



NOPSEMA

AT A GLANCE

OIL SPILL DISPERSANTS

July 2018

Chemical dispersants are designed to break down oil into microscopic droplets that mix more easily with seawater as they can be bio-degraded by micro-organisms that naturally occur in the ocean.

The application of chemical dispersant is a common oil spill response strategy that petroleum companies can propose to respond to a significant oil spill. Dispersants may be sprayed on the surface of the ocean to break up oil slicks or can be applied to subsea spill sources to reduce the amount of oil reaching the surface.

Modern dispersants are less toxic than the oil itself and have been shown in standardised tests to have no greater impact than common household cleaning products. Oil spill responders are required to understand dispersant toxicity, have knowledge about what types are effective and how to apply them appropriately. Despite this, there are considerable myths and misconceptions about dispersants which often stem from a misunderstanding of the purpose of dispersants the findings of the scientific research and observations of past spills.

Why use dispersants?

Chemical dispersants can increase the mixing of oil into the sea water to prevent slicks from reaching sensitive coastal environments and can reduce the likelihood of marine animals and birds becoming oiled at sea. Dispersants can work over very large areas and in very remote locations with minimal equipment and personnel which makes them very effective in many offshore scenarios. In many cases the alternative to using dispersants is to spend weeks or months cleaning up oil from beaches and rehabilitating wildlife after an oil slick has reached the shoreline.

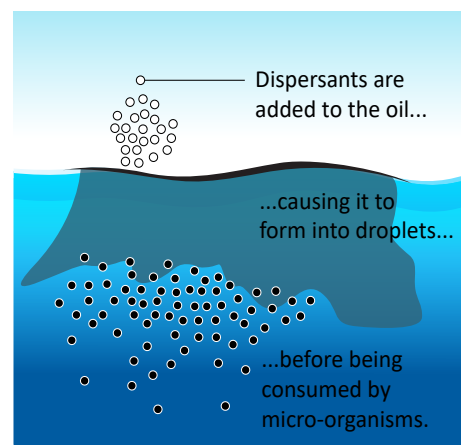
The effects of reducing impacts on the surface of the ocean and in coastal environments need to be weighed against the effects of dispersed oil on marine life beneath the surface. Each spill scenario will be different and it is for this reason that individual habitats, environmental priorities and other uses of the marine environment (including commercial and recreational fishing or tourism) in the area must be clearly identified to determine whether using dispersants is appropriate.

Appropriate use of dispersants

The legislation that the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) administers requires a petroleum company to have an environment plan, which includes an oil pollution emergency plan (OPEP), accepted by the regulator before a petroleum activity can commence. An OPEP must describe the suite of response strategies that are most appropriate for potential spill scenarios that could arise from the petroleum activity.

If dispersants are proposed, the petroleum company must demonstrate in their OPEP that dispersant application strategies, control measures and monitoring arrangements are appropriate to minimise the impacts to the environment. In offshore areas, NOPSEMA's assessment of the acceptability of dispersant use will give consideration to a range of factors including the presence of any protected species, distance to sensitive shorelines, water depth, winds and currents. Typically OPEPs include sophisticated modelling to support predictions of any potential impact to the marine environment. The petroleum company must demonstrate that the use of chemical dispersants will result in a net benefit to the marine environment and to environmental sensitivities prioritised for protection.

There is typically a limited 'window of opportunity' in which dispersants are effective and timely implementation is therefore essential. The petroleum company must demonstrate they have the arrangements in place to ensure dispersants can be applied within this window of opportunity. NOPSEMA's assessment of the OPEP prior to a petroleum activity commencing provides pre-approval of dispersant use, where appropriate, and where it avoids any delay which might otherwise limit the window of opportunity available for an effective dispersant strategy. In the event of an oil spill, NOPSEMA requires the responsible petroleum company to respond and execute dispersant strategies as described in their accepted OPEP. If appropriate actions are not taken, or more action is required, NOPSEMA will direct the petroleum company to undertake these actions.



For more information

For further information visit nopsema.gov.au or email communications@nopsema.gov.au.