

## DAFTAR PUSTAKA

- Adamou, P., Harkou, E., Villa, A., Constantinou, A., Dimitratos, N. 2024. Ultrasonic Reactor Set-Ups and Applications: A Review. *Ultrasonics Sonochemistry*, 107, 106925. <https://doi.org/10.1016/j.ultsonch.2024.106925>
- Akhter, M.J., Sarkar, S., Sharmin, T., Mondal, S.C. 2024. Extraction of Pectin from Powdered Citrus Peels Using Various Acids: An Analysis Contrasting Orange with Lime. *Applied Food Research*, 4, 100614. <https://doi.org/10.1016/j.afres.2024.100614>
- American Water Works Association. (1971). *Water quality and treatment: A handbook of public water supplies*. New York: McGraw-Hill.
- Aries, R. S., & Newton, R. D. (1955). *Chemical Engineering Cost Estimation*. New York: McGraw-Hill Book Company.
- Badan Nasional Penanggulangan Bencana (BNPB). 2026. inaRISK: Indeks Risiko Bencana Indonesia. <https://inarisk.bnpb.go.id/>
- Badan Penanggulangan Bencana Daerah (BPBD) Provinsi Jawa Timur. 2023. Indeks Risiko Bencana Provinsi Jawa Timur Tahun 2023.
- Badan Penanggulangan Bencana Daerah (BPBD) Provinsi Jawa Timur. 2022. Dokumen Kajian Risiko Bencana Nasional Jawa Timur 2022-2026.
- Badan Penyelenggara Jaminan Sosial (BPJS) Ketenagakerjaan. (2015). Undang-Undang Nomor 24 Tahun 2011 tentang Badan Penyelenggara Jaminan Sosial. Jakarta: BPJS Ketenagakerjaan.
- Badan Pusat Statistik. *Data Ekspor Impor (Exim) Dinamis* — filter HS Code 130220 untuk komoditas pektin. <https://www.bps.go.id/id/exim>
- Badan Pusat Statistik. (2025). *Statistik Hortikultura 2024*. Jakarta: BPS-Statistics Indonesia. <https://www.bps.go.id/id/publication/2025/06/10/aab67e4d36ea6d7bed30d79f/statistik-hortikultura-2024.html>
- Badan Standardisasi Nasional. (2000). *SNI 03-1735-2000 Tata cara perencanaan akses bangunan dan akses lingkungan untuk pencegahan bahaya kebakaran pada bangunan gedung*. Jakarta: Badan Standardisasi Nasional.
- Badan Standardisasi Nasional. (2009). *SNI 7268:2009 Tata cara perencanaan sistem penyediaan air umpan boiler*. Jakarta: Badan Standardisasi Nasional.

- Bank Rakyat Indonesia. (2026). *Informasi Suku Bunga Kredit Bank BRI*.
- Brownell, L.E., Young, E.H. 1958. *Process Equipment Design: Vessel Design*. New York: John Wiley & Sons.
- Business Analytiq. (2026). *Global Commodity Price Database*.
- Casas-Orozco, D., Villa, A. L., Bustamante, F., & González, L. M. (2015). Process development and simulation of pectin extraction from orange peels. *Food and Bioproducts Processing (Elsevier)*, 96, 86–98. DOI: <https://doi.org/10.1016/j.fbp.2015.07.007>
- Chan, S. Y., Choo, W. S., Young, D. J., & Loh, X. J. (2017). Pectin as a rheology modifier: Origin, structure, commercial production and rheology. *Carbohydrate Polymers (Elsevier)*, 161, 118–139. DOI: <https://doi.org/10.1016/j.carbpol.2016.12.033>
- Chemical Engineering Magazine. (2024). *Chemical Engineering Plant Cost Index (CEPCI)*.
- Cho, E.-H., Jung, H.-T., Lee, B.-H., Kim, H.-S., Rhee, J.-K., & Yoo, S.-H. (2019). Green process development for apple-peel pectin production by organic acid extraction. *Carbohydrate Polymers (Elsevier)*, 204, 97–103. DOI: <https://doi.org/10.1016/j.carbpol.2018.09.086>
- Coulson, J. M., Richardson, J. F., Backhurst, J. R., & Harker, J. H. (2017). *Coulson and Richardson's chemical engineering: Volume 6 – Chemical engineering design* (4th ed.). Oxford: Elsevier.
- Dávila, J. A., Rosenberg, M., & Cardona, C. A. (2015). Techno-economic and Environmental Assessment of p-Cymene and Pectin Production from Orange Peel. *Waste and Biomass Valorization*, 6(2), 253–261. DOI: <https://doi.org/10.1007/s12649-014-9352-9>
- Dranca, F., & Oroian, M. (2018). Extraction, purification and characterization of pectin from alternative sources with potential technological applications. *Food Research International (Elsevier)*, 113, 327–350. DOI: <https://doi.org/10.1016/j.foodres.2018.06.065>
- Filianty, F., Alifia, R.N., Yuliana, T., Yusuf, A., Putri, S.H. 2024. Optimization of Pectin Extraction Process from Albedo of Citrus Lemon (*Citrus limon*) Using

