
REFERENCES

- Abbas, S. et al., 2013. An Overview of Ultrasound-Assisted Food-Grade Nanoemulsions. *Food Engineering Reviews*.
- Abolmaali, S.S. et al., 2011. Pharmaceutical Nanoemulsions and Their Potential Topical and Transdermal Applications. *Iranian Journal of Pharmaceutical Sciences*, 7(3), pp.139–150.
- Akhtar, J. et al., 2015. Nanoemulsion : for improved oral delivery of repaglinide.
- Ali, A. et al., 2016. β -lactoglobulin stabilized nanemulsions - Formulation and process factors affecting droplet size and nanoemulsion stability. *International Journal of Pharmaceutics*. Available at: <http://dx.doi.org/10.1016/j.ijpharm.2016.01.035>.
- Ammar, H.O. et al., 2009. Nanoemulsion as a Potential Ophthalmic Delivery System for Dorzolamide Hydrochloride. *American Association of Pharmaceutical Scientists*, 10(3), pp.808–819.
- Anandharamakrishnan, C., 2014. *Techniques for Nanoencapsulation of Food Ingredients*, Spinger. Available at: <http://link.springer.com/10.1007/978-1-4614-9387-7>.
- Athawale, V.M. & Chakraborty, S., 2010. A TOPSIS Method-based Approach to Machine Tool Selection. , pp.65–70.
- Azeem, A. et al., 2009. Nanoemulsion Components Screening and Selection : a Technical Note. , 10(1), pp.69–76.
- Beei.com. (2017). *High Pressure Homogenizer Products | BEE International*. [online] Available at: <http://www.beei.com/high-pressure-homogenizer-products> [Accessed 15 May 2017].
- Bermúdez-Aguirre, D. & Barbosa-Cánovas, G., 2016. Impact of Sonication on Shelf Life, Sensory, and Nutritional Quality of Food. In A. K. Jaiswal, ed. *Food Processing Technologies: Impact on Product Attributes*. CRC Press.
- Bhanushali, R.S. et al., 2009. Nanoemulsion based Intranasal Delivery of Antimigraine Drugs for Nose to Brain Targeting. *Indian Journal of Pharmaceutical Sciences*, 71(6), pp.707–709.

Bouaouina, H. et al., 2006. Functional properties of whey proteins as affected by dynamic high-pressure treatment. *International Dairy Journal*, 16(4), pp.275–284.

Burapapadh, K. et al., 2010. Fabrication of pectin-based nanoemulsions loaded with itraconazole for pharmaceutical application. *Carbohydrate Polymers*, 82(2), pp.384–393. Available at: <http://dx.doi.org/10.1016/j.carbpol.2010.04.071>.

Burapapadh, K., Takeuchi, H. & Sriamornsak, P., 2012. Pectin-Based Nano-Sized Emulsions Prepared by High-Pressure Homogenization. , 506, pp.286–289.

Çag̃daç Arslan, M., Çatay, B. & Budak, E., 2004. A decision support system for machine tool selection. *Journal of Manufacturing Technology Management*, 15(1), pp.101–109. Available at: <http://www.emeraldinsight.com/doi/abs/10.1108/09576060410512374>.

Cano-Sarmiento, C. et al., 2015. High Shear Methods to Produce Nano-sized Food Related to Dispersed Systmes. In *Food Nanoscience and Nanotechnology*. Springer, pp. 144–162.

Carpenter, J. & Saharan, V.K., 2016. Ultrasonic assisted formation and stability of mustard oil in water nanoemulsion: Effect of process parameters and their optimization. *ULTRASONICS SONOCHEMISTRY*. Available at: <http://dx.doi.org/10.1016/j.ultsonch.2016.10.021>.

Chime, S., Kenchukwu, F. & Attama, A., 2014. Chapter 3 Nanoemulsions — Advances in Formulation , Characterization and Applications in Drug Delivery. In *Application of Nanotechnology in Drug Delivery*.

Dhankhar, P., 2014. Homogenization Fundamentals. *IOSR Journal of Engineering*, 4(5), pp.1–8.

