



DAFTAR PUSTAKA

- Abdelbasir, M. A., et al, (2023), 'Synthesis of Cu and CuO Nanoparticles from E-waste and Evaluation of their Antibacterial and Photocatalytic Properties', *Environmental Science and Pollution Research Journal*, Vol. 30, Hal. 89690-897 <https://doi.org/10.1007/s11356-023-28437-5>
- Ahamed, M. et al, (2014), 'Synthesis, Characterization and Antimicrobial Activity of Copper Oxide Nanoparticles', *Journal of Nanomaterials*, Vol. 2014, hal. 1-4, <http://dx.doi.org/10.1155/2014/637858>
- Ali, K., Sajid, M., Bakar, S. A., Younus, A., Ali, H., and Rashid, M.Z., (2024), 'Synthesis of copper oxide (CuO) via coprecipitation method: Tailoring structural and optical properties of CuO nanoparticles for optoelectronic device applications' *Hybrid Advances*, Vol. 6, No. 1, <https://doi.org/10.1016/j.hybadv.2024.100250>
- Ali, M.M. and Sultoni, A. I., (2019), 'PEMBUATAN BAHAN KONDUKTOR KABEL LISTRIK DARI DEPOSIT DAN SCRAP TEMBAGA', *Jurnal Teknologi Bahan dan Barang Teknik*, Vol. 9, No. 2, <http://dx.doi.org/10.37209/jtbtt.v9i2.134>
- Arshadi, M., Yaghmaei, S., and Mousavi, S. M. (2019), 'Optimal electronic waste combination for maximal recovery of Cu-Ni-Fe by Acidithiobacillus ferrooxidans', *Journal of Cleaner Production*, Vol. 240, <https://doi.org/10.1016/j.jclepro.2019.118077>
- Atlantic Equipment Engineering, (2015), *Safet Data Sheet Cupric Oxides Powder*, New Jersey
- Badan Pusat Statistika, 2025, *Data Impor Tembaga (II) Oksida*, diakses pada 7 Februari 2025, <https://www.bps.go.id/id/exim>



Laporan Penelitian

Sintesis Tembaga Oksida Sebagai Produk Pasar Berbahan Dasar Limbah Tembaga dengan Metode Presipitasi

- Basuki, E. A. and Said, K., (2020), 'Pembuatan Paduan Tembaga Sebagai Bahan Baku Uang Logam', *Jurnal Fisika dan Aplikasinya*, Vol. 16, No. 3, <http://dx.doi.org/10.12962/j24604682.v16i3.5824>
- Cesar, L. et al, (2020), 'Cupric Oxide Nanoleaves for The Oxidative Degradation of Methyl Orange without Heating or Light', *Applied Nano Materials Journal*, Vol.3, No.3 Hal. 2987-2996, <https://doi.org/10.1021/acsanm.0c00283>
- Chemical Book, (2023), *Chemical Safety Data Sheet Cupric Oxide*, Beijing
- Committee for Risk Assesment, (2014), *Copper (II) Oxide*, United States Of American, European Chemicals Agency
- Dilla, A, (2021), *Sintesis dan Karakterisasi Nanopartikel Tembaga oksida (CuO-NP) Menggunakan Metode Presipitasi Kimia*, Bogor, Institut Pertanian Bogor
- Din, I. M., et al, (2017), 'Single Step Green Synthesis of Stable Copper Oxide Nanoparticles as Efficient Photocatalyst Material', *Journal of Optoelectronics and Biomedical Materials*, Vol. 9, No. 1, Hal. 41-44,
- Dwiana, W. et al, (2023), 'Characterization of Copper Oxide (CuO) from Recovery of CuFoil Waste by Hydrometallurgical Methods: Acid Leaching and Precipitation', *Energy Storage Technology and Application (ESTA) Journal*, Vol. 2, No.2, Hal. 50-58, <https://doi.org/10.20961/esta.v2i2.69021>
- Ficeriová, J., Baláž, P., Dutková, E., and Gock E. (2008), 'Leaching of Gold and Silver from Crushed Au-Ag Wastes', *The Open Chemical Engineering Journal*, Vol. 2, No. 1, Hal. 6-9, <http://dx.doi.org/10.2174/1874123100802010006>
- Fukuda, M & Koga, N., (2018), 'Kinetics and Mechanisms of The Thermal Decomposition of Copper (II) Hydroxide: A Consecutive Process Comprising Induction Period, Surface Reaction, and Phase Boundary-Controlled