- Ultrasonic Method. *Industria: Jurnal Teknologi dan Manajemen Agroindustri*, 13(1), 85–97. <https://doi.org/10.21776/ub.industria.2024.013.01.6>
- Foust, A.S., Wenzel, L.A., Clump, C.W., Maus, L., Andersen, L.B. 1980. Principles of Unit Operations. New York: John Wiley & Sons.
- Geankoplis, C.J. (1993). Transport Processes and Unit Operations. New Jersey: Prentice-Hall.
- Geankoplis, C.J. (1997). Transport Processes and Unit Operations. New Jersey: Prentice-Hall.
- Hosseini, S. S., Khodaiyan, F., & Yarmand, M. S. (2016). Optimization of microwave assisted extraction of pectin from sour orange peel and its physicochemical properties. *Carbohydrate Polymers (Elsevier)*, 140, 59–65. DOI: <https://doi.org/10.1016/j.carbpol.2015.12.051>
- International Organization for Standardization. (2010). ISO 26000:2010 — Guidance on Social Responsibility. Geneva: ISO. <https://www.iso.org/standard/42546.html>
- International Organization for Standardization. (2020). *ISO 22449-1:2020 Industrial cooling systems — Water quality — Part 1: Assessment of water quality parameters*. Geneva: ISO.
- Kementerian Kesehatan Republik Indonesia. (2023). *Peraturan Menteri Kesehatan Republik Indonesia Nomor 2 Tahun 2023 tentang peraturan pelaksanaan Peraturan Pemerintah Nomor 66 Tahun 2014 tentang kesehatan lingkungan*. Jakarta: Kementerian Kesehatan Republik Indonesia.
- Kern, D.Q. 1965. Process Heat Transfer. New York: McGraw-Hill.
- Lohrasbi, M., Pourbafrani, M., Niklasson, C., & Taherzadeh, M. J. (2010). Process design and economic analysis of a citrus waste biorefinery with biofuels and limonene as products. *Bioresource Technology (Elsevier)*, 101(19), 7382–7388. DOI: <https://doi.org/10.1016/j.biortech.2010.04.078>
- Mc Cetta, J. J., & Cunningham, W. A. (1993). Propylene Oxide. *Encyclopedia of Chemical Processing and Design*, 45, 589.
- MSDS Asam Sitrat. Sigma Aldrich SDS No. 251275. Millipore Sigma (2023). Link: <https://www.sigmaaldrich.com/ID/en/sds/sial/251275>
- MSDS Isopropil Alkohol (2-Propanol, IPA). PT. Pancasakti Putra Kencana, No. MSDS 023. Website: [www.pancasakti.co.id](http://www.pancasakti.co.id)

- MSDS *Pektin*. Sigma Aldrich SDS No. P9135 (CAS 9000-69-5). Millipore Sigma (2023). Link: <https://www.sigmaaldrich.com/ID/en/sds/SIAL/P9135>
- Müller-Maatsch, J., Bencivenni, M., Caligiani, A., et al. (2016). Pectin content and composition from different food waste streams. *Food Chemistry (Elsevier)*, 201, 37–45. DOI: <https://doi.org/10.1016/j.foodchem.2016.01.012>
- National Fire Protection Association. (2022). *NFPA 20: Standard for the installation of stationary pumps for fire protection*. Massachusetts: NFPA.
- Pemerintah Republik Indonesia. (2021). *Peraturan Pemerintah Republik Indonesia Nomor 22 Tahun 2021 tentang penyelenggaraan perlindungan dan pengelolaan lingkungan hidup*. Jakarta: Pemerintah Republik Indonesia.
- Peters, M.S., Timmerhaus, K.D. 1990. *Plant Design and Economics for Chemical Engineers*, 4th Edition. New York: McGraw-Hill.
- Peters, M. S., & Timmerhaus, K. D. (2004). *Plant Design and Economics for Chemical Engineers* (5th ed.). New York: McGraw-Hill. <https://www.mheducation.com/highered/product/plant-design-economics-chemical-engineers>
- Perry, R.H., Green, D.W. (1997). *Perry's Chemical Engineers' Handbook*, 7th Edition. New York: McGraw-Hill.
- Perry, R. H., Green, D. W., & Southard, M. Z. (2019). *Perry's chemical engineers' handbook* (9th ed.). New York: McGraw-Hill Education.
- Republik Indonesia. (1970). *Undang-Undang Nomor 1 Tahun 1970 tentang Keselamatan Kerja*. Jakarta: Sekretariat Negara.
- Republik Indonesia. (2003). *Undang-Undang Nomor 13 Tahun 2003 tentang Ketenagakerjaan*. Jakarta: Sekretariat Negara.
- Republik Indonesia. (2007a). *Undang-Undang Nomor 25 Tahun 2007 tentang Penanaman Modal*. Jakarta: Sekretariat Negara.
- Republik Indonesia. (2007b). *Undang-Undang Nomor 40 Tahun 2007 tentang Perseroan Terbatas*. Jakarta: Sekretariat Negara.
- Republik Indonesia. (2012a). *Peraturan Pemerintah Nomor 47 Tahun 2012 tentang Tanggung Jawab Sosial dan Lingkungan Perseroan Terbatas*. Jakarta: Sekretariat Negara.

