

DAFTAR PUSTAKA

- Abeywardena, M. R., Elkaduwe, R. K. W. H. M. K., Karunarathne, D. G. G. P., Pitawala, H. M. T. G. A., Rajapakse, R. M. G., Manipura, A., & Mantilaka, M. M. M. G. P. G. (2020). Surfactant assisted synthesis of precipitated calcium carbonate nanoparticles using dolomite: Effect of pH on morphology and particle size. *Advanced Powder Technology*, 31(1), 269–278. <https://doi.org/10.1016/j.apt.2019.10.018>
- Abidi, L., Amiard, F., Delorme, N., Ouhenia, S., & Gibaud, A. (2022). Using saponified olive oil to make cost effective calcium carbonate particles superhydrophobic. *Advanced Powder Technology*, 33(2), 103399. <https://doi.org/10.1016/j.apt.2021.103399>
- Adikusumo, I., Ameliana, L., & Nurrahmanto, D. (2015). Optimasi Polimer Hidroksipropil Metilselulosa K-4M dan Carbopol 940 pada Sediaan Patch Dispersi Padat Meloksikam. *Pustaka Kesehatan*, 3(3), 436–442.
- Ahn, J., Kim, J., Park, H., Kim, J., Han, C., & Kim, H. (2005). Guideline on repeated dose toxicity Committee for Human Medicinal Products (CHMP) CPMP/SWP/1042/99 Rev 1 Corr*. *Europnean Medicines Agency Science Meidicines Health*, 22(6), 852–856.
- Akinola, T. E., Bonilla Prado, P. L., & Wang, M. (2022). Experimental studies, molecular simulation and process modelling\simulation of adsorption-based post-combustion carbon capture for power plants: A state-of-the-art review. *Applied Energy*, 317(May), 119156. <https://doi.org/10.1016/j.apenergy.2022.119156>
- Altiner, M., Top, S., Kaymakoglu, B., Seçkin, I. Y., & Vapur, H. (2019). Production of precipitated calcium carbonate particles from gypsum waste using venturi tubes as a carbonation zone. *Journal of CO₂ Utilization*, 29(December 2018), 117–125. <https://doi.org/10.1016/j.jcou.2018.12.004>
- Amjad, Z. (2006). Influence of natural and synthetic additives on calcium carbonate precipitation and crystal morphology. In *Tenside, Surfactants, Detergents* (Vol. 43, Issue 4, pp. 184–191). <https://doi.org/10.3139/113.100306>

- Arief, S. (2018). *paten no 000057061*. Berita resmi paten sederhana seri-a
- Arief, S., & Jamarun, N. (2009). *Studi Pembentukan Precipitated Calcium Carbonate (PCC) dari Batu Kapur Alam Sumatera Barat* (Issue 0).
- Carella, F., Espoti, L. D., Adamiano, A., & Lafisco, M. (2019). The Use of Calcium Phosphates in Cosmetics, State of the Art and Future Perspectives. *Sustainability (Switzerland)*, 11(1), 1–14. <http://scioteca.caf.com/bitstream/handle/123456789/1091/RED2017>
- Chang, R., Kim, S., Lee, S., Choi, S., Kim, M., & Park, Y. (2017). Calcium carbonate precipitation for CO₂ storage and utilization: A review of the carbonate crystallization and polymorphism. *Frontiers in Energy Research*, 5(JUL), 1–12. <https://doi.org/10.3389/fenrg.2017.00017>
- Chen, A., Ma, P., Fu, Z., Wu, Y., & Kong, W. (2013). Crystallization and assembling behavior of calcium carbonate controlled by Ca-organic fibers. *Journal of Crystal Growth*, 377, 136–142. <https://doi.org/10.1016/j.jcrysGro.2013.05.010>
- Czaplicka, N. (2019). *The overview of reactors used for the production of precipitated calcium carbonate via carbonation route*. May.
- De Beer, M., Maree, J. P., Liebenberg, L., & Doucet, F. J. (2014). Conversion of calcium sulphide to calcium carbonate during the process of recovery of elemental sulphur from gypsum waste. *Waste Management*, 34(11), 2373–2381. <https://doi.org/10.1016/j.wasman.2014.07.010>
- El-Sheikh, S. M., El-Sherbiny, S., Barhoum, A., & Deng, Y. (2014). Corrigendum to “Effects of cationic surfactant during the precipitation of calcium carbonate nano-particles on their size, morphology, and other characteristics” [Colloids Surf. A: Physicochem. Eng. Asp. 422 (2013) 44-49]. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 453(1), 177. <https://doi.org/10.1016/j.colsurfa.2014.04.001>
- Feng, W., Ng, Z. Y., Chen, H., Zhang, J., Xu, D., He, Y., Wei, H., & Dang, L. (2024). Calcium Ion Deposition with Precipitated Calcium Carbonate: Influencing Factors and Mechanism Exploration. *Processes*, 12(4), 1–16. <https://doi.org/10.3390/pr12040629>
- Fitriani, C., Taufik, D., Wahyudi, K., & Hernawan. (2017). Synthesis of