Laporan Penelitian

Sintesis Tembaga Oksida Sebagai Produk Pasar Berbahan Dasar Limbah Tembaga dengan Metode Presipitasi

Reaction', *The Journal of Physical Chemistry*, Vol.122, No. 24, Hal. 12869-12879, <https://doi.org/10.1021/acs.jpcc.8b03260>

Gustavo, V., et al, (2020), *Water Activity in Food : Fundamentals and Applications 2nd Edition*, United States of America, Jhon Willey & Sons, inc

Hakim, L., et al., (2019), 'Karakterisasi Struktur Material Pasir Bongkahan Galian Golongan C Dengan Menggunakan X-Ray Diffraction (X-RD) Di Kota Palangkaraya', *Jurnal Jejaring Matematika dan Sains*, Vol. 1, No. 1, Hal. 44-51, <https://doi.org/10.36873/jjms.v1i1.136>

Hong, K. I., et al, (2020), 'Manufacturing of Copper (II) Oxide Powder for Electroplating from NaClO₃ Type Etching Waste', *Journal of Electrochemical Science and Technology*, Vol. 11, No.1, Hal. 60-67, <https://doi.org/10.33961/jecst.2019.00283>

Hsu, I., and Zimmer, H. W. (2023), 'A colorimetric investigation of copper(II) solutions', *Journal of Emerging Investigators*, Vol. 10, <https://doi.org/10.59720/22-284>

Jabbar, M.S., (2016), 'Synthesis of CuO Nano Structure Via Sol-Gel and Precipitation Chemical Methods', *Al-Khwarizmi Engineering Journal*, Vol.12, No. 4, Hal. 126-131, <http://dx.doi.org/10.22153/kej.2016.07.001>

Luna I.Z. et al, (2015). 'Preparation and Characterization of Copper Oxide Nanoparticles Synthesis Via Chemical Precipitation Method', *Open Acces Library Journal*, Vol. 2, No. 1409, <http://dx.doi.org/10.4236/oalib.1101409>

Manimaran, R. et al, (2014), 'Preparation and Characterization of Copper Oxide Nanofluid for Heat Transfer Applications', *Applied Nanoscience Journal*, Vol.4, Hal. 163-167, <https://doi.org/10.1007/s13204-012-0184-7>

Mobarak, M. B., et al, (2022), 'Synthesis And Characterization Of CuO Nanoparticles Utilizing Waste Fish Scale And Exploitation Of XRD Peak



Laporan Penelitian

Sintesis Tembaga Oksida Sebagai Produk Pasar Berbahan Dasar Limbah Tembaga dengan Metode Presipitasi

Profile Analysis For Approximating The Structural Parameters', *Arabian Journal of Chemistry*, Vol. 15, No. 10, Hal. 1-18, <http://dx.doi.org/10.1016/j.arabjc.2022.104117>

Muhamad, E. N., et al, (2007), 'Effect of Number Washing On The Characteristics Of Copper Oxide Nanopowders', *The Malaysian Journal of Analytical Sciences*, Vol. 11, No.1, Hal. 294 – 301, <http://psasir.upm.edu.my/id/eprint/11559>

Munir, T., et al, (2017), 'Synthesis and Characterization of Copper Oxide Nanoparticles by Solution Evaporation Method', *Journal of Optoelectronics and Advances Materials*, Vol. 19, No.5-6, hal. 417-423

