

DAFTAR PUSTAKA

- Alka, G., Deepika, A., Sanjay, G., & Singla, A.K., 2002, Spreading of Semisolid Formulations an Update, <https://elibrary.ru/item.asp?id=6294411>, 23 Oktober 2018.
- Allen, L.V., 2002, *The Art, Science, and Technology of Pharmaceutical Compounding*, 301, 309, American Pharmaceutical Association, Washington DC.
- Anderson, M.J., Whitcomb, P.J., 1996, Optimize Your Process-Optimization Efforts, *Chemical Engineering Progress*, **92** (12), 51-61.
- Anggraeni, Y., Hendradi, E., & Purwanti, T., 2012, Karakteristik Sediaan dan Pelepasan Natrium Diklofenak dalam Sistem Niosom dengan Basis Gel Carbomer 940, *PharmaScientia*, **1** (1), 1-10.
- Anonim, 2015, Triethanolamine, <http://www.chemspider.com/Chemical-Structure.13835630.html>, 30 September 2018.
- Anonim, 2019, 3-Nitrochalcone, <https://pubchem.ncbi.nlm.nih.gov/compound/3-Nitrochalcone#section=Top>, 8 Januari 2019.
- Ansel, H.C., 1989, *Pengantar Bentuk Sediaan Farmasi*, diterjemahkan oleh Farida Ibrahim, Asmanizar, Iis Aisyah, Edisi Keempat, UI Press, Jakarta.
- Ansel, H.C., Popovich, N.G., & Allen, L.V., 2014, *Pharmaceutical Dosage Form and Drug Delivery System*, 9th Ed., Lippincot Williams and Wilkins, Philadelphia.
- Aponno, J.V., Yamlean, P.V.Y., & Supriati, H.S., 2014, Uji Efektivitas Sediaan Gel Ekstrak Etanol Daun Jambu Biji (*Psidium guajava* Linn) terhadap Penyembuhan Luka yang Terinfeksi Bakteri *Staphylococcus aureus* pada Kelinci (*Orytolagus cuniculus*), *Jurnal Ilmiah Farmasi*, **3** (3), 279-286.
- Armstrong, N.A., & James, K.C., 1996, *Pharmaceutical Experimental Design and Interpretation*, 205-222, Taylor and Francis, London.
- Bakker, P., Woerdenbag, H., Gooskens, V., Naafs, B., Kaaij, R.V.D., & Wieringa, N., 1990, *Dermatological Preparations for the Tropic*, 174-183, University of Groningen, The Netherlands.
- Balsam, M.S., & Sagarin, E., 1972, *Cosmetics: Science and Technology*, 2nd Ed., Volume 1-3, Interscience Publishers Inc., New York.
- Barel, A.O., Paye M., Maibach, H.I., 2010, *Handbook of Cosmetic Science and Technology*, CRC Press, Boca Raton.
- Bolton, S., & Bon, C., 2009, *Pharmaceutical Statistic: Practical and Clinical Applications*, 5th Ed., CRC Press, Florida.
- Bouranen, A., 2017, Determination of the Stability of Cosmetic Formulations with Incorporation of Natural Products, *Disertasi*, Instituto Politécnico De Bragança, Bragança.
- Burns, T., Breathnach, S., Cox, N., & Griffiths., C., 2013, *Rook's Textbook of Dermatology*, 8th Ed., Wiley-Blackwell Publishing, United Kingdom.
- Chisvert, A., & Salvador, A., 2007, UV Filters in Sunscreens and Other Cosmetics, Regulatory Aspects, and Analytical Methods, dalam Salvador A., & Chisvert

- A., (Eds.), *Analysis of Cosmetic Products*, 83-120, Elsevier Science, Amsterdam.
- Cumpelik, B.M., 1972, Analytical Procedures and Evaluation of Sunscreen, *Journal of the Society of Cosmetic Chemists*, **23** (6), 333-345 cit.
- Fitrianingsih, V., 2018, Optimasi Gelling Agent Karbopol, CMC Natrium, dan Gelatin Serta Uji Aktivitas Gel 3-Nitrokalkon Sebagai Tabir Surya Secara *In Vitro*, *Skripsi*, Fakultas Farmasi Universitas Gadjah Mada, Yogyakarta.
- De Fabo, E.C., 2005, Arctic Stratospheric Ozone Depletion and Increased UVB Radiation: Potential Impacts to Human Health, *International Journal of Circumpolar Health*, **64** (5), 509-522.
