OIL SPILL EMERGENCY RESPONSE -
MONITORING THE USE OF DISPERSANTS

Source Oil Characteristic Data

About

Dispersants are chemical agents used to break up oil into smaller droplets throughout the water column. Dispersants are applied to surface oil floating on water, or below the surface closer to an uncontrolled release of crude oil from a well blowout source. This series of fact sheets details monitoring requirements and how to apply the collected data to inform the use of dispersants under **Subpart J of the National Contingency Plan (NCP)**.

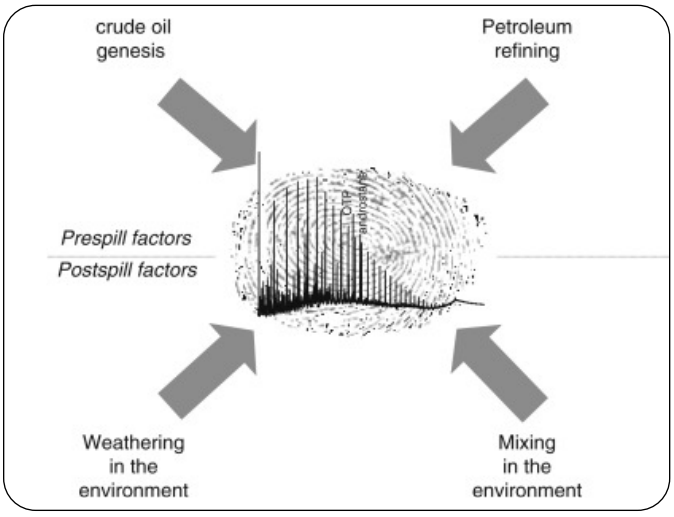
Description of the Requirement

The responsible party must document the characteristics of the source oil. Refer to the Code of Federal Regulations (CFR): **40 CFR 300.913(a)(1)**.

Source Oil Characterization

Source oil characterization uses several types of analyses to create a description of oil's chemical composition for a specific source of discharge. These analyses can inform dispersant use and application.

Figure 1: Gas chromatography provides a unique "fingerprint" for oil.



Credit: Stout and Wang (2016)

Characterization Data and Reporting

- The physical and chemical characteristics of the source oil are used in trajectory modeling and inform sampling strategies.
  - Data submissions document all modeling inputs, including assumptions.
- The chemical composition of each oil is unique. Gas chromatography–mass spectrometry is often used as a fingerprinting profile of the oil (Figure 1).
- Viscosity as a measure of an oil's resistance to flow can also inform oil behavior, including trajectory modeling.
- Data may also include an estimated rise rate through the water column for non-dispersed oil.

Using Characterization Data

- The chemical composition distinguishes other sources of oil from the oil involved in the immediate response.
- Oil characteristics are important for making decisions about using or not using a dispersant, and which dispersant is most appropriate.
  - Dispersants are not as effective for heavy crude oils or weathered oils; they work best with light-to medium-weight oils that are not extensively weathered.

Decision Points for Responders

The On-Scene Coordinator should consider all available data and information relevant to the response and consult with subject matter experts. If the oil characteristics do not appear to be a good match for the proposed dispersant or dispersant in use, the On-Scene Coordinator should reevaluate whether dispersant use should begin, continue, continue with modifications, or cease.

Additional Resources

NCP Product Schedule Technical Notebook

This compilation of product bulletins summarizes data requirements and test results for dispersant products listed on EPA's NCP Product Schedule. It includes information on dispersant product application methods, toxicity and effectiveness, and physical properties.

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