10.029>
- Green, D.W., Perry, R.H., 2008. *Perry's Chemical Engineers' Handbook*, 8th ed. McGraw-Hill Companies, Inc., New York. <https://doi.org/10.1036/0071422943>
- Health and Safety Executive, 2015. *Storage of Flammable Liquids in Tanks*, 2nd ed. HSE Books, London.
- Holman, J.P., 2010. *Heat Transfer*, 10th ed. McGraw-Hill, New York.
- Institution of Chemical Engineers, 1999. *14th International Symposium on Industrial*

- Crystallization, Symposium on Industrial Crystallization. Institution of Chemical Engineers, Rugby, UK.
- Kern, D.Q., 1950. Process Heat Transfer. McGraw-Hill Book Company, Inc., New York.
- Kheirulomoom, A., Kazemi-Vaysari, A., Ardjmand, M., Baradar-Khoshfetrat, A., 1999. The combined effects of pH and temperature on penicillin G decomposition and its stability modeling. *Process Biochem.* 35, 205–211. [https://doi.org/https://doi.org/10.1016/S0032-9592\(99\)00052-7](https://doi.org/https://doi.org/10.1016/S0032-9592(99)00052-7)
- Kok, R., Zajic, J.E., 1975. A mechanical foam breaker. *Biotechnol. Bioeng.* <https://doi.org/10.1002/bit.260170212>
- Kopelevich, M., 2002. Illustrated Glossary of Organic Chemistry: Penicillin [WWW Document]. Dep. Chem. Biochem. Univ. Calif. Los Angeles. URL <http://www.chem.ucla.edu/~harding/IGOC/P/penicillin.html> (accessed 6.8.20).
- Krahe, M., 2005. Biochemical Engineering, in: Ullmann's Chemical Engineering and Plant Design Volume 2. Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim, pp. 1117–1186.
- Kunii, D., Levenspiel, O., 1991. Fluidization Engineering, 2nd ed. Butterworth-Heinemann, Stoneham, MA.
- Kurt, A., Mert, B.K., Özengin, N., Sivrioğlu, Ö., Yonar, T., 2017. Treatment of Antibiotics in Wastewater Using Advanced Oxidation Processes (AOPs), in: Physico-Chemical Wastewater Treatment and Resource Recovery. InTech. <https://doi.org/10.5772/67538>
- Liu, S., 2016. Bioprocess Engineering: Kinetics, Sustainability, and Reactor Design: Second Edition, 2nd ed, Bioprocess Engineering: Kinetics, Sustainability, and Reactor Design: Second Edition. Elsevier Inc.
- M-I SWACO, 2014. Centrifuges Brochure.
- Mazille, F., Spuhler, D., 2014. Ozonation | SSWM [WWW Document]. Sustain. Sanit. Water Manag. URL <http://archive.sswm.info/category/implementation-tools/water-purification/hardware/semi-centralised-drinking-water-treatme-10> (accessed 3.18.20).
- Mechanical Engineering Site, 2017. Boiler Cold End Corrosion - Mechanism and Prevention Methods [WWW Document]. URL <http://www.mechanicalengineeringsite.com/boiler-cold-end-corrosion-mechanism-and-prevention-methods/> (accessed 4.3.20).
- Menezes, J.C., Alves, S.S., Lemos, J.M., de Azevedo, S.F., 1994. Mathematical modelling of industrial pilot-plant penicillin-G fed-batch fermentations. *J. Chem. Technol. Biotechnol.* 61, 123–138. <https://doi.org/10.1002/jctb.280610207>

- Metzner, A.B., Feehs, R.H., Ramos, H.L., Otto, R.E., Tuthill, J.D., 1961. Agitation of viscous Newtonian and non-Newtonian fluids. *AICHE J.* 7, 3–9. <https://doi.org/10.1002/aic.690070103>
- Moss, D.R., Basic, M., 2013. *Pressure Vessel Design Manual*, 4th ed. Butterworth-Heinemann, Oxford.
- Mujumdar, A.S., 2015. *Handbook of Industrial Drying*, 4th ed. Taylor & Francis Group, LLC, Boca Raton.
- Mulyo, A., 2014. Potensi Air Sungai Kabupaten Lampung Tengah Provinsi Lampung, in: *Seminar Nasional Fakultas Teknik Geologi Universitas Padjadjaran*. Fakultas Teknik Geologi Universitas Padjadjaran, Bandung, p. 17.
- Najafpour, G.D., 2015. *Biochemical Engineering and Biotechnology: Second Edition*, 2nd ed, *Biochemical Engineering and Biotechnology: Second Edition*. Elsevier Inc.
- Najum, J., 2019. Pond: Using Algae to Turn CO₂ to Our Many Advantages [WWW Document]. *Sustain. Brand*. URL <https://sustainablebrands.com/read/cleantech/pond-using-algae-to-turn-co2-to-our-many-advantages> (accessed 3.26.20).
- Perry, R.H., Green, D.W., 1997. *Perry's Chemical Engineers' Handbook*, 7th ed. McGraw-Hill Companies, Inc., New York.
- Rase, H.F., 1977. *Chemical Reactor Design for Process Plants Volume One: Principles and Techniques*. John Wiley & Sons, Inc., New York.
- Ridlo, R., 2017. *Dasar-dasar Fermentasi Anaerobik* [WWW Document]. *Pus. Stud. Sumber Daya Energi dan Ind. Kim. BPPT*. URL <https://ptseik.bppt.go.id/artikel-ilmiah/16-dasar-dasar-fermentasi-anaerobik> (accessed 3.18.20).
- Rutherford, K., Lee, K.C., Mahmoudi, S.M.S., Yianneskis, M., 1996. Hydrodynamic characteristics of dual Rushton impeller stirred vessels. *AICHE J.* 42, 332–346. <https://doi.org/10.1002/aic.690420204>
- SaintyTec, 2019. *Fluid Bed Dryers* [WWW Document]. URL <https://www.saintytec.com/fluid-bed-dryers/> (accessed 6.6.20).
- Saito, F., Nienow, A.W., Chatwin, S., Moore, I.P.T., 1992. Power, gas dispersion and homogenisation characteristics of Scaba SRGT and rushton turbine impellers. *J. Chem. Eng. Japan* 25, 281–287. <https://doi.org/10.1252/jcej.25.281>
- Sardeing, R., Aubin, J., Poux, M., Xuereb, C., 2004. Gas-Liquid Mass Transfer: Influence of Sparger Location. *Trans. Inst. Chem. Eng.* 82, 1161–1168.
- Senadeera, W., 2009. Minimum fluidization velocity of food materials: Effect of moisture