- Precipitated Calcium Carbonated With Acid Stearat As A Surface Modifier
Citra. *Journal of the Indonesian Ceramics and Glass*, 26(2), 1–23.
- Greer, H. F., & Guo, L. (2015). *Phase Transformation of Mg-Calcite to Aragonite in Active-forming Hot Spring Travertines*. 1–18.
- Grimes, C. J., Hardcastle, T., Manga, M. S., Mahmud, T., & York, D. W. (2020). *Calcium Carbonate Particle Formation through Precipitation in a Stagnant Bubble and a Bubble Column Reactor*. <https://doi.org/10.1021/acs.cgd.0c00741>
- Hann, D., & Kortnik, J. (2015). Analysis of process of removing impurities from calcium carbonate. *Physicochemical Problems of Mineral Processing*, 51(2), 611–619. <https://doi.org/10.5277/ppmp150220>
- Harja, M., Cretescu, I., Rusu, L., & Ciocinta, R. C. (2014). The influence of experimental factors on calcium carbonate morphology prepared by carbonation. *Revista de Chimie*, 60(12), 1258–1263.
- Highfield, J., Chen, J., Haghighatlari, M., Åbacka, J., & Zevenhoven, R. (2016). Low-temperature gas-solid carbonation of magnesia and magnesium hydroxide promoted by non-immersive contact with water. *RSC Advances*, 6(92), 89655–89664. <https://doi.org/10.1039/c6ra16328a>
- Hu, Y. Bin, Wolthers, M., Wolf-Gladrow, D. A., & Nehrke, G. (2015). Effect of pH and phosphate on calcium carbonate polymorphs precipitated at near-freezing temperature. *Crystal Growth and Design*, 15(4), 1596–1601. <https://doi.org/10.1021/cg500829p>
- Huang, S. C., Naka, K., & Chujo, Y. (2007). A carbonate controlled-addition method for amorphous calcium carbonate spheres stabilized by poly(acrylic acid)s. *Langmuir*, 23(24), 12086–12095. <https://doi.org/10.1021/la701972n>
- Jimoh, O., Okoye, P., Ariffin, K., & Hussin, H. (2017). Continuous synthesis of precipitated calcium carbonate using a tubular reactor with the aid of aloe vera (*Aloe barbadensis Miller*) extract as a green morphological modifier. *Journal of Cleaner Production*, 150, 104–11, <https://doi.org/10.1016/j.jclepro.2017.02.200>
- Jimoh, Okoye, P. U., Mathe, T. G., Hussin, H. B., & Ariffin, K. S. (2019). Calcium extraction and synthesis of precipitated calcium carbonate from Mg-

