

## **Inofficial translation**

### **Chapter 19. Composition and use of dispersants and shoreline-cleaning agents to combat oil pollution**

#### **Re section 19-2**

These regulations govern the composition and use of dispersants and shoreline-cleaning agents and applies to operations to combat acute oil pollution on the water surface or on the shoreline, in freshwater and seawater, from ships, from land-based activities and from activities on the continental shelf, regardless of the scale of the pollution.

These regulations apply to all persons who use or are planning to use dispersants or shoreline-cleaning agents to combat acute oil pollution.

#### **Re section 19-3**

Dispersants can be used to disperse oil in the water column so that it is more readily available for microbial degradation. Chemically dispersed oil does not sink but remains dispersed in the water column.

Dispersion of oil in water is thus a process of dilution, which prevents the oil from adhering to macroorganisms and substrate at and on the surface of the water.

Shoreline-cleaning agents normally contain several components that have different effects on the oil to be treated. These can change the properties of the oil spill and affect the fate of the oil through different mechanisms of action.

There are three main types of shoreline-cleaning agents, split by mechanism of action:

- Chemical shoreline-cleaning agents contain a solvent that alters the viscosity and surface properties of the oil to be treated. The surface-active substances stabilise the oil droplets formed during weathering (by wave action/flushing) – in other words, they act as dispersants.
- A second type of shoreline-cleaning agent modifies the surface properties and viscosity of the oil, but does not contain surface-active substances that stabilise the oil droplets formed by weathering. Oil released from the substrate forms slicks or larger drops that can be recovered from the water surface with booms and skimmers or sorbents.
- Thirdly, there are bioremediation agents, in other words products that encourage microbial degradation of oil on beaches or other substrates on land. Examples of their mechanism of action are nutrient enrichment (adding nitrogen and phosphorus), using surface-active substances to increase the water/oil surface area, or a combination of these. Another possibility is seeding with enriched cultures of oil-degrading microorganisms isolated from chronically polluted recipients in the laboratory.

Assessment of the type of agent to be used in the individual case must be assessed on the basis of the vulnerability of the environment, what possibilities there are for further treatment of the oil, and water exchange in the areas where the agent is applied. In the case of planned use of products containing microorganisms, it is particularly important to ensure that impacts

on the external environment have been assessed and that products do not contain genetically modified or pathogenic organisms, or bacteria that are genetically resistant to antibiotics.

Because there are strict rules on application of the precautionary principle in the Svalbard Environmental Protection Act, the use of products that contain microorganisms is not permitted in Svalbard.

The following also apply to shoreline-cleaning agents that contain microorganisms:

- Regulations of 22 January 1998 No. 93 relating to the declaration and labelling of microbiological products for applications that may involve their release to the external environment. These regulations are enforced by the Directorate for Nature Management.
- Regulations of 12 September 1996 No. 903 relating to the import, transport and other handling of materials that are infectious to humans. These regulations are enforced by the Ministry of Health and Care Services.

#### **Re section 19-4**

The first paragraph of this section permits the planned and documented use of dispersants and shoreline-cleaning agents without the need for any further administrative procedures. Any enterprise or entity that is required to have an emergency response system will have had to consider the need for such use when drawing up an emergency response plan. Petroleum industry enterprises are in addition required to carry out emergency preparedness analyses for their activities.

If it is considered that the use of dispersants and/or shoreline-cleaning agents will be appropriate, this must be discussed and assessed in the emergency preparedness analysis and included in the emergency response plan. Emergency response plans must be submitted to the Climate and Pollution Agency on request.

If a situation arises where the environmental impact of acute pollution could be reduced by using dispersants or shoreline-cleaning agents, the enterprise or entity responsible may apply for a special discharge permit for such substances. A copy of the answer to the application shall be forwarded to the Norwegian Coastal Administration.

If such circumstances arise during an oil pollution response operation, an application in accordance with the second paragraph shall be sent to the Norwegian Coastal Administration, Department for Emergency Response. The Coastal Administration deals with such applications on a 24-hour basis. The Coastal Administration will forward a copy of the answer to the application to the Climate and Pollution Agency or the Governor of Svalbard.

An oil spill can result in an unacceptable level of risk to life or health, for example a serious risk of fire or explosion. In such cases, dispersants or shoreline-cleaning agents may be used without a special permit.

Such use must be reported to the Climate and Pollution Agency after the event. The report must describe the scale of the incident, the causes of the incident, what steps were taken to mitigate damage, and information on the type and quantity of dispersant used.

Applications for other use of dispersants or shoreline-cleaning agents should be sent to the Climate and Pollution Agency for processing. These may for example include applications to test products.

#### **Re section 19-5**

The environmental and health impacts of using dispersants or beach-cleaning agents shall be kept to a minimum.

