

DAFTAR PUSTAKA

- Ahmad, A., Salomon, L. L., & Jessica, J. (2019). Desain Eksperimen Untuk Meningkatkan Kualitas Kekuatan Produk Dengan Pendekatan Analisis Desain Faktorial. *Jurnal Ilmiah Teknik Industri*, 6(3), 209–220. <https://doi.org/10.24912/jitiuntar.v6i3.4247>
- Bwando, P., Mitshabu, G., Zhou, Y., & Chisakuta, G. (2023). *Mitigation of Manganese Oxidation Issues During Start-Up of a Copper SX-EW Plant*. June, 345–354.
- Cheng, C. Y., Hughes, C. A., Barnard, K. R., & Larcombe, K. (1999). Manganese in copper solvent extraction and electrowinning. *Hydrometallurgy*, 58(2), 135–150. [https://doi.org/10.1016/S0304-386X\(00\)00120-1](https://doi.org/10.1016/S0304-386X(00)00120-1)
- Córdoba, E. M., Muñoz, J. A., Blázquez, M. L., González, F., & Ballester, A. (2008). Leaching of chalcopyrite with ferric ion. Part I: General aspects. *Hydrometallurgy*, 93(3–4), 81–87. <https://doi.org/10.1016/j.hydromet.2008.04.015>
- Feizollahi, S., & Azizi, A. (2018). Solvent extraction of copper from an industrial sulfate liquor using Chemorex CP-150. *Journal of Mining & Environment*, 9(4), 905–916. <https://doi.org/10.22044/jme.2018.7161.1568>
- Ferron, C. J. (2002). *The Control of Manganese in Acidic Leach Liquors, With Special Emphasis to Laterite Leach Liquors*. 1–27.
- Flett, D. S. (2005). Solvent extraction in hydrometallurgy: The role of organophosphorus extractants. *Journal of Organometallic Chemistry*, 690(10), 2426–2438. <https://doi.org/10.1016/j.jorganchem.2004.11.037>
- Georgiev, P., Groudev, S., Spasova, I., Nicolova, M., & Stryapunin, A. (2013). *Selective Separation of Copper From Rich-in-Iron Bioleaching Solution by Means of Processes of Solvent Extraction with LIX 984N and Stripping with Sulphuric Acid.pdf*.
- Ghanadzadeh, H., & Abbasnejad, S. (2011). Separation of Copper (II) with Solvent Extraction Using Lauric acid Diluted in Benzene. *Journal of Thermodynamics & Catalysis*, 02(02), 2–7. <https://doi.org/10.4172/2157-7544.1000109>
- Ghorbani, Y., Franzidis, J. P., & Petersen, J. (2016). Heap leaching technology - Current State, innovations, and future directions: A review. *Mineral Processing and Extractive Metallurgy Review*, 37(2), 73–119. <https://doi.org/10.1080/08827508.2015.1115990>
- Hughes, M. A., Andersson, S., & Forrest, C. (1975). Distribution surfaces in solvent extraction systems. *International Journal of Mineral Processing*, 2(3), 267–276. [https://doi.org/10.1016/0301-7516\(75\)90005-8](https://doi.org/10.1016/0301-7516(75)90005-8)
- Keber, S., Brückner, L., Elwert, T., & Kuhn, T. (2020). Concept for a Hydrometallurgical Processing of a Copper-Cobalt-Nickel Alloy Made from