- DepKes RI, 2014, *Farmakope Indonesia*, Edisi Kelima, Kementrian Kesehatan Republik Indonesia, Jakarta.
- Dewan Standardisasi Nasional, 1996, *SNI 16-4399-1996*, Badan Standardisasi Nasional, Bandung.
- Donovan, M.D., & Flanigan, D.R., 1996, Bioavailability of Disperse Dosage Forms, dalam Liebermann, H.A., Lachman, L., & Schwartz, J.B., *Pharmaceutical Dosage Forms: Disperse System*, 2nd Ed., 2, 316, Marcell Dekker Inc., New York.
- Draelos, Z.D., & Thaman, L.A., 2006, *Cosmetic Formulation of Skin Care Products*, 75, 135-137, 157-161, Taylor and Francis Group, New York.
- Elmarzughi, N. A., Keleb, E.I., Mohamed, A.T., Issa, Y.S., Hamza, A.M., Layla, A.A., Salama, M., & Bentaleb, A.M., 2013, The Relation between Sunscreen and Skin Pathochanges Mini Review, *International Journal of Pharmaceutical Science Invention*, **2** (7), 43-52.
- Epstein, J. H., & Wang, S. Q., 2013, UV A and UV B, <https://www.skincancer.org/Prevention/uva-and-uvb>, 23 Oktober 2018.
- Fisher, G.J., Kang, S., Varani, J., Bata-Csorgo, Z., Wan, Y., Datta, S., & Voorhees, J.J., 2002, Mechanisms of Photoaging and Chronological Skin Aging, *Archives of Dermatology*, **138** (11), 1462–1470.
- Fitrianingsih, V., 2018, Optimasi Gelling Agent Karbopol, CMC Natrium, dan Gelatin Serta Uji Aktivitas Gel 3-Nitrokalkon Sebagai Tabir Surya Secara *In Vitro*, *Skripsi*, Fakultas Farmasi Universitas Gadjah Mada, Yogyakarta.
- Fujiastuti, T., & Sugihartini, N., 2015, Sifat Fisik dan Daya Iritasi Gel Ekstrak Etanol Herba Pegagan (*Centella asiatica* L.) dengan Variasi Jenis Gelling Agent, *Pharmacy*, **12** (1), 11-20.
- Gilchrest, B.A., Eller, M.S., Geller, A.C., & Yaar, M., 1999, The Pathogenesis of Melanoma Induced by Ultraviolet Radiation, *New England Journal of Medicine*, **340** (17), 1341–1348.
- Goskonda, S.R., 2009, Triethanolamin, dalam Rowe, R.C., Shesky, P.J., & Owe, S.J., 2009, *Handbook of Pharmaceutical Excipient*, 6th Ed, Pharmaceutical Press Inc., London.
- Hastuty, H.S.B., Purba, P.N., & Nurfadillah, E., 2018, Uji Stabilitas Fisik Formulasi Sediaan Gel Ekstrak Daun Ketepeng Cina (*Cassia Alata* L) dengan Gelling Agent Na-CMC terhadap *Staphylococcus Aureus* Atcc 230840, *Poltekkes Kemenkes Jayapura*, **10** (1), 22-27.
- Helms, R.A., Quan, D.J., Herfindal, E.T., & Gourley, D.R., 2008, *Textbook of*

- Therapeutics: Drug and Disease Management*, 8th Ed., 221-222, Lippincott Williams & Wilkins, USA.
- Jansen, R., Osterwalder, U., Wang, S.Q., Burnett, M., & Lim, H.W., 2013, Photoprotection: Part II. Sunscreen: Development, Efficacy, and Controversies, *Journal of the American Academy of Dermatology*, **69** (6), 867.e1–867.e14.
- Jones, A.E., 2000, A Spectroscopic Study of Sunscreens, *Tesis*, Durham University, United Kingdom.
- Juzeniene, A., & Moan, J., 2012, Beneficial Effects of UV Radiation other than Via Vitamin D Production, *Dermatoendocrinology*, **4** (2), 109-117.
- Kalangi, S.J.R., 2013, Histofisiologi Kulit, *Jurnal Biomedik*, **5** (3), S12-S20.
