UNIVERSITAS
GADJAH MADA
Prarancangan Pabrik Tetrabromobisfenol-A dari Bisfenol-A dan Bromin dengan Kapasitas 20.000 Ton/Tahun
Krishna Deva Satriadjati, Dr. Joko Wintoko, S.T., M.Sc.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

DAFTAR PUSTAKA

Altarawneh, M. dan Dlugogorski, B.Z., 2014, Mechanism of Thermal Decomposition of Tetrabromobisphenol A (TBBA), J. Phys. Chem. A, American Chemical Society, 118 (40), 9338–9346.

Aries, R. S., & Newton, R. D. (1955). Chemical Engineering Cost Estimation. Chemonomics.

ASHRAE. (2021). ASHRAE handbook: Fundamentals (SI ed. atau I-P ed.). American Society of Heating, Refrigerating and Air-Conditioning Engineers.

Australian Industrial Chemicals Introduction Scheme., 2020, Tetrabromobisphenol A: Priority Existing Chemical Assessment Report (Assessment No. 42), Dep. Heal. Aust., tersedia pada: www.nicnas.gov.au (diakses 5 November 2025).

Brown, G.G. (1950). Unit Operations. John Wiley & Sons, Inc.

Brownell, L. E. (1959). Process Equipment Design. Chemical Engineering Explained: Basic Concepts for Novices, 324–346. https://doi.org/10.1039/bk9781782628613-00324

Business Research Insights., 2024, Tetrabromobisphenol A Market Trend & Growth | CAGR of 3.4%, tersedia pada: https://www.businessresearchinsights.com/marketreports/tetrabromobisphenol-a-market-107036 (diakses 6 November 2025).

CDFLUID. (n.d.) Top Entry Agitator, tersedia pada: https://cdfluid.com/top-entryagitator/ (diakses 8 December 2025).

Cheméo., 2025, Bromine (CAS 7726-95-6) - Chemical & Physical Properties by Cheméo, tersedia pada: https://www.chemeo.com/cid/10-368-2/Bromine (diakses 6 November 2025).

ChemicalBook., 2025, Bisphenol A, tersedia pada: https://oehha.ca.gov/proposition-65/chemicals/bisphenol-bpa (diakses 6 November 2025).

Corrales, J., Kristofco, L.A., Baylor Steele, W., Yates, B.S., Breed, C.S., Spencer Williams, E. dan Brooks, B.W., 2015, Global assessment of bisphenol a in the environment: Review and analysis of its occurrence and bioaccumulation, Dose-Response, University of Massachusetts, 13 (3), tersedia

UNIVERSITAS
GADJAH MADA
Prarancangan Pabrik Tetrabromobisfenol-A dari Bisfenol-A dan Bromin dengan Kapasitas 20.000 Ton/Tahun
Krishna Deva Satriadjati, Dr. Joko Wintoko, S.T., M.Sc.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

pada:https://doi.org/10.1177/1559325815598308;WGROUP:STRING:PUBLICATION.

Corrosionpedia., 2024, Bromine.

DC Chemicals, 2024, Tribromobisphenol-A Safety Data Sheet.

"Difluoromethane." NIST Chemistry WebBook, edited by P.J. Linstrom and W.G. Mallard, National Institute of Standards and Technology, https://webbook.nist.gov/cgi/cbook.cgi?Name=Difluoromethane&Units=SI. Accessed 09 May 2026.

Dimitrijević, D., Bösenhofer, M., & Harasek, M. (2023). Liquid–Liquid Phase Separation of Two Non-Dissolving Liquids—A Mini Review. Processes, 11(4). https://doi.org/10.3390/PR11041145

DuPont. (2020). FilmTec™ SW30HRLE-400 seawater reverse osmosis element product data sheet (Form No. 45-D00967-en, Rev. 3). https://www.dupont.com/content/dam/water/amer/us/en/water/public/documents/en/RO-FilmTec-SW30HRLE-400-PDS-45-D00967-en.pdf

DuPont. (2024). FilmTec™ BW30 PRO-365 Product Data Sheet. (Form No. 45-D03747-en, Rev. 4). https://www.dupont.com/content/dam/water/amer/us/en/water/public/documents/en/RO-FilmTec-BW30-PRO-365-PDS-45-D03747-en.pdf

Eguchi, H., Nagasaki, N. dan Kunimoto, K., 1992, United States Patent 5,138,103, (19), 3–8.