- and shape. *Chem. Prod. Process Model.* 4, 21. <https://doi.org/10.2202/1934-2659.1283>
- Serth, R.W., Lestina, T.G., 2014. *Process Heat Transfer: Principles, Applications and Rules of Thumb*, 2nd ed. Elsevier Inc., Oxford.
- Shuler, M.L., Kargi, F., 2002. Bioprocess engineering: Basic concepts, *Journal of Controlled Release.* [https://doi.org/10.1016/0168-3659\(92\)90106-2](https://doi.org/10.1016/0168-3659(92)90106-2)
- Sinnott, R.K., 2005. *Coulson & Richardson's Chemical Engineering Volume 6*, 4th ed. Elsevier Butterworth-Heinemann, Oxford.
- Sinnott, R.K., Towler, G., 2012. *Chemical Engineering Design*, 2nd ed, Chemical Engineering Design. Elsevier Ltd, Oxford. <https://doi.org/10.1016/C2009-0-61216-2>
- Sinnott, R.K., Towler, G.P., 2020. *Chemical Engineering Design*, 6th ed. Butterworth-Heinemann, Oxford.
- Smith, J.M., Van Ness, H.C., Abbott, M.M., Swihart, M.T., 2018. *Introduction to Chemical Engineering Thermodynamics*, 8th ed. McGraw-Hill Education, New York.
- Solomons, T.W.G., Fryhle, C.B., Snyder, S.A., 2016. *Organic Chemistry*, 12th ed. John Wiley & Sons, Inc., Hoboken, NJ.
- Takesono, S., Onodera, M., Yamagiwa, K., Ohkawa, A., 1993. Design and operation of rotating-disk foam-breakers fitted to tower fermenters. *J. Chem. Technol. Biotechnol.* 57, 237–246. <https://doi.org/10.1002/jctb.280570307>
- Tchobanoglous, G., Burton, F.L., Stensel, H.D., 2003. *Wastewater Engineering: Treatment and Use*, 4th ed. McGraw-Hill Companies, Inc.
- Tiller, V., Meyerhoff, J., Sziele, D., Schügerl, K., Bellgardt, K.H., 1994. Segregated mathematical model for the fed-batch cultivation of a high-producing strain of *Penicillium chrysogenum*. *J. Biotechnol.* 34, 119–131. [https://doi.org/10.1016/0168-1656\(94\)90082-5](https://doi.org/10.1016/0168-1656(94)90082-5)
- Tiwari, B., Drogui, P., Tyagi, R.D., 2020. Chapter 18 - Removal of emerging micro-pollutants from pharmaceutical industry wastewater, in: Varjani, S., Pandey, A., Tyagi, R.D., Ngo, H.H., Larroche, C. (Eds.), *Current Developments in Biotechnology and Bioengineering*. Elsevier, pp. 457–480. <https://doi.org/https://doi.org/10.1016/B978-0-12-819594-9.00018-8>
- Treybal, R.E., 1981. *Mass-Transfer Operations*, 3rd ed. McGraw-Hill Book Company, Inc., Singapore.
- Ulrich, G.D., 1984. *A Guide to Chemical Engineering Process Design and Economics*. John Wiley & Sons, Inc., New York.

- Voutchkov, N., 2017. Fundamentals of Clarifier Performance Monitoring and Control. SunCam, Winter City.
- Wang, B., Liu, H., Cai, C., Thabit, M., Wang, P., Li, G., Duan, Z., 2016. Effect of dry mycelium of *Penicillium chrysogenum* fertilizer on soil microbial community composition, enzyme activities and snap bean growth. *Environ. Sci. Pollut. Res.* 23, 20728–20738. <https://doi.org/10.1007/s11356-016-7251-7>
- You, S.T., Raman, A.A.A., Shah, R.S.S.R.E., Mohamad Nor, M.I., 2014. Multiple-impeller stirred vessel studies. *Rev. Chem. Eng.* 30, 323–336. <https://doi.org/10.1515/revce-2013-0028>