- Kartika, G.F., 2010, Pengaruh Peningkatan Konsentrasi Carbopol 940 sebagai Bahan Pengental terhadap Viskositas dan Ketahanan Busa sediaan *Shampoo*, *Skripsi*, Universitas Sanata Dharma, Yogyakarta.
- Kayan, B., Yang, Y., Lindquist, E.J., & Gizir, A., 2010, Solubility of Benzoic and Salicylic Acids in Subcritical Water at Temperatures Ranging from (298 to 473) K, *Journal of Chemical & Engineering Data*, **55** (6), 2229–2232.
- Kumar, V.R., & Kumar, S., 2011, Formulation and Evaluation of *Mimosa pudica* Gel, *International Journal of Pharmacy and Pharmaceutical Sciences*, **3** (1), 55-57.
- Kuncari, E.S., Iskandarsyah, dan Praptiwi, 2014, Evaluasi, Uji Stabilitas Fisik, dan Sinerisis Sediaan Gel yang Mengandung Minoksidil, Apigenin, dan Perasan Herba Seledri (*Apium graveolens* L.), *Buletin Penelitian Kesehatan*, **42** (4), 213-222.
- Kusantati, H., 2008, *Tata Kecantikan Kulit*, Departemen Pendidikan Nasional, Jakarta.
- Lachman, L., Lieberman, H. A., & Joseph, L.K., 1994, *Teori dan Praktek Farmasi Industri 2*, Edisi III, Penerbit Universitas Indonesia, Jakarta.
- Lann, K.L., Surget G., Couteau C., Coiffard L., Cerantola S., Gaillard F., Larnicol M., Zubia M., Guerard F., Poupart N., & Pouvreau V.S., 2016, Sunscreen, Antioxidant, and Bactericide Capacities of Phlorotannins from the Brown Macroalgae *Halidrys siliquosa*, *Journal of Applied Phycology*, **28** (6), 3547–3559.
- Latimer, G., (editor), 2012, *Official Methods of Analysis of AOAC International*, 19th Edition, AOAC international, Gaithersburg Md.
- Levy, S.B., 2014, UV Filters, dalam Barel, A.O., Paye, M., & Maibach, H.I., (Eds.), *Cosmetic Science and Technology*, 4th Ed., 279-286, CRC Press, New York.
- Lieberman, H.A., Rieger, M.M., & Banker, G.S., 1996, *Pharmaceutical Dosage Forms: Disperse Systems*, 2nd Ed., Revised and Expanded, 3, 265-267, 272-273, Marcel Dekker Inc., New York.
- Loden, M., 2009, *Hydrating Substance in Handbook of Cosmetic Science and Technology*, 3rd Ed., 107, Informa Healthcare USA, New York.
- Mahapatra, D.K., Bharti S.K., & Asati, V., 2015, Anti-Cancer Chalcones: Structural and Molecular Target Perspectives, *European Journal of Medicinal Chemistry*, **98**, 69–114.
- Mansur, J.S., Breder, M.N.R., Mansur, M.C.A., & Azulay, R.D., 1986,

- Determination of Sun Protection Factor by Spectrophotometry, *Anais Brasileiros de Dermatologia*, **61** (3), 121-124 cit. Fitrianiingsih, V., 2018, Optimasi Gelling Agent Karbopol, CMC Natrium, dan Gelatin Serta Uji Aktivitas Gel 3-Nitrokalkon Sebagai Tabir Surya Secara *In Vitro*, *Skripsi*, Fakultas Farmasi Universitas Gadjah Mada, Yogyakarta.
- Marchaban, Fudholi, A., Sulaiman, T.N.S., Martin, R., & Bestari, A.N., 2017, *Seri Buku Petunjuk Praktikum Teknologi Farmasi: Teknologi Formulasi Sediaan Cair Semi Padat Laboratorium Teknologi Farmasi*, Fakultas Farmasi UGM, Yogyakarta.
- Martin, A.J., Swarbrick, & Cammarata, A., 1993, *Farmasi Fisik*, Edisi Ketiga, Jilid Kedua, UI Press, Jakarta.
- Martinez, R.M., Pinho-Ribeiro, F.A., Vale, D.L., Steffen, V.S., Vicentini, F.T.M.C., Vignoli, J.A., Baracat, M.M., Georgetti, S.R., Verri, W.A.Jr., & Casagrande, R., 2017, Trans-Chalcone Added in Topical Formulation Inhibits Skin Inflammation and Oxidative Stress in a Model of Ultraviolet B Radiation Skin Damage in Hairless Mice, *Journal of Photochemistry and Photobiology B*, **171**, 139-146.