European Commission., 2008, Opinion on tetrabisphenol A, SCHER plenary , 15 January 2008, tersedia pada: http://ec.europa.eu/health/ph_risk/risk_en.htm (diakses 6 November 2025).

Fayol, H. (1949), General and Indudstrial Management, Martino Publishing.

Fogler, H. S. (2016). Elements of chemical reaction engineering (5th ed.). Pearson Education.

G. G. (2005). Unit Operations. CBS Publishers & Distributors.

Geankoplis, C. J. (1993). Transport processes and unit operations (3rd ed.). Prentice Hall.

Geankoplis, C. J., Hersel, D. H., & Lepek, D. H. (2018). Transport Processes and Separation Process Principles (5th ed.). New York: Pearson Education.

UNIVERSITAS
GADJAH MADA
Prarancangan Pabrik Tetrabromobisfenol-A dari Bisfenol-A dan Bromin dengan Kapasitas 20.000 Ton/Tahun
Krishna Deva Satriadjati, Dr. Joko Wintoko, S.T., M.Sc.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Global Asset Protection Services LLC. (2001). Oil and Chemical Plant Layout and Spacing. GAPS Guidelines, GAP.2.5.2, 1–13.

Green, D. W., & Southard, M. Z. (Eds.). (2019). Perry's chemical engineers' handbook (9th ed.). McGraw-Hill Education.

HDIN Research., 2025, Tetrabromobisphenol A (TBBPA) Market Insights 2025, Analysis and Forecast to 2030, by Manufacturers, Regions, Technology, Application, tersedia pada: https://www.hdinresearch.com/reports/158538 (diakses 6 November 2025).

Hill Brothers Chemical Company., 2019, Chlorine SDS, 1–11.

IMARC Group. (2024). Hydrobromic acid prices, trend, chart, demand, market analysis, news, historical and forecast data report — 2024 edition (Report ID SR112025A22522). IMARC Group.

IMARC Group. (2025). Sodium bisulfite production cost analysis report 2025: Industry trends, plant setup, machinery, raw materials, investment opportunities, cost and revenue (Report ID SR112025A9692). IMARC Group.

IMARC Group., 2024, Bisphenol A (BPA) Prices, Chart, News and Demand, tersedia pada: https://www.imarcgroup.com/bisphenol-a-pricing-report (diakses 6 November 2025).

IMARC Group., 2025, Chlorobenzene Price Index, Chart, Trend 2025 & Forecast, tersedia pada: https://www.imarcgroup.com/chlorobenzene-pricing-report (diakses 6 November 2025).

Intratec Solutions. (2025). Bisphenol A prices – historical & current. Intratec Solutions. https://www.intratec.us/solutions/primary-commodityprices/commodity/bisphenol-a-prices

Intratec Solutions. (2025). Methylene Chloride prices – historical & current. Intratec Solutions. https://www.intratec.us/solutions/primary-commodityprices/commodity/methylene-chloride-prices

Intratec., 2025a, Methanol Price - Current & Forecasts | Intratec.us, tersedia pada: https://www.intratec.us/solutions/primary-commodityprices/commodity/methanol-prices (diakses 6 November 2025).

UNIVERSITAS
GADJAH MADA
Prarancangan Pabrik Tetrabromobisfenol-A dari Bisfenol-A dan Bromin dengan Kapasitas 20.000 Ton/Tahun
Krishna Deva Satriadjati, Dr. Joko Wintoko, S.T., M.Sc.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Intratec., 2025b, Chlorine Price - Historical & Current | Intratec.us, tersedia pada: https://www.intratec.us/solutions/primary-commodityprices/commodity/chlorine-prices (diakses 6 November 2025).

