



**The approval and use of oil spill treatment products in the  
United Kingdom  
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## The legal framework

The Marine and Coastal Access Act 2009 requires a licence to be issued for the deposit of any substance or article in the sea. It also enables provisions to be made by statutory instrument for exemption to this general requirement. Such exemptions are contained in the Marine Licensing (Exempted Activities) Order 2011 for England and Wales. Under this order a licence is not required for the deposit of a substance for the purpose of treating oil on the surface of the sea, subject to the following conditions.

- The substance is approved by the licensing authority.
- It is used in accordance with the conditions of that approval.
- The permission of the licensing authority is obtained for all uses in shallow water. Shallow waters are defined as areas of the sea where the water depth is less than 20 metres or within 1 nautical mile of any such area.
- The permission of the licensing authority is obtained before any use under the surface of the sea.

The licensing authority for England and Wales is the Marine Management Organisation (MMO). The licensing authorities for Scotland and Northern Ireland are Marine Scotland and the Northern Ireland Environment Agency. The MMO acts on behalf of the other licensing authorities for the testing and approval of dispersants and other oil treatment products which are intended for use in UK waters. It also regularly reviews existing approvals to ensure that products remain safe.

## About this booklet

When dealing with an oil spill at sea, responders have two main options.

1. Responders can either let the natural processes of dispersion, evaporation and degradation do the work for them. This is likely to be the best option when the quantities of oil are small, the oil is a type that tends to disperse or evaporate readily without intervention (for example diesel), or no marine resources are threatened by the spill.
2. Or they can intervene with some sort of appropriate action. If an oil spill represents a safety risk, or poses a significant threat to commercial, environmental or amenity interests, this is the option you need to consider.

This booklet describes those options, and sets them within the legal framework which governs the use of products developed to treat oil spills in UK waters.

**The emphasis of the booklet is on oil dispersants** because in UK waters they are likely to remain more widely used than other techniques such as bioremediation and mechanical recovery. However, these other techniques are also discussed.

The booklet also sets out the legal requirements for the approval and use of dispersants, and gives general advice on storage, handling and good spraying practice. This is in line with the commitment given by government in the **Final report of the review of the testing, approval and use of oil dispersants** (published in January 1996).

There are three main sections.

- **Spelling out the options** – considers the pros and cons of using dispersants, and summarises the alternatives.

- **The approval of oil spill treatment products** – covers the procedure for gaining an approval and will be of particular interest if you want to market a product for possible use in the UK.
- **Good practice when using oil dispersants** – is aimed at potential users of dispersants including the staff of local authorities, port and harbour authorities, and oil and gas installations in UK coastal waters.

This booklet is relevant to the whole of the United Kingdom and has been prepared by the Marine Management Organisation (MMO) in conjunction with Marine Scotland and the Northern Ireland Environment Agency.

## Section 1 – Spelling out the options

For many oil spills, the best option is to leave the oil to disperse, evaporate or degrade naturally as intervention and clean-up techniques can sometimes incur damage themselves. Nevertheless, where intervention is considered necessary, there are a number of techniques available.

**Mechanical recovery** removes oil from the marine environment and should always be considered as a first option. But it may only be successful in relatively calm conditions or for small quantities and certain types of oil. It also requires suitable vessels to collect the oil and arrangements to be made for its appropriate disposal.

**Dispersants** assist the natural process whereby the mechanical action of the sea can break down oil into small droplets, some of which are dispersed and diluted by the movement of the water. Chemical dispersants reduce the interfacial tension between the oil and water, so create a larger number of smaller droplets. This facilitates rapid dispersion and provides a greatly increased surface area that accelerates the degradation of the oil by marine micro-organisms. If used effectively dispersants offer substantial protection to seabirds and mammals by removing oil from the surface of the sea. Their use can also protect coastline environments by dispersing the oil before it comes ashore.

However, the dispersion of oil into the water column will temporarily increase hydrocarbon concentrations and can increase the hazard to water column and seabed dwelling resources including some important fishery (in particular shellfisheries) interests. Fish or shellfish impacted by dispersed oil can cause problems for birds and other predators if eaten while still contaminated by hydrocarbons.

**Demulsifiers** can be a complement to chemical dispersants when the condition of the oil is such that a water-in-oil emulsion has formed and is inhibiting chemical dispersion. Some dispersants also act as demulsifiers.

**Sorbents** are either absorbent or adsorbent materials and can be synthetic or natural, packaged or loose. They allow the retrieval of oil but, as with mechanical recovery, there may be practical difficulties in using them, particularly because of the bulky nature of the materials used. The technique allows oil to be removed from the marine environment and so, when used effectively, can reduce the potential impact on wildlife. It is important to identify waste disposal routes for the used and oily materials.

**Bioremediation** is intended to accelerate the natural degradation process through the addition of either nutrients and/or micro-organisms. The main drawbacks are that, whether applied at sea or on the foreshore, the process takes some time to have an effect, during which dilution of the bioremediation agents may occur.

**Surface cleaners** are intended for use on walls and other structures.

**Burning oil in situ** is not normally undertaken given the atmospheric pollution it will cause. The Maritime and Coastguard Agency's National Contingency Plan clearly states that it is