- Michalun, M.V., & Dinardo, J.C., 2014, *MILADY Skin Care and Cosmetic Ingredients Dictionary*, 4th Ed., 86, Cengage Learning, USA.
- Mitsui, T., 1997, *New Cosmetics Science*, 1st Ed., Elsevier Science, Amsterdam.
- Mollet, H., & Grubermann, A., 2001, *Formulation Technology: Emulsions, Suspensions, Solid Form*, 261-262, Wiley-Vch, Toronto.
- Murphy, G., Young, A.R., Wulf, H.C., Kulms, D., & Schwarz, T., 2001, The Molecular Determinants of Sunburn Cell Formation, *Experimental Dermatology*, **10** (3), 155-160.
- Murray, J.C.F., 2000, Cellulosics, dalam Philips, G.O., Williams, P.A., (Eds.), *Handbook of Hydrocolloids*, 219-229, Woodhead Publ. Ltd., New York.
- Nasatto, P., Pignon, F., Silveira, J., Duarte, M., Nosedá, M., & Rinaudo, M., 2015, Methylcellulose, a Cellulose Derivative with Original Physical Properties and Extended Applications, *Polymers*, **7** (5), 777-803.
- Nursal, F.K., Indriani, O., & Dewantini, L.A., 2010, Penggunaan Na-CMC sebagai *Gelling Agent* dalam Formula Pasta Gigi Ekstrak Etanol 70% Daun Jambu Biji (*Psidium Guajava L*), *Farmasains UHAMKA*, **1** (1), 45-51.
- Orlikova, B.D., Tasdemir, D., Golais, F., Dicato, M., & Diederich, M., 2011, Dietary Chalcones with Chemopreventive and Chemotherapeutic Potential, *Genes and Nutrition*, **6** (2), 125-147.
- Parrish, J.A., Jaenicke, K.F., & Anderson, R.R., 1982, Erythema and Melanogenesis Action Spectra of Normal Human Skin, *Photochemistry and Photobiology*, **36** (2), 187-191.
- Paye, M., Barel, A.O., & Maibach, H.I., 2001, *Handbook of Cosmetic Science and Technology*, 220-226, Marcell Dekker Inc., New York.
- Pratama. W.A., dan Zulkarnain, A.K., 2015, Uji SPF *In Vitro* dan Sifat Fisik Beberapa Produk Tabir Surya yang Beredar di Pasaran, *Majalah Farmasetik*, **11** (1), 275-283.
- Quinones, D., & Ghaly, E.S., 2008, Formulation and Characterization of Nystatin Gel, *Puerto Rico Health Sciences Journal*, **27** (1), 61-67.

- Rajesh, B., Saumya, D., Dharmajit, P., & Pavani, M., 2014, Formulation Design and Optimization of Herbal Gel Containing *Albizia lebbecck Bark* Extract, *International Journal of Pharmacy and Pharmaceutical Sciences*, **6** (5), 111-114.
- Rodrigues, N.D.N., Staniforth, M., & Stavros, V.G., 2016, Photophysics of Sunscreens Molecules in the Gas Phase: A Stepwise Approach Towards Understanding and Developing Next-Generations Sunscreens, *Proc. R. Soc.*, **472**, 1-29.
- Rowe, R.C., Shesky, P.J., & Quinn, M.E., 2009, *Handbook of Pharmaceutical Excipient*, 6th Ed, Pharmaceutical Press. Inc, London.
- Saewan, N., & Jimtaisong, A., 2013, Photoprotection of Natural Flavonoids, *Journal of Applied Pharmaceutical Science*, **3** (9), 129-141.
- Shaath, N.A., 1986, The Chemistry of Sunscreens, *Cosmetics and Toiletries*, **101** (3), 55-70.
- Shi, L., Shan, J., Ju, Y., Aikens, P., & Prud'homme, R.K., 2012, Nanoparticles as Delivery Vehicles for Sunscreen Agents, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **396**, 122-129.
- Shovyana, H.H., & Zulkarnain, A.K., 2013, Physical Stability and Activity of Cream W/O Ethanolic Fruit Extract of Mahkota Dewa (*Phaleria macrocarpa (scheff.) Boerl.*) as a Sunscreen, *Traditional Medicine Journal*, **18** (2), 109-117.