Toxicity testing of products on marine planktonic algae is required, see Appendix 1. The pollution control authorities have chosen a test organism and test recommended by the OSPAR Commission for the Protection of the Marine Environment of the North-East Atlantic, and which is used by Norway and other parties to the OSPAR Convention for toxicity testing of chemicals used offshore. The toxicity of the products used must be lower than the specified limits.

As soon as internationally accepted methods of testing the bioaccumulation potential and biodegradability of surface-active substances have been documented, such testing will be required.

The effectiveness of dispersants and shoreline-cleaning agents will vary widely depending on the kind of oil they are used to treat. Although products must be tested for effectiveness, it would serve no purpose to set specific minimum limits for effectiveness when the type of oil the product will be used on is not specified. Enterprises and entities are responsible for using the product that will be most effective for the relevant types of oil.

Effectiveness testing of dispersants is conducted using either oil types that are typical of Norwegian conditions (bunker oils and a typical North Sea oil) or the oil types used by enterprises or entities that are required to have an emergency response system. If a potential user buys products without knowing exactly which oil they will be used on, they must be tested for effectiveness using standard test oils.

If an enterprise is developing an emergency response system for oil pollution from its own activities, where the oil type or types are known, the tests must be conducted using these oil types. Enterprises that process many oil types must test the oil types on which they plan to use dispersants. Enterprises that process so many oil types that the test costs would be unreasonably high must make a reasoned selection of oil types for testing.

As soon as accepted methods of testing the effectiveness of shoreline-cleaning agents have been documented, such testing will be required.

For offshore petroleum activities, oil shall be characterised in accordance with the requirements of the Regulations relating to conducting petroleum activities (Activities Regulations).

It should be noted that any enterprise or entity using dispersants or shoreline-cleaning agents is responsible for ensuring that the products used satisfies the test requirements and are used in accordance with these regulations. They must therefore ensure that all the necessary documentation about the dispersant used is available, see section 19-6.

We also refer to the Climate and Pollution Agency's guidelines<sup>1</sup> on the composition and use of dispersants to combat acute oil pollution (currently under revision).

### **Re section 19-6**

Anyone organising an oil pollution response operation should choose the technique or techniques that result in least overall impact on the natural environment. The use of dispersants and shoreline-cleaning agents is therefore intended both as an independent alternative and a supplement to other emergency response techniques.

The potential of dispersants and shoreline-cleaning agents for causing environmental damage must be evaluated when an enterprise or entity draws up its emergency response plan. This includes an evaluation of the natural resources present in the area and the harm that may be caused by dispersed oil, as compared with the damage that may be caused by oil if no dispersants are used. The effectiveness of each product must be evaluated in relation to the properties of the oil type to be dispersed, see the testing requirements.

Enterprises involved in offshore petroleum activities shall carry out these evaluations in accordance with the decision matrix form (*Beslutningsskjema for bruk av dispergeringsmidler*) issued by the Climate and Pollution Agency and the Norwegian Coastal Administration.

An enterprise or entity that has not included the use of dispersants or shoreline-cleaning agents in its emergency response plan must submit such evaluations as part of an application for a permit to use these products.

The pollution control authorities may lay down special requirements with regard to the use of dispersants and shoreline-cleaning agents by entities and enterprises that are required to have an emergency response system. The authorities may give direct orders to include dispersant use in the emergency response system if it is considered that this will reduce the damage caused by oil pollution.

Dispersants and shoreline-cleaning agents are to be used to accelerate the natural degradation of oil at sea and in coastal waters. It is important that they are not used on loose or porous surfaces where the dispersed oil may be absorbed into the substrate.

When the decision has been taken to use dispersant on an oil slick, it is important to begin application as quickly as possible so as to achieve the best possible effect. The dispersant should be applied using the equipment and following the procedures that testing has shown to give the optimum effect.

Monitoring from aircraft may be very useful when assessing how effective an application has been, and should be used whenever possible. In many cases, it takes time before the dispersant produces a visible effect. This is particularly true if the oil has weathered to a certain extent and has formed emulsions. In these cases the dispersant needs time to penetrate the emulsion and start the process of dispersion.

The use of dispersants has previously been forbidden in lakes and rivers with a limited volume of water, because the volume of the water body is often too small to dilute the

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<sup>1</sup> In Norwegian only

dispersed oil sufficiently. However, in certain cases the use of dispersants may be appropriate in large lakes or at times of year when water flow in rivers is high.

Often, the dispersants appropriate in lakes or rivers are different from those normally used at sea. Environmental hazards will be carefully assessed before any permit is issued for such use under section 19-4.

Further information on the information required for processing of applications by the authorities is available on the websites of the Norwegian Coastal Administration and the Climate and Pollution Agency.

**Re section 19-7**

These regulations set out requirements for testing acute toxicity and effectiveness. These procedures are the subject of international discussions and agreements and may be altered as new knowledge is acquired. The Climate and Pollution Agency therefore has the authority to amend the appendices to these regulations.