Donsi, F. et al., 2012. Design of nanoemulsion-based delivery systems of natural antimicrobials : Effect of the emulsifier. *Journal of Biotechnology*, 159(4), pp.342–350. Available at: <http://dx.doi.org/10.1016/j.jbiotec.2011.07.001>.

Esquerdo, V.M., Dotto, G.L. & Pinto, L.A. de A., 2016. Nanoemulsions Containing Unsaturated Fatty Acid Concentrates. In A. Grumezescu, ed. *Emulsions*. Academic Press, pp. 71–106.

Fishersci.com. (2017). *Search Results*. [online] Available at: <https://www.fishersci.com/us/en/catalog/search/products?storeId=10652&keyword=ultra>

sonic&nav=104268&refineCatId=103591&Ne=&searchType=PROD&SWKeyList=[]&typeAheadCat=&sortBy=default [Accessed 9 May 2017].

Floury, J. et al., 2003. Effect of high pressure homogenisation on methylcellulose as food emulsifier. *Journal of Food Engineering*, 58, pp.227–238.

Gadhve, A., 2014. Determination of Hydrophilic-Lipophilic Balance Value. , 3(4), pp.573–575.

Gea.com. (2017). *Gea Niro Soavi High Pressure Homogenizers*. [online] Available at: http://www.gea.com/en/binaries/DeliveryProgram%20-%20Ariete%20Series_Brochure_tcm11-17450.pdf [Accessed 1 Jun. 2017].

Ghosh, V., Mukherjee, A. & Chandrasekaran, N., 2013. Ultrasonic emulsification of food-grade nanoemulsion formulation and evaluation of its bactericidal activity. *Ultrasonics - Sonochemistry*, 20(1), pp.338–344. Available at: <http://dx.doi.org/10.1016/j.ultsonch.2012.08.010>.

Gomaengineering.com. (2017). *High Pressure Homogenizer - High Pressure Homogenizer Exporter, Manufacturer & Supplier, Thane, India*. [online] Available at: <http://www.gomaengineering.com/high-pressure-homogenizer-835283.html> [Accessed 1 Jun. 2017].

Gong, Y. et al., 2012. An Excellent Delivery System for Improving the Oral Bioavailability of Natural Vitamin E in Rats. *American Association of Pharmaceutical Scientists*, 13(3), pp.0–5.

Gupta, A. et al., 2016. Nanoemulsions: formation, properties and applications. *Soft Matter*, 12(11), pp.2826–2841. Available at: <http://xlink.rsc.org/?DOI=C5SM02958A>.

Han, N.G.S. et al., 2012. Preparation of emulsions by rotor – stator homogenizer and ultrasonic cavitation for the cosmeceutical industry. *Journal of Cosmetic Science*, 344(October), pp.333–344.

Haritha et al., 2013. A BRIEF INTRODUCTION TO METHODS OF PREPARATION , APPLICATIONS AND CHARACTERIZATION OF NANOEMULSION DRUG DELIVERY SYSTEMS. *Indian Journal of Research in Pharmacy and Biotechnology*, 1(1), pp.25–28.

Harte, F. & Venegas, R., 2009. A model for viscosity reduction in polysaccharides subjected to high-pressure homogenization. , 41(2010), pp.49–61.

Hashtjin, A.M. & Abbasi, S., 2014. Optimization of ultrasonic emulsification conditions for the production of orange peel essential oil nanoemulsions. *Journal of Food Science Technology*.

Heurtault, B. et al., 2003. Physico-chemical stability of colloidal lipid particles. *Biomaterials*, 24, pp.4283–4300.

Jafari, S.M., He, Y. & Bhandari, B., 2007a. Optimization of nano-emulsions production by microfluidization. *European Food Research and Technology*, 225, pp.733–741.

Jafari, S.M., He, Y. & Bhandari, B., 2007b. Production of sub-micron emulsions by ultrasound and microfluidization techniques. *JOURNAL OF FOOD ENGINEERING*, 82, pp.478–488.

Jin, W. et al., 2016. Nanoemulsions for Food: Properties, Production, Characterization. and Applications. In *Emulsions*. Nikki Levy.

Kanwale, N.P. et al., 2015. Nanoemulsion: A New System for Drug Delivery. , 4(11), pp.310–326.

