Discobiol Program: Investigation of dispersant use in coastal and estuarine waters

François Xavier Merlin Responsible Recherche Developpement, S Le Floch, J Arzel, Cedre, France. M Théron, G Claireaux, Brest University, France. C Quentel, AFSSA, French Food Safety Agency, France. T Milosevitch, H Thomas, LIENS, UMR6250, CNRS-University of La Rochelle, France. T Crowe, CRRC, Coastal Research Response Center, France. P Lemaire, Total Fluides, France.D Desmichels, Innospec Inc, France

Dispersants are known to be an appropriate solution for offshore spill response where dilution conditions are high and dispersed oil concentrations decrease rapidly below levels that could potentially harm the environment. In coastal areas, however, where dilution can be restricted due to limited depth and vicinity to various coastal resources, dispersant use should be limited. In contrast, for certain cases, the use of dispersants could be of benefit to these regions. In response to these situations, it is necessary to analyse and assess the advantages and potential risks of dispersing oil in these sensitive regions.

The Discobiol work program aims to acquire comparable and robust information on the impact of mechanically and chemically dispersed oil on different habitats and resources, most notably estuaries and/or close bays. Information regarding lethal and sub-lethal effects will be analyzed for several organisms in water column, mudflat, and salt marsh communities.

The information gathered in this work program will be used to make recommendations for the use of dispersants in such areas.

This paper presents the program of the study and the preliminary results of the current phase of this study: The assessment of lethal and sub-lethal effects of dispersed oil towards organisms in pelagic and benthic communities. These tests involve the comparative assessment of the effects from mechanically and chemically dispersed oil, and, in order to reflect estuarine conditions, suspended particulate matter.