- rich dolomite. *Materials Today: Proceedings*, 17, 1093–1099. <https://doi.org/10.1016/j.matpr.2019.06.522>
- Jimoh, Okoye, P. U., Otitoju, T. A., & Ariffin, K. S. (2018). Aragonite precipitated calcium carbonate from magnesium rich carbonate rock for polyethersulfone hollow fibre membrane application. *Journal of Cleaner Production*, 195, 79–92. <https://doi.org/10.1016/j.jclepro.2018.05.192>
- Jimoh, Otitoju, T., Hussin, H., Shah, K., & Baharun, N. (2017). *Understanding the Precipitated Calcium Carbonate (PCC) Production Mechanism and Its Characteristics in the Liquid – Gas System Using Milk of Lime (MOL) Suspension*. 1, 1–7.
- Kajiyama, S., Nishimura, T., Sakamoto, T., & Kato, T. (2014). Aragonite nanorods in calcium carbonate/polymer hybrids formed through self-organization processes from amorphous calcium carbonate solution. *Small*, 10(8), 1634–1641. <https://doi.org/10.1002/smll.201302745>
- Kim, B. J., Park, E. H., Choi, K. D., & Kang, K. S. (2017). Synthesis of CaCO_3 using CO_2 at room temperature and ambient pressure. *Materials Letters*, 190, 45–47. <https://doi.org/10.1016/j.matlet.2016.12.030>
- Kitamura, M., Konno, H., Yasui, A., & Masuoka, H. (2002). Controlling factors and mechanism of reactive crystallization of calcium carbonate polymorphs from calcium hydroxide suspensions. *Journal of Crystal Growth*, 236(1–3), 323–332. [https://doi.org/10.1016/S0022-0248\(01\)02082-6](https://doi.org/10.1016/S0022-0248(01)02082-6)
- Kogo, M., Umegaki, T., & Kojima, Y. (2019). Effect of pH on formation of single-phase vaterite. *Journal of Cr*, 328.
- Konopacka-Łyskawa, D., Czaplicka, N., Kościelska, B., Łapiński, M., & Gębicki, J. (2019). Influence of selected saccharides on the precipitation of calcium-vaterite mixtures by the CO_2 bubbling method. *Crystals*, 9(2). <https://doi.org/10.3390/crust9020117>
- Lee, J., Ryu, K. H., Ha, H. Y., Jung, K. D., & Lee, J. H. (2020). Techno-economic and environmental evaluation of nano calcium carbonate production utilizing the steel slag. *Journal of CO₂ Utilization*, 37(April), 113–121. <https://doi.org/10.1016/j.jcou.2019.12.005>
- Li, W., Huang, Y., Wang, T., Fang, M., & Li, Y. (2022). Preparation of calcium

- carbonate nanoparticles from waste carbide slag based on CO₂ mineralization. *Journal of Cleaner Production*, 363(April), 132463. <https://doi.org/10.1016/j.jclepro.2022.132463>
- Liendo, F., Arduino, M., Deorsola, F. A., & Bensaid, S. (2022). Factors controlling and influencing polymorphism, morphology and size of calcium carbonate synthesized through the carbonation route: A review. *Powder Technology*, 398, 117050. <https://doi.org/10.1016/j.powtec.2021.117050>
- Lu, J., Ruan, S., Liu, Y., & Wang, T. (2022). *Morphological characteristics of calcium carbonate*. 14610–14620. <https://doi.org/10.1039/d2ra01901a>
- Luo, M., Zhang, G., Fang, Y., Cao, L., & Guo, Z. (2023). Calcium carbonate crystallization process from the mineralization of calcium chloride waste. *Separation and Purification Technology*.
- McQueen, N., Kelemen, P., Dipple, G., Renforth, P., & Wilcox, J. (2020). Ambient weathering of magnesium oxide for CO₂ removal from air. *Nature Communications*, 11(1), 1–10. <https://doi.org/10.1038/s41467-020-16510-3>
- Minkowicz, L., Dagan, A., Uvarov, V., & Benny, O. (2021). *Controlling Calcium Carbonate Particle Morphology , Size , and Molecular Order Using Silicate*. 1–10.
- Naldi, N., Arief, S., Desmiarti, R., Sari, E., & Desfitri, E. R. (2023). Penghilangan Kandungan kloridae pada Precipitate Calcium Carbonate (PCC) dengan Proses Pencucian dan Filtrasi. *Eksperi*, 20(3), 200. <https://doi.org/10.31315/e.v20i3.9684>
- Owais, M., Taskinen, P., & Said, A. (2019). Experimental study on the extraction of calcium. *Journal of CO₂ Utilization*, 31(November 2018), 1–7.
- Ozyhar, T., Marchi, M., Faccioto, G., Bergante, S., & Luster, J. (2022). *Combined Application of Calcium Carbonate and NPKS Fertilizer Improves Early-Stage Growth of Popular in Acid Soils*. 16(1), 1–23.
- Perdikouri, C., Kasioptas, A., Geisler, T., Schmidt, B. C., & Putnis, A. (2011). Experimental study of the aragonite to calcite transition in aqueous solution. *Geochimica et Cosmochimica Acta*, 75(20), 6211–6224. <https://doi.org/10.1016/j.gca.2011.07.045>
- Picker, A., Kellermeier, M., Seto, J., Gebauer, D., & Cölfen, H. (2012). The

