
# Phosphine oxide surfactants revisited

Cosima Stubenrauch, Natalie Preisig, Robert G. Laughlin

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# PHOSPHINE OXIDE SURFACTANTS REVISITED

**Cosima Stubenrauch [a,*], Natalie Preisig [a], Robert G. Laughlin [b,#]**

[a] *Institute of Physical Chemistry, University of Stuttgart, Pfaffenwaldring 55, 70569 Stuttgart, Germany*

[b] *727 W, Martin Luther King Drive, Cincinnati, OH 45220, United States*

**Abstract**

This review summarizes everything we currently know about the nonionic surfactants alkyl dimethyl ($C_n$DMPO) and alkyl diethyl ($C_n$DEPO) phosphine oxide (PO surfactants). The review starts with the synthesis and the general properties (Section 2) of these compounds and continues with their interfacial properties (Section 3) such as surface tension, surface rheology, interfacial tension and adsorption at solid surfaces. We discuss studies on thin liquid films and foams stabilized by PO surfactants (Section 4) as well as studies on their self-assembly into lyotropic liquid crystals and microemulsions, respectively (Section 5). We aim at encouraging colleagues from both academia and industry to take on board PO surfactants whenever possible and feasible because of their broad variety of excellent properties.

* corresponding author

[#] Dr. Robert Gene Laughlin, of Cincinnati, Ohio, died Sunday, February 15, 2015. http://www.legacy.com/obituaries/cincinnati/obituary.aspx?pid=174185557