- Sinko, P.J., 2006, *Martin's Physical Pharmacy and Pharmaceutical Science: Physical Chemical and Biopharmaceutical Principle in the Pharmaceutical Science*, 5th Ed., 78-79, Lippincott Williams and Wilkins, Philadelphia.
- Solomon, V.R., & Lee H., 2012, Anti-Breast Cancer Activity of Heteroaryl Chalcone Derivatives, *Biomedicine & Pharmacotherapy*, **66** (3), 213-220.
- Standring, S., 2008, *Gray's Anatomy the Anatomical Basis of Clinical Practice*, 40th Edition, Churchill Livingstone Elsevier, London.
- Suryani, Nafisah, A., & Mana'an, S., 2017, Optimasi Formula Gel Antioksidan Ekstrak Etanol Buah Blingo (*Benincasa hispida*) dengan Metode *Simplex Lattice Design* (SLD), *Jurnal Farmasi Galenika (Galenika Journal of Pharmacy)*, **3** (2), 150-156.
- Suwandi, A.O., Pramono, S., & Mufrod, 2012, Pengaruh Konsentrasi Ekstrak Daun Kepel (*Stelechocarpus burahol (BL) Hook f. & Th.*) terhadap Aktivitas Antioksidan dan Sifat Fisik Sediaan Krim, *Majalah Obat Tradisional*, **17** (2), 27-33.
- Svobodova, A., Walterova, D., & Vostalova, J., 2006, Ultraviolet Light Induced Alteration to The Skin, *Biomedical papers of the Medical Faculty of the University Palacký, Olomouc, Czechoslovakia Republic*, **150** (1), 25-38.
- Tahir, I., Jumina, & Yuliasuti, I., 2002, Analisis Aktivitas Perlindungan Sinar UV secara *In Vitro* dan *In Vivo* dari Beberapa Senyawa Ester Sinamat Produk Reaksi Kondensasi Benzaldehida Tersubstitusi dan Alkil Asetat, Makalah pada Seminar Nasional Kimia XI Jurusan Kimia FMIPA UGM.
- Tanwar, Y.S., & Jain, A.K., 2012, Formulation and Evaluation of Topical Diclofenac Sodium Gel Using Different Gelling Agent, *Asian Journal of Pharmaceutical Research and Health Care*, **4** (1), 1-6.

- Taufikkurohmah, T., 2005, Synthesis of p-Methoxy-Cynnamil-p-Metoxycinamate from Ethyl P-Methoxycinamat was Isolated from Dried Rhizoma *Kaempferia galanga L.* as Sunscreen Compound, *Indonesian Journal of Chemistry.*, **5** (3), 193-197.
- Voigt, R., 1984, *Buku Pelajaran Teknologi Sediaan Farmasi*, diterjemahkan oleh Soendani, N.S., dan Mahtilda, B.N., 312, Gadjah Mada University Press, Yogyakarta.
- Wang, Q., & Li, L., 2005, Effects of Molecular Weight on Thermoreversible Gelation and Gel Elasticity of Methylcellulose in Aqueous Solution, *Carbohydrate Polymers*, **62** (3), 232–238.
- Wasitaatmadja, S.M., 1997, *Penuntun Ilmu Kosmetik Medik*, UI Press, Jakarta.
- Wilkinson, J.B., & Moore, R. J. (1982) *Harry's Cosmeticology*. 7th Ed. New York: Chemical Publishing Company.
- Young, A.R., Chadwick, C.A., Harrison, G.I., Nikaido, O., Ramsden, J., & Potten, C.S., 1998, The Similarity of Action Spectra for Thymine Dimers in Human Epidermis and Erythema Suggests that DNA is the Chromophore for Erythema, *Journal of Investigative Dermatology*, **111** (6), 982–988.
- Yuliani, S.H., 2012, Formulasi Sediaan Hidrogel Penyembuh Luka Ekstrak Etanol Daun Binahong (*Anredera cordifolia* (Ten) Steenis), *Disertasi*, Universitas Gadjah Mada, Yogyakarta.
- Yumas, M., 2016, Formulasi Sediaan Krim Wajah Berbahan Aktif Ekstrak Metanol Biji Kakao Non Fermentasi (*Theobroma Cacao L*) Kombinasi Madu Lebah, *Jurnal Industri Hasil Perkebunan*, **11** (2), 75-87.