

Storage stability of marine phospholipids emulsions

Lu, Henna Fung Sieng; Nielsen, Nina Skall; Baron, Caroline P.; Jacobsen, Charlotte

Publication date:
2011

Document Version
Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

Citation (APA):

Lu, H. F. S., Nielsen, N. S., Baron, C. P., & Jacobsen, C. (2011). Storage stability of marine phospholipids emulsions. Abstract from 102nd AOCS Annual Meeting & Expo, Cincinnati, Ohio, USA, .

DTU Library

Technical Information Center of Denmark

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Abstract:

Storage stability of marine phospholipids emulsions.

Henna Lu Fung Sieng (fshl@food.dtu.dk); Nina Skall Nielsen (nsni@food.dtu.dk); Caroline Baron (carba@food.dtu.dk); Charlotte Jacobsen (chja@food.dtu.dk)

Division of Seafood Research, Lipids and Oxidation Group, National Food Institute, Technical University of Denmark, Søtofts Plads, Building 221, 2800 Kgs, Lyngby, Denmark

Marine phospholipids (MPL) are believed to provide more advantages than fish oil from the same source. They are considered to have a better bioavailability, a better resistance towards oxidation and a higher content of polyunsaturated fatty acids such as eicosapentaenoic (EPA) and docosahexaenoic acids (DHA) than oily triglycerides (fish oil). Therefore, the objective of this study is to explore the feasibility of using marine phospholipids emulsions as delivery system through investigation of the physical, oxidative and hydrolytic stability of MPL emulsions with or without addition of fish oil. The effect of initial Peroxide Value, total lipids, phospholipids and antioxidants content on stability of MPL emulsions were studied. The physical stability was investigated through measurement of particle size distribution and creaming stability, which involve measurement of changes (%) in emulsion volume. In addition, preliminary investigation of the oxidative and hydrolytic stability was carried out through determination of Peroxide Value and Free Fatty Acids Value after 32 days storage at room temperature and 2°C, respectively. Oxidative stability of MPL emulsions were also investigated through measurement of secondary volatile compounds by Solid Phase Microextraction at several time intervals at 2°C storage. Preliminary results showed that marine phospholipids emulsion has a good oxidative stability.