- Republik Indonesia. (2012b). Peraturan Pemerintah Nomor 50 Tahun 2012 tentang Penerapan Sistem Manajemen Keselamatan dan Kesehatan Kerja. Jakarta: Sekretariat Negara.
- Republik Indonesia. (2016). Peraturan Menteri Ketenagakerjaan Nomor 6 Tahun 2016 tentang Tunjangan Hari Raya Keagamaan bagi Pekerja/Buruh di Perusahaan. Jakarta: Kemenaker.
- Republik Indonesia. (2018). Peraturan Menteri Ketenagakerjaan Nomor 5 Tahun 2018 tentang Keselamatan dan Kesehatan Kerja Lingkungan Kerja. Jakarta: Kemenaker.
- Republik Indonesia. (2022). Peraturan Pemerintah Pengganti Undang-Undang Nomor 2 Tahun 2022 tentang Cipta Kerja. Jakarta: Sekretariat Negara.
- Republik Indonesia. (2023). Undang-Undang Nomor 6 Tahun 2023 tentang Penetapan Perppu Nomor 2 Tahun 2022 tentang Cipta Kerja menjadi Undang-Undang. Jakarta: Sekretariat Negara.
- Saidur, R., Mekhilef, S., Ali, M. B., Safari, A., & Mohammed, H. A. (2010). Applications of variable speed drive (VSD) in electrical motors energy savings. *Renewable and Sustainable Energy Reviews*, 14(6), 1996–2005.
- Schieber, A., Stintzing, F. C., & Carle, R. (2019). By-products of plant food processing as a source of functional compounds. *Trends in Food Science & Technology (Elsevier)*, 12(11), 401–413. DOI: [https://doi.org/10.1016/S0924-2244\(02\)00012-2](https://doi.org/10.1016/S0924-2244(02)00012-2)
- Septian, D. (2013). Corporate Social Responsibility: Konsep, Evolusi, dan Implementasi di Indonesia. *Jurnal Administrasi Bisnis*, 5(2), 112–125.
- Sutedi, A. (2015). Hukum Perseroan Terbatas. Jakarta: Sinar Grafika.
- Suzuki, L.L., Cunha, I.L.C., Teixeira, C.E., Kulay, L., Santos, M.T. (2023). The Modeling and Simulation of Waste Recovery Processes Applied to the Orange Juice Industry. *Sustainability*, 15(21), 15225. <https://doi.org/10.3390/su152115225>
- Towler, G., & Sinnott, R. (2022). *Chemical engineering design: Principles, practice and economics of plant and process design* (3rd ed.). Oxford: Elsevier.
- Turton, R., Bailie, R. C., Whiting, W. B., Shaeiwitz, J. A., & Bhatt, B. I. (2018). Analysis, Synthesis, and Design of Chemical Processes (5th ed.). New Jersey: Pearson Education.

- Vickers, A. (2001). *Handbook of water use and conservation: Homes, landscapes, businesses, industries, farms*. Amherst: WaterPlow Press.
- Wallas, S. M. (1990). Chemical process equipment. *Selection and Design*. Butterworth-Heinemann, Elsevier, Oxford UK.
- Walas, S. M. (2013). *Chemical process equipment: Selection and design*. Oxford: Butterworth-Heinemann.
- Yapo, B. M., Robert, C., Etienne, I., Wathelet, B., & Paquot, M. (2017). Effect of extraction conditions on the yield, purity and surface-active properties of sugar beet pulp pectin extracts. *Food Chemistry (Elsevier)*, 100(4), 1356–1364. DOI: <https://doi.org/10.1016/j.foodchem.2005.12.012>