Kentish, S. et al., 2008. The use of ultrasonics for nanoemulsion preparation. *Innovative Food Science & Emerging Technologies*, 9, pp.170–175.

Kotta, S. et al., 2013. Formulation of nanoemulsion : a comparison between phase inversion composition method and high-pressure homogenization method. , 7544, pp.1–12.

Kotyla, T. et al., 2008. Increased bioavailability of a transdermal application of a nano-sized emulsion preparation. *International Journal of Pharmaceutics*, 347, pp.144–148.

Leblanc, G.E., Secco, R.. & Kostic, M., 2000. Viscosity Measurement.

Lee, J. et al., 2015. The fate of calcium carbonate nanoparticles administered by oral route : absorption and their interaction with biological matrices. *International Journal of Nanomedicine*, 10(1), pp.2273–2293.

Lee, L. et al., 2014. Production of water-in-oil nanoemulsions using high pressure homogenisation : A study on droplet break-up. *JOURNAL OF FOOD ENGINEERING*,

131, pp.33–37. Available at: <http://dx.doi.org/10.1016/j.jfoodeng.2014.01.024>.

Leong, T.S.H. et al., 2009. Ultrasonics Sonochemistry Minimising oil droplet size using ultrasonic emulsification. *Ultrasonics - Sonochemistry*, 16(6), pp.721–727. Available at: <http://dx.doi.org/10.1016/j.ultsonch.2009.02.008>.

Li, P. & Chiang, B., 2012. Ultrasonics Sonochemistry Process optimization and stability of D-limonene-in-water nanoemulsions prepared by ultrasonic emulsification using response surface methodology. *Ultrasonics - Sonochemistry*, 19(1), pp.192–197. Available at: <http://dx.doi.org/10.1016/j.ultsonch.2011.05.017>.

Loong, N.C. et al., 2015. Skin intervention of fullerene-integrated nanoemulsion in structural and collagen regeneration against skin aging. *EUROPEAN JOURNAL OF PHARMACEUTICAL SCIENCES*. Available at: <http://dx.doi.org/10.1016/j.ejps.2015.01.006>.

Lovelyn, C., 2011. Current State of Nanoemulsions in Drug Delivery. *Journal of Biomaterials and Nanobiotechnology*, 2(5), pp.626–639.

Mcclements, D.J., 2005. *Food emulsions: Principles, Practices and Technique* 2nd ed., New York: CRC Press.

Mcclements, D.J. & Rao, J., 2011. *Toxicity Food-Grade Nanoemulsions : Formulation , Fabrication , Properties ,*

Mehmood, T. et al., 2017. Optimization of olive oil based O / W nanoemulsions prepared through ultrasonic homogenization : A response surface methodology approach. *Food Chemistry*, 229, pp.790–796. Available at: <http://dx.doi.org/10.1016/j.foodchem.2017.03.023>.

MICCRA GmbH. (2017). *MICCRA Inline Dispergierer Homogenisierer D-27 Homogenizer – Disperser*. [online] Available at: <http://www.micra.com/produkte/micra-dispergierer-und-homogenisierer/micra-d-27-homogenizer/?lang=en> [Accessed 10 May 2017].

Microfluidicscorp.com. (2017). *Microfluidizers & High Pressure Homogenizers | Microfluidics*. [online] Available at: <https://www.microfluidicscorp.com/microfluidizers/> [Accessed 10 Apr. 2017].

Nanocomposix, 2012. ZETA POTENTIAL ANALYSIS OF NANOPARTICLES Sample Preparation. , pp.1–6.

Patel, R.P. & Joshi, J.R., 2012. An Overview On Nanoemulsion: A Novel Approach. , 3(12), pp.4640–4650.

Pathan, I., Mangle, M. & Bairagi, S., 2016. Design and Characterization of Nanoemulsion for Transdermal Delivery of Meloxicam. *Analytical Chemistry Letters*, 3(July), pp.286–295.

Pdf.directindustry.com. (2017). *APV Homogenizers - APV - PDF Catalogue | Technical Documentation | Brochure*. [online] Available at: <http://pdf.directindustry.com/pdf/apv/apv-homogenizers/5697-394007.html#open> [Accessed 4 May 2017].