- multiple effects of amino acids on the early stages of calcium carbonate crystallization. *Zeitschrift Fur Kristallographie*, 227(11), 744–757. <https://doi.org/10.1524/zkri.2012.1569>
- Popescu, M. A., Isopescu, R., Matei, C., Fagarasan, G., & Plesu, V. (2014). Thermal decomposition of calcium carbonate polymorphs precipitated in the presence of ammonia and alkylamines. *Advanced Powder Technology*, 25(2), 500–507. <https://doi.org/10.1016/j.apt.2013.08.003>
- Ramakrishna, C., Thenepalli, T., & Ahn, J. W. (2017). A brief review of aragonite precipitated calcium carbonate (PCC) synthesis methods and its applications. *Korean Chemical Engineering Research*, 55(4), 443–455. <https://doi.org/10.9713/kcer.2017.55.4.443>
- Ramakrishna, C., Thenepalli, T., Huh, J., Ahn, J. W., Corporation, H. C., Division, M. P., & Resources, M. (2016). *Communication Preparation of Needle like Aragonite Precipitated Calcium Carbonate (PCC) from Dolomite by Carbonation Method*. 53(1), 7–12.
- Rivera, R. M., & Gerven, T. Van. (2020). Production of calcium carbonate with different morphology by simultaneous CO₂ capture and mineralisation. *Journal of CO₂ Utilization*, 41(June), 101241. <https://doi.org/10.1016/j.jcou.2020.101241>
- Sangeetha, G., Rajeshwari, S., & Venkatesh, R. (2011). Green synthesis of zinc oxide nanoparticles by aloe barbadensis miller leaf extract: Structure and optical properties. *Materials Research Bulletin*, 46(12), 2560–2566. <https://doi.org/10.1016/j.materresbull.2011.07.046>
- Santos, R. M., Ceulemans, P., & Van Gerven, T. (2012). Synthesis of pure aragonite by sonochemical mineral carbonation. *Chemical Engineering Research and Design*, 90(6), 715–725. <https://doi.org/10.1016/j.cherd.2011.11.022>
- Sari, S. P., & Raharjo, S. J. (2017). Profil Senyawa Metabolit Sekunder pada Tanaman Lidah Buaya (Aloe vera L) dengan Metode Kromatografi Lapis Tipis (KLT). 2017, 1–8.
- Ševčík, R., Pérez-Estébanez, M., Viani, A., Šašek, P., & Mácová, P. (2015). Characterization of vaterite synthesized at various temperatures and stirring velocities without use of additives. *Powder Technology*, 284, 265–271.

