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Dispersants for deep sea oil spill remediation: Efficacy and design

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Abstract

The use of dispersants is a remediation technique for oil spills in water bodies. It has most recently been used for the remediation of the largest deep sea spill off the coast of Louisiana which involved the BP Deepwater Horizon oil rig disaster. The use of soil spills for surface applications has been well –known for decades. However, its application for a deep sea spill at the source of the leak at high pressure and low temperature conditions is new. A number of factors regarding the efficacy and design of dispersants for such applications are still not known precisely. A summary of the technology, the areas of applicability and the gaps in the knowledge will be provided. Future research directions will be explored with respect to the fate and transport of oil and dispersants in the deep sea environment.

Biography

Professor Kalliat Valsaraj received his M.Sc. in Chemistry from the Indian Institute of Technology, Madras in 1980 and his Ph.D in Chemistry (with Chemical Engineering as Minor) from Vanderbilt University in 1983. He is a Professor in the Cain Department of Chemical Engineering and served as the Department Chair from 2005 to 2011. He holds the titles of Charles and Hilda Roddey Distinguished Professor in Chemical Engineering and Ike East Professorship in Chemical Engineering. Currently he serves as an Associate Vice Chancellor within the Office of Research and Economic Development at LSU. He is the author of 1 textbook (with three editions), 175 peer-reviewed journal articles, 27 book chapters and 2 U.S. patents. His research has been supported by the NSF, EPA, DOE, DOD, USGS and private industries. He is a Fellow of both the American Association for the Advancement of Science (AAAS) and the American Institute of Chemical Engineers (AIChE). He recently received the Charles E Coates memorial award from the Baton Rouge sections of AIChE and ACS. He is also the recipient of the Distinguished Research Master award, the highest research award, from LSU.