- Manganese Nodules. *Chemie-Ingenieur-Technik*, 92(4), 379–386. <https://doi.org/10.1002/cite.201900125>
- Kumar, R., Shah, D. J., & Tiwari, K. K. (2013). Separation of Copper and Nickel by Solvent Extraction Using LIX 664N. *Journal of Environmental Protection*, 04(04), 315–318. <https://doi.org/10.4236/jep.2013.44037>
- Lasillo, E., & Schlitt, W. J. (1999). Practical Aspects Associated with Evaluation of a Copper Heap Leach Project. *Copper Leaching, Solvent Extraction, and Electrowinning Technology*, 123–138.
- Lu, J., & Dreisinger, D. (2013). Solvent extraction of copper from chloride solution I: Extraction isotherms. *Hydrometallurgy*, 137, 13–17. <https://doi.org/10.1016/j.hydromet.2013.04.001>
- Meifiani., N. I., Tisngati., U., Apriyani., D. C. N., & Martini. (2019). Buku Ajar: Desain Faktorial. *LPPM Press STKIP PGRI Pacitan*, 47.
- Miller, G. (2011). Methods of Managing manganese effects on copper solvent extraction plant operations. *Solvent Extraction and Ion Exchange*, 29(5–6), 837–853. <https://doi.org/10.1080/07366299.2011.595647>
- Montgomery, D. C. (2012). Design and Analysis of Experiments Eighth Edition. In *Design*. <https://doi.org/10.1198/tech.2006.s372>
- Napier-Munn, T., & Wills, B. A. (2005). Wills' Mineral Processing Technology. In *Wills' Mineral Processing Technology* (Issue October). <https://doi.org/10.1016/B978-0-7506-4450-1.X5000-0>
- Nobahar, A., Melka, A. B., Pusta, A., Lourenço, J. P., Carlier, J. D., & Costa, M. C. (2022). A New Application of Solvent Extraction to Separate Copper from Extreme Acid Mine Drainage Producing Solutions for Electrochemical and Biological Recovery Processes. *Mine Water and the Environment*, 41(2), 387–401. <https://doi.org/10.1007/s10230-022-00858-7>
- Pourbaix, M. J. N. (1974). Atlas of electrochemical equilibria in aqueous solutions. In *Journal of Electroanalytical Chemistry and Interfacial Electrochemistry* (p. 644).
- Ritcey, G. M. (2006). Solvent extraction in hydrometallurgy: Present and future. *Tsinghua Science and Technology*, 11(2), 137–152. [https://doi.org/10.1016/S1007-0214\(06\)70168-7](https://doi.org/10.1016/S1007-0214(06)70168-7)
- Schlesinger, M. E., King, M. J., Sole, K. C., & Davenport, W. G. (2011). Hydrometallurgical Copper Extraction. In *Extractive Metallurgy of Copper*. <https://doi.org/10.1016/b978-0-08-096789-9.10015-0>
- Seo, S., Lee, G. S., Kim, H. R., & Kim, J. G. (2021). Characterisation of parameters influencing the phase separation in copper solvent extraction systems using oxime-type extractants for the field operation. *Metals*, 11(11). <https://doi.org/10.3390/met11111785>
- Sepúlveda, R., Toro, N., Hernández, P., Navarro, P., Vargas, C., Gálvez, E., & Castillo, J. (2022). Solvent Extraction of Metal Ions from Synthetic Copper

Leaching Solution Using R4NCy. *Metals*, 12(6).
<https://doi.org/10.3390/met12061053>

- Shirayama, S., & Uda, T. (2016). Simultaneous Separation of Manganese, Cobalt, and Nickel by the Organic-Aqueous-Aqueous Three-Phase Solvent Extraction. *Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science*, 47(2), 1325–1333.
<https://doi.org/10.1007/s11663-015-0535-3>
- Smolinski, T., Wawszczak, D., Deptula, A., Lada, W., Olczak, T., Rogowski, M., Pyszynska, M., & Chmielewski, A. G. (2017). Solvent extraction of Cu, Mo, V, and U from leach solutions of copper ore and flotation tailings. *Journal of Radioanalytical and Nuclear Chemistry*, 314(1), 69–75.
<https://doi.org/10.1007/s10967-017-5383-y>
- Sole, K. C., & Hiskey, J. B. (1992). *Solvent extraction characteristics of thiosubstituted organophosphinic acid extractants*. 30, 345–365.
- Sole, K. C., & Hiskey, J. B. (1995). Solvent extraction of copper by Cyanex 272, Cyanex 302 and Cyanex 301. *Hydrometallurgy*, 37(2), 129–147.
[https://doi.org/10.1016/0304-386X\(94\)00023-V](https://doi.org/10.1016/0304-386X(94)00023-V)
- Sridhar, V., & Verma, J. K. (2011). Recovery of copper, nickel and zinc from sulfate solutions by solvent extraction using LIX 984N. *E-Journal of Chemistry*, 8(SUPPL. 1), 434–439. <https://doi.org/10.1155/2011/108628>
- Tantri, G. K. D., Widiharih, T., & Wuryandari, T. (2015). Analisis Desain Faktorial Fraksional 2K dengan Metode Lenth. *Jurnal Gaussian*, 4(3), 497–505.
- Utama, H. W., Suprpto, & Sutanto. (2015). Geologi dan Studi Mineralis Daerah Paslaten, Kecamatan Tatapaan, Kabupaten Minahasa Selatan, Sulawesi Utara. *Jurnal Ilmiah Geologi Pangea*, 2(2), 107–116.
- Wang, L. P., Lin, J. Y., Chen, Y. J., Tseng, B. C., Hsu, C. H., Kou, M., Zhou, H., & Sreearunothai, P. (2023). Separation and Recovery of Copper and Nickel in the Leachate of a Waste IC Lead Frame through Synergistic Solvent Extraction Using a Binary Extractant Containing LIX984N and Cyanex302 Followed by Selective Stripping. *Sustainability*, 16, 77.
<https://doi.org/10.11159/mmme22.118>
- XIE, K., WEN, J., HUA, Y., & RUAN, R. (2008). Selective separation of Cu(II), Zn(II), and Cd(II) by solvent extraction. *Rare Metals*, 27(3), 228–232.
[https://doi.org/10.1016/S1001-0521\(08\)60120-5](https://doi.org/10.1016/S1001-0521(08)60120-5)
- Zhang, X., Li, X., Cao, H., & Zhang, Y. (2010). Separation of copper, iron (III), zinc and nickel from nitrate solution by solvent extraction using LK-C2. *Separation and Purification Technology*, 70(3), 306–313.
<https://doi.org/10.1016/j.seppur.2009.10.012>