Intratec., 2025c, Hydrogen Peroxide Price - Historical & Current | Intratec.us, tersedia pada: https://www.intratec.us/solutions/primary-commodityprices/commodity/hydrogen-peroxide-prices (diakses 6 November 2025).

Intratec., 2025d, Methylene Chloride Price - Historical & Current | Intratec.us, tersedia pada: https://www.intratec.us/solutions/primary-commodityprices/commodity/methylene-chloride-prices (diakses 6 November 2025).

IPCS., 1995, Environmental health criteria 172: tetrabromobisphenol A and derivatives , World Health Organization , 1–139.

Jordan Bromine Company., 2020, Decades of Creating Value for Jordan.

Kementerian Negara Lingkungan Hidup. (2007). Peraturan Menteri Negara Lingkungan Hidup Nomor 07 Tahun 2007 tentang Baku Mutu Emisi Sumber Tidak Bergerak bagi Ketel Uap.

Kern, D. Q. (1965). Procces Heat Transfer

Kramer, H., & Jansens, P. J. (2000). Industrial crystallization. Delft University Press.

Lee, S.H., Lee, S.G., Lee, J.S. dan Ma, B.C., 2022, Understanding the Flame Retardant Mechanism of Intumescent Flame Retardant on Improving the Fire Safety of Rigid Polyurethane Foam, Polym. 2022, Vol. 14, Page 4904, Multidisciplinary Digital Publishing Institute, 14 (22), 4904.

Lenntech. (2016). Electrochlorination Systems for Water Disinfection. Lenntech Water Treatment & Purification Holding B.V.

Levenspiel, O. (1999). Chemical Reaction Engineering. New Delhi: Wiley India.

Manimaran, T., Holub, R.A. dan Barton, R.S., 2001, United States Patent 6,313,355 B1, 1 (12).

Matche. (n.d.). Reactor Equipment Cost. https://www.matche.com/equipcost/Reactor.html. Accessed 27 April 2026.

McCabe, W.L., Smith, J.C. & Harriott, P. (1993). Unit Operations in Chemical Engineering. 5th ed. New York: McGraw-Hill.

UNIVERSITAS
GADJAH MADA
Prarancangan Pabrik Tetrabromobisfenol-A dari Bisfenol-A dan Bromin dengan Kapasitas 20.000 Ton/Tahun
Krishna Deva Satriadjati, Dr. Joko Wintoko, S.T., M.Sc.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

McKinnie, B.G., 1999, United States Patent 6,002,050, (19).

Metcalf & Eddy, Inc. (2014). Wastewater Engineering: Treatment, Disposal, and Reuse (3rd ed., p. 497). New York: McGraw-Hill.

Mills, D. (2004). Pneumatic conveying design guide (2nd ed.). Elsevier Butterworth-Heinemann.

Myerson, A. S., Erdermir, D., & Lee, A. Y. (2019). Handbook of Industrial Crystallization (3rd e.d). Cambridge University Press.

NASA. (n.d.). DOT4BW cylinders. Propellants. Accessed 30 May 2026, from https://public.ksc.nasa.gov/propellants/dot4bwcylinders/

National Fire Protection Association (NFPA). (2000). NFPA 430: Code for the Storage of Liquid and Solid Oxidizers. Quincy, MA: NFPA.

National Institute of Standards and Technology. (n.d.). Compound: [ID C75092]. In NIST Chemistry WebBook, SRD 69. Retrieved 2025-12-06, from https://webbook.nist.gov/cgi/cbook.cgi?ID=C75092&Mask=2

National Institute of Standards and Technology. (n.d.). Phenol, 4,4'-(1-methylethylidene)bis- in NIST Chemistry WebBook, SRD 69. Retrieved 2025-12-06, from https://webbook.nist.gov/cgi/cbook.cgi?ID=C80057&Units=SI&Mask=4EF

Oral, D., Balci, A., Chao, M.-W. dan Erkekoglu, P., 2021, Toxic Effects of Tetrabromobisphenol A: Focus on Endocrine Disruption, J. Environ. Pathol. Toxicol. Oncol., Begel House Inc., 40 (3), 1–23.