- <https://doi.org/10.1016/j.powtec.2015.06.064>
- Shen, Y., & Yuan, R. (2021). Pyrolysis of agroforestry bio-wastes with Calcium/Magnesium oxides or carbonates – Focusing on biochar as soil conditioner. *Biomass and Bioenergy*, 155(July 2020), 106277. <https://doi.org/10.1016/j.biombioe.2021.106277>
- Sinaga, R. M., Lubis, M. S., Dalimunthe, G. I., & Rahayu, Y. P. (2023). *Phytochemical Screening, Formulation, and Physical Characteristics Of Soothing gelAloe Vera Leaf Flesh (Aloe Vera(L.) Burm.F.).* 6(4), 1729–1737.
- Sunyecz, J. A. (2008). The use of calcium and vitamin D in the management of osteoporosis. *Therapeutics and Clinical Risk Management*, 4(4), 827–836. <https://doi.org/10.2147/tcrm.s3552>
- Teir, S., Auvinen, T., Said, A., Kotiranta, T., & Peltola, H. (2016). Performance of separation processes for precipitated calcium carbonate produced with an innovative method from steelmaking slag and carbon dioxide. In *Frontiers in Energy Research* (Vol. 4, Issue FEB). <https://doi.org/10.3389/fenrg.2016.00006>
- Tippayawat, P., Phromviyo, N., Boueroy, P., & Chompoosor, A. (2016). Green synthesis of silver nanoparticles in aloe vera plant extract prepared by a hydrothermal method and their synergistic antibacterial activity. *PeerJ*, 2016(10), 1–15. <https://doi.org/10.7717/peerj.2589>
- Wang, B., Pan, Z., Du, Z., Cheng, H., & Cheng, F. (2019). *Effect of impure components in flue gas desulfurization (FGD) gypsum on the generation of polymorph CaCO₃ during carbonation reaction.* 369(February), 236–243. <https://doi.org/10.1016/j.jhazmat.2019.02.002>
- Wang, J., Li, Z., Park, A.-H. A., & Petit, C. (2015). Thermodynamic and Kinetic Studies of the MgCl₂-NH₄Cl-NH₃-H₂O System for the Production of High Purity MgO from Calcined Low-Grade Magnesite. *AICHE Journal*, 61, 1933–1946.
- Xiang, L., Xiang, Y., Wen, Y., & Wei, F. (2004). Formation of CaCO₃ Nanoparticles in the Presence of Terpineol. *Materials Letters*, 58(6), 959–965. <https://doi.org/https://doi.org/10.1016/j.matlet.2003.07.034>
- Ye, J., Liu, S., Fang, J., Zhang, H., Zhu, J., & Guan, X. (2023). Synthesis of

Aragonite Whiskers by Co-Carbonation of Waste Magnesia Slag and Magnesium Sulfate: Enhancing Microstructure and Mechanical Properties of Portland Cement Paste. *Buildings*, 13(11). <https://doi.org/10.3390/buildings13112888>

Yin, H., Cao, Y., Fan, T., Zhang, M., Yao, J., Li, P., Chen, S., & Liu, X. (2020). Journal 1 P of. *Science of the Total Environment*, 141926. <https://doi.org/10.1016/j.scitotenv.2020.141926>

Yoo, Y., Kim, I., Lee, D., Choi, W., Choi, J., & Jang, K. (2022). *Review of contemporary research on inorganic CO₂ utilization via CO₂ conversion into metal carbonate-based materials*.

Yu, C., Cai, L., Jiang, G., Shao, J., Wei, W., Wang, R., Jin, Z., Jing, Y., & Wang, Q. (2021). Mineral carbonation of CO₂ with utilization of coal gasification slags based on chemical looping. *Asia-Pacific Journal of Chemical Engineering*, 16(4), 1–11. <https://doi.org/10.1002/apj.2636>

Zhai, M., Guo, L., Sun, L., Zhang, Y., Dong, P., & Shi, W. (2017). Desulfurization performance of fly ash and CaCO₃ compound absorbent. *Powder Technology*, 305, 553–561. <https://doi.org/10.1016/j.powtec.2016.10.021>

Zhu, T., Yuan, C. L., Xu, Z. Z., Fan, M. X., Liu, H. Y., & Xie, Y. H. (2014). Study On Characteristics and Harm Of Surfactants. *Journal of Chemical and Pharmaceutical Research*, 6, 2233–2237.