Pambudi, M. A. R., and Suprpto, S. (2018), 'Penentuan Kadar Tembaga (Cu) dalam Sampel Batuan Mineral', *Jurnal Sains dan Seni ITS*, Vol. 7, No. 2, <https://dx.doi.org/10.12962/j23373520.v7i2.30088>

Patnaik, P., (2003), *Handbook of Inorganic Chemicals*, United States of America, The McGraw-Hill Companies

Phiwdang K., et al. (2013). 'Synthesis of CuO Nanoparticles by Precipitation Method Using Different Precursors', *Energy Procedia*, Vol 34, Hal.740–745, <https://doi.org/10.1016/j.egypro.2013.06.808>

Prasetyo, B., et al, (2012), 'Penurunan Cu^{2+} pada Limbah Industri Elektroplating Menggunakan Limbah Besi dan Kapur', *Indonesian Journal of Chemical Science*, Vol. 1, No.2, Hal. 123-126

Pungut, P., Sutrisno, J., & Nuryanto, D. (2021). PENERAPAN LOGAM ANTIMIKROBA (KAWAT TEMBAGA) UNTUK MENURUNKAN KADAR E-COLI, TOTAL COLIFORM DAN TEMBAGA PADA AIR SUNGAI. WAKTU: Jurnal Teknik UNIPA, 19(01), 14–21. <https://doi.org/10.36456/waktu.v19i01.3241>



Laporan Penelitian

Sintesis Tembaga Oksida Sebagai Produk Pasar Berbahan Dasar Limbah Tembaga dengan Metode Presipitasi

Rabbache, N et al (2009), 'Leaching of Copper Oide with Different Acid Solutin', *Chemical Engineering Journal*, Vol.152, No. 2, Hal. 503-508, <https://doi.org/10.1016/j.cej.2009.05.020>

Rahmawati, R. E & Nazriati, (2022), 'Biosintesis dan Karakterisasi Nanopartikel Tembaga Oksida (CuO) Menggunakan Ekstrak Rimpang Kencur (*Kaempferia galanga L.*)', *Jurnal Teknik Kimia*, Vol. 28, No. 3, Hal. 141-151, <https://doi.org/10.36706/jtk.v28i3.1232>

Rane A.V et al, (2018), 'Methods for Synthesis of Nanoparticles and Fabrication of Nanocomposites', *Synthesis of Inorganic Material Journal*, <https://doi.org/10.1016/B978-0-08-101975-7.00005-1>

Rasmito, A. & Suhadi, (2018), 'Penurunan Kadar Logam Berat Limbah Cair Industri Emas dengan Kaustik Soda', *Jurnal Teknik Industri dan Kimia*, Vol. 1, No.2, Hal. 16-29, <https://doi.org/10.54980/jtik.v1i2.27>

Salafudin, et al, (2019)m 'Analisis Pengaruh Konsentrasi Asam dan Basa terhadap Recovery Tembaga (Cu) dari Limbah Elektronika', *Jurnal Rekayasa Hijau*, Vol. 3, No.1, Hal. 41-46, <https://doi.org/10.26760/jrh.v3i1.2819>

Sanjini, N.S., et al, (2017), 'Effect of Precursors on the Synthesis of CuO Nanoparticles Under Microwave for Photocatalytic Activity Towards Methylene Blue and Rhodamine B Dyes', *Journal of Nanoscience and Nanotechnology*, Vol. 17, No. 1, Hal. 495-501, <https://doi.org/10.1166/jnn.2017.11785>

Satari, C., et al, (2021), 'Literature review: Synthesis CuO (Copper Oxide) Nanoparticle for Thermal Energy Storage', *International Journal of Energetic (IJECA)*, Vol. 6, No. 2, <https://dx.doi.org/10.47238/ijeca.v6i2.176>

Shiddiqui, S. et al, (2016), 'Effect of Copper Precursor Salts: Facile and Sustainable Synthesis of Controlled Shaped Copper Oxide Nanoparticles', *International*