Peng, J. et al., 2015. Effect of high-pressure homogenization preparation on mean globule size and large-diameter tail of oil-in-water injectable emulsions. *Journal of Food and Drug Analysis*, pp.1–8. Available at: <http://dx.doi.org/10.1016/j.jfda.2015.04.004>.

Periasamy, V.S., Athinarayanan, J. & Alshatwi, A.A., 2016. Anticancer Activity of an Ultrasonic Nanoemulsion Formulation of Nigella sativa L. Essential Oil on Human Breast Cancer Cells. *ULTRASONICS SONOCHEMISTRY*. Available at: <http://dx.doi.org/10.1016/j.ultsonch.2016.01.035>.

Peshkovsky, A.S., Peshkovsky, S.L. & Bystryak, S., 2013. Scalable high-power ultrasonic technology for the production of translucent nanoemulsions. *Chemical Engineering and Processing*, 69, pp.77–82.

Quadroliquids.com. (2017). *High Shear Homogenizer & Wet Mill*. [online] Available at: <http://www.quadroliquids.com/products/high-shear-homogenizer-wet-mill/> [Accessed 10 May 2017].

Rajendran, S.R.C., Udenigwe, C.C. & Yada, R.Y., 2016. Nanochemistry of Protein-Based Delivery Agents. *Front. Chem*, 4(31).

Ross, J.C., 1997. Low profile rotors and stators for mixers and emulsifiers. , pp.5–10.

Ruiz-Montañez, G. et al., 2016. PTNU SC. In *Innovative Food Science and Emerging Technologies*. Elsevier B.V. Available at: <http://dx.doi.org/10.1016/j.ifset.2016.10.020>.

- Saberi, A.H., Fang, Y. & McClements, D.J., 2013. Effect of glycerol on formation , stability , and properties of vitamin-E enriched nanoemulsions produced using spontaneous emulsification. *Journal of Colloid And Interface Science*, 411, pp.105–113. Available at: <http://dx.doi.org/10.1016/j.jcis.2013.08.041>.
- Salvia-trujillo, L., Rojas-graü, M.A., et al., 2013. Effect of processing parameters on physicochemical characteristics of micro fluidized lemongrass essential oil-alginate nanoemulsions. *Food Hydrocolloids*, 30, pp.401–407.
- Salvia-trujillo, L., Rojas-graü, A., et al., 2013. Physicochemical Characterization of Lemongrass Essential Oil – Alginate Nanoemulsions : Effect of Ultrasound Processing Parameters. *Food Bioprocess Technology*, 6, pp.2439–2446.
- Saxena, A. et al., 2017. Technological Aspects of Nanoemulsions and Thei Applications in the Food Sector. In A. E. Oprea & A. M. Grumezescu, eds. *Nanotechnology Applications in Food: Flavor, Stability, Nutrition and Safety*. Nikki Levy, pp. 129–152.
- Scholz, P. & Keck, C.M., 2014. Microcrystals & nanocrystals produced by rotor-stator high speed stirring. *International Journal of Pharmaceutics*. Available at: <http://dx.doi.org/10.1016/j.ijpharm.2014.12.040>.
- Schramm, L.L., Stasiuk, N. & Marangoni, D.G., 2003. Surfactants and their applications. , pp.3–48.
- Sekhon, B.S., 2013. Surfactants: Pharmaceutical and Medicinal Aspects. *Journal of Pharmaceutical Technology, Research and Management*, 1, pp.11–36.
- Shakeel, F. et al., 2009. Journal of Dispersion Science and Technology Celecoxib Nanoemulsion for Transdermal Drug Delivery: Characterization and In Vitro Evaluation Celecoxib Nanoemulsion for Transdermal Drug Delivery : Characterization and In Vitro Evaluation. *Journal of Dispersion Science and Technology*, 30(6), pp.834–842.
- Silva, H.D. et al., 2011. Nanoemulsions of b -carotene using a high-energy emulsification – evaporation technique. *JOURNAL OF FOOD ENGINEERING*, 102, pp.130–135.
- Sonics & Materials, I. (2017). *Products | Sonics & Materials, Inc.*. [online] Sonics & Materials, Inc. Available at: <http://www.sonics.com/liquid-processing/products/> [Accessed 10 May 2017].