Perry, R. H., & Green, D. W. (Eds.). (1997). Perry's chemical engineers' handbook (7th ed.). McGraw-Hill.

Perry, R.H. (2008) Perry's Chemical Engineers' Handbook. 8th Edition, McGraw-Hill, New York

Peters, M. S., Timmerhaus, K. D., & West, R. E. (2003). Plant Design and Economics for Chemical Engineers. McGraw-Hill Education.

Poling, B. E., Prausnitz, J. M., & O'Connell, J. P. (2006). The properties of gases and liquids (5th ed.). McGraw-Hill.

UNIVERSITAS
GADJAH MADA
Prarancangan Pabrik Tetrabromobisfenol-A dari Bisfenol-A dan Bromin dengan Kapasitas 20.000 Ton/Tahun
Krishna Deva Satriadjati, Dr. Joko Wintoko, S.T., M.Sc.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Procurement Resource., 2025, Bromine Price Trend, Chart, Index, Historical & Forecast, tersedia pada: https://www.procurementresource.com/resource-center/bromine-price-trends (diakses 6 November 2025).

PubChem., 2025, Bromine | Br2 | CID 24408 - PubChem, tersedia pada: https://pubchem.ncbi.nlm.nih.gov/compound/Bromine (diakses 6 November 2025).

Rase, H. F. (1977). Chemical Reactor Design for Process Plants: Principles and Techniques (Vol. 1). John Wiley & Sons.

Salameh, E., Tarawneh, A. dan Al-Raggad, M., 2016, Origin of high bromide concentration in the water sources in Jordan and in the Dead Sea water, Arab. J. Geosci., Springer Verlag, 9 (5), tersedia pada:https://doi.org/10.1007/S12517-016-2431-9.

Science Lab Inc., 2013, Natrium Bisulfate MSDS.

Science Lab Inc., 2013, Natrium Bisulfite MSDS.

Science Lab Inc., 2013, Water MSDS.

Science Lab Inc., 2013a, Chlorobenzene MSDS, (1), 5.

Science Lab Inc., 2013b, Hydrochloric acid, 37% MSDS, 4, 1–6.

Science Lab Inc., 2013c, Methyl alcohol, Absolute MSDS, (1907), 1–5.

Science Lab Inc., 2013d, Hydrogen Peroxide, 50% MSDS, 3, 1–7.

Science Lab Inc., 2013e, Dichloromethane MSDS.

Shandong Futong Chemical Co., L., 2025, Tetrabromobisphenol A, tersedia pada: https://en.futongchem.cn/ProductsDetail/920630917841608704 (diakses 6 November 2025).

Shandong Novista Chemicals Co.,Ltd. (n.d.). Products (diakses 6 Desember 2025 dari https://www.novistachem.com/products.html)

Shen, J., Liang, J., Lin, X., Lin, H., Yu, J. dan Wang, S., 2021, The Flame-Retardant Mechanisms and Preparation of Polymer Composites and Their Potential Application in Construction Engineering, Polym. 2022, Vol. 14, Page 82, Multidisciplinary Digital Publishing Institute, 14 (1), 82.

UNIVERSITAS
GADJAH MADA
Prarancangan Pabrik Tetrabromobisfenol-A dari Bisfenol-A dan Bromin dengan Kapasitas 20.000 Ton/Tahun
Krishna Deva Satriadjati, Dr. Joko Wintoko, S.T., M.Sc.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Siharis, A. A., Amin, F., Abriansyah, A., Aldiyansyah, A., Shaddad, A. R., Ladianto, H. Z., & Saleh, F. (2025). Pengujian kualitas air laut di kecamatan Bahodopi, Kabupaten Morowali, Sulawesi Tengah

Sinnott, R. K. (2002). Coulson & Richardson's Chemical Engineering, vol. 2 Chemical Engineering Design, 5.

