



Standard Guide for Ecological Considerations for the Use of Chemical Dispersants in Oil Spill Response: Tropical Environments¹

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1. Scope

1.1 This guide covers recommendations for use of chemical dispersants to assist in the control of oil spills and is written with the goal of minimizing the environmental impacts of oil spills. Aesthetic and socioeconomic factors are not considered; although, these and other factors are often important in spill response.

1.2 Each on-scene commander has available several means of control or cleanup of spilled oil. In this guide, use of chemical dispersants should not be considered as a last resort after other methods have failed. Chemical dispersants should be given equal consideration with other spill countermeasures.

1.3 This guide presents general guidelines only. The oil is assumed to be dispersible and the dispersant to be effective, available, applied correctly, and in compliance with relevant government regulations. Oil, as used in this guide, includes crude oils and fuel oils. Differences between individual dispersants and to a certain degree, differences between different oils are not considered.

1.4 This guide is one of several related to dispersant considerations in different environments. The other standards are listed in Section 2.

1.5 This guide applies to marine and estuarine environments but not to freshwater environments.

1.6 In making dispersant use decisions, appropriate government authorities should be consulted as required by law.

1.7 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

F2532 Guide for Determining Net Environmental Benefit of Dispersant Use

3. Significance and Use

3.1 This guide is meant to aid local and regional spill response teams who may apply it during response planning and spill events.

3.2 This guide presents data on the effects of surface oil, dissolved oil and dispersed oil on components of tropical environments. These data can aid in decision-making related to the use of dispersants to minimize environmental damage from oil spills.

4. General Considerations for Making Dispersant-Use Decisions

4.1 The decision of whether to use or not to use dispersants in a given spill situation involves trade-offs. Dispersing a slick at one site temporarily introduces more oil into the water column at that site than would be there if a surface slick floated over it. Therefore, adverse effects on water column organisms may be increased at that site so that adverse effects can be decreased at other sites.

4.2 Dispersant use is primarily a spill control method, not a cleanup method. Such use can give spill response personnel some control over where the impacts of a spill will occur whatever types of impacts they may be. Since some environments are known to be more vulnerable to the longer-lasting impacts of spilled oil, an acceptable trade-off may be to protect those environments by dispersing an oil slick in a less sensitive or less productive environment. In general, the net environmental benefit of dispersant use versus non-use should be evaluated (see Guide **F2532**). The net environmental benefit of a particular countermeasure involves evaluating benefits and disadvantages of the particular technology being evaluated, versus other cleanup methods or no action, on the habitat or

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.