Sonomechanics.com. (2017). *Ultrasonic Systems: Ultrasonic Liquid Processors and Mixers*. [online] Available at: http://sonomechanics.com/products_services/ [Accessed 1 Jun. 2017].

Subramanian, B. et al., 2008. Enhancement of anti-inflammatory property of aspirin in mice by a nano-emulsion preparation. *International Immunopharmacology*, 8, pp.1533–1539.

Tadros, T. et al., 2004. Formation and Stability of Nanoemulsions. *Advances in Colloid and Interface Science*, 108–109, pp.303–318.

Tadros, T.F., 2013. *Emulsion Formation and Stability*, Wiley.

Tal-Figiel, B., 2007. The formation of stable w/o, o/w, w/o/w cosmetic emulsions in an ultrasonic field. *Chemical Engineering Research and Design*, 85, pp.730–734.

Tang, S.Y., Shridharan, P. & Sivakumar, M., 2013. Ultrasonics Sonochemistry Impact of process parameters in the generation of novel aspirin nanoemulsions – Comparative studies between ultrasound cavitation and microfluidizer. *Ultrasonics - Sonochemistry*, 20(1), pp.485–497. Available at: <http://dx.doi.org/10.1016/j.ultsonch.2012.04.005>.

Taylor, P., Maali, A. & Mosavian, M.T.H., 2013. Preparation and Application of Nanoemulsions in the Last Decade (2000 – 2010). *Journal of Dispersion Science and Technology*, 34(1), pp.92–105.

Teixeira, M.C. et al., 2016. ORIGINAL ARTICLE D - a -tocopherol nanoemulsions : Size properties , rheological behavior , surface tension , osmolarity and cytotoxicity. *Saudi Pharmaceutical Journal*. Available at: <http://dx.doi.org/10.1016/j.jsps.2016.06.004>.

Thakur, A., Walia, M.K. & Kumar, S.L.H., 2013. Nanoemulsion in Enhancement of Bioavailability of Poorly Soluble Drugs: A Review. *Pharmacophore*, 4(1), pp.15–25.

Tiwari, A. & Tiwari, A., 2013. *Nanomaterials in Drug Delivery , Imaging , and Tissue Engineering*, Scrivener.

Tiwari, S.B. & Amiji, M.M., 2006. Improved Oral Delivery of Paclitaxel Following Administration in Nanoemulsion Formulations. *Journal of Nanoscience and Nanotechnology*, 6(9), pp.3215–3221.

Tsai, M. et al., 2014. The Effect of Nanoemulsion as a Carrier of Hydrophilic Compound for
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Transdermal Delivery. *PLoS ONE*, 9(7).

Tubasha, Z., Bakar, Z.A. & Ismail, M., 2013. Characterization and Stability Evaluation of Thymoquinone Nanoemulsions Prepared by High-Pressure Homogenization. *Journal of Nanomaterials*, 2013.

Vladislavljevi, G.T. et al., 2004. Production of O / W emulsions using SPG membranes , ceramic γ -aluminium oxide membranes , microfluidizer and a silicon microchannel plate — a comparative study. *Colloids and Surfaces A: Physicochem Eng.*, 232, pp.199–207.

Wang, Z. et al., 2015a. Controlling properties of micro- to nano-sized dispersions using emulsification devices. In *Nanotechnology and Functional Foods*. WILEY Blackwell, pp. 69–90.

Wang, Z. et al., 2015b. Controlling properties of micro- to nano-sized dispersions using emulsification devices. In C. Sabliov, H. Chen, & R. Yada, eds. *Nanotechnology and Functional Foods: Effective Delivery of Bioactive Ingredients*. John Wiley & Sons, pp. 69–90.

Wooster, T.J., Golding, M. & Sanguansri, P., 2008. Ripening Stability. , (10), pp.12758–12765.

Yuan, Y. et al., 2008. Characterization and stability evaluation of β -carotene nanoemulsions prepared by high pressure homogenization under various emulsifying conditions. , 41, pp.61–68.