Laporan Penelitian

Sintesis Tembaga Oksida Sebagai Produk Pasar Berbahan Dasar Limbah Tembaga dengan Metode Presipitasi

Journal for Light and Electron Optic, Vol. 127, No.11, Hal. 4726-4730,
<http://dx.doi.org/10.1016/j.ijleo.2016.01.118>

Shirsat, S., et al, (2019), 'Synthesis of Copper Oxide Nanoparticles by Chemical Precipitation Method Determination of Antibacterial Efficacy Against *Streptococcus Sp.* and *Staphylococcus Sp.*', *Journal Of Pharmaceutical and Clinical Research*, Vol. 12, No. 5, Hal. 135-138,
<http://dx.doi.org/10.22159/ajpcr.2019.v12i5.32270>

Sihag, S., et al, (2022), 'Investigation of Structural and Optical Characteristics of CuO Nanoparticles Calcinated at Various Temperatures', *Indian Journal of Chemical Technology*, Vol. 29, No.5, Hal. 578-582,
<https://doi.org/10.56042/ijct.v2925.61511>

Sigma Aldrich, 2023, *Safety Data Sheet Copper (II) Oxide*, Canada

Sonia, S., et al, (2014), 'Effect of NaOH Concentration on Structural, Surface and Antibacterial Activity of CuO Nanorods Synthesized by Direct Sonochemical Method', *Journal Superlattices and Microstructures*, Vol. 66, No.1, Hal. 1-9,
<https://doi.org/10.1016/j.spmi.2013.10.020>

Suleiman, M., et al, (2013), 'Copper (II)-Oxide Nanostructures: Synthesis, Characterization and their Application-Review', *Journal of Materials and Environmental Science*, Vol. 5, Hal. 1-6

Valan, L. S. et al, (2022), 'Sustainable Synthesis of Copper Oxide Nanoparticles Using *Aquilaria Malaccensis* (Agarwood) Leaf Extract as Reducing Agent', *International Journal of Technology*, Vol. 13, No. 5, Hal. 1115-1125,
<https://doi.org/10.14716/ijtech.v13i5.5845>

Wardani, G. A., Alfanaar, R., and Santosa, S. J. (2018), 'Pelarutan Selektif Tembaga dari Limbah Printed Circuit Board dengan Hydrogen Peroksida', *Alchemy*, Vol. 14, No. 1, <https://doi.org/10.20961/alchemy.14.1.11168.51-59>



Laporan Penelitian

Sintesis Tembaga Oksida Sebagai Produk Pasar Berbahan Dasar Limbah Tembaga dengan Metode Presipitasi

- Waris, A., Din, M., Ali, A., Ali, M., Afridi, S., Baset, A., & Ullah Khan, A. (2021), 'A comprehensive review of green synthesis of copper oxide nanoparticles and their diverse biomedical applications', *Inorganic Chemistry Communications*, Vol. 10, <https://doi.org/10.1016/j.inoche.2020.108369>
- Warren, R. W. & Lajeunesse, D., (2019), 'Characterization of Hydrothermal Deposition of Copper Oxide Nanoleaves on Never-Dried Bacterial Cellulose', *Journal Polymers*, Vol.11, No. 1762, Hal. 1-11, <http://dx.doi.org/10.3390/polym11111762>
- Xu, L., et al, (2009), 'Novel Urchin-like CuO Synthesized by a Facile Reflux Method with Efficient Olefin Epoxidation Catalytic Performance', *Journal Chemistry of Material*, Vol. 21, No.7, Hal.1253-1259, <https://doi.org/10.1021/cm802915m>
- Zayyoun, N., et al (2016), 'Effect of Solvent on the Morphological and Optical Properties of CuO Nanoparticles Prepared by Simple Sol-Gel Process', *Journal of Materials and Environmental Science*, Vol. 7, No. 5, Hal. 1791-1797