Sinnott, R. K., & Towler, G. (2020). Coulson and Richardson's chemical engineering series: Chemical engineering design (6th ed.). Butterworth-Heinemann.

Statista., 2022, Flame retardants global market size 2021-2030| Statista, tersedia pada: https://www.statista.com/statistics/1254553/global-flame-retardants-market-size/ (diakses 5 November 2025).

Suryani, Y., 2015, Teori Lokasi Dalam Penentuan Pembangunan Lokasi Pasar Tradisional (Telaah Studi Literatur), Semin. Nas. Ekon. Manaj. dan Akutansi, (c), 152–163.

Synchem., 2024, Dibromobisphenol-A Safety Data Sheet

TCI Chemicals., 2025, Tetrabromobisphenol A 79-94-7 | Tokyo Chemical Industry (India) Pvt. Ltd., tersedia pada: https://www.tcichemicals.com/IN/en/p/T0032 (diakses 5 November 2025).

The Engineering ToolBox (2003). Higher Calorific Values of Common Fuels: Reference & Data. [online] Available at: https://www.engineeringtoolbox.com/fuels-higher-calorificvalues-d_169.html [Accessed 30 May 2026].

Treybal, R. E. (1980). Mass-transfer operations (3rd ed.). McGraw-Hill.

Treybal, R.E. (1988). Mass-Transfer Operations. McGraw-Hill Science, Engineering & Mathematics.

Ulrich, G.D., (1984), A Guide to Chemical Engineering Process Design and Economic, John Wiley & Sons, Inc.

Ulrich D, G. (1884). A Guide to ChEmical Engineering Process Design and Economic.

UN Environment Programme., 2024, Flame Retardants | UNEP - UN Environment Programme, tersedia pada: https://www.unep.org/flame-retardants (diakses 4 November 2025).

Vallette, J. dan Murtagh, C., 2020, Tetrabromobisphenol A (TBBPA): Technical Report on Conditions of Use, (June), tersedia pada:https://doi.org/10.13140/RG.2.2.13972.32649.

UNIVERSITAS
GADJAH MADA
Prarancangan Pabrik Tetrabromobisfenol-A dari Bisfenol-A dan Bromin dengan Kapasitas 20.000 Ton/Tahun
Krishna Deva Satriadjati, Dr. Joko Wintoko, S.T., M.Sc.
Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

Walter, E., 1991, United States Patent 5,068,463, (19)

Wang, K. L., Chen, J. P., Hung, Y. T., & Shammas, N. K. (2011). Membrane and Desalination Technologies (Vol. 13, p. 448). London: Humana Press.

Wikimedia Commons, 2009. Agitated vessel, tersedia pada: https://commons.wikimedia.org/wiki/File:Agitated_vessel.svg (diakses 8 Desember 2025).

Wikimedia Commons., 2011, File:Bromine vial in acrylic cube.jpg - Wikipedia, tersedia pada: https://en.wikipedia.org/wiki/File:Bromine_vial_in_acrylic_cube.jpg (diakses 6 November 2025).

Willey, R. J. (2014). Layer of protection analysis. Procedia Engineering, 84, 12–22. https://doi.org/10.1016/j.proeng.2014.10.405

Windsor, E. (2016). Industrial water treatment and ion exchange operations. TechSource Publishing

Yaws, C. L. (1999). Chemical properties handbook: Physical, thermodynamic, environmental, transport, safety, and health related properties for organic and inorganic chemicals. McGraw-Hill.

Zhang, J., Jiang, Y.-W., Zang, S., Qiao, Y., Chen, K.-J., Zhang, H., Wang, X.-S., & Ma, J. (2023). Chlorination of phenol, bisphenol A, and methylparaben in the presence of bromide: Kinetic simulation and formation of brominated aromatic byproducts. Chemical Engineering Journal, 476, 146667

Zhou, H., Yin, N. dan Faiola, F., 2020, Tetrabromobisphenol A (TBBPA): A controversial environmental pollutant, J. Environ. Sci., Elsevier, 97, 54–66.

Zilberman, J., 2010, United States Patent 7,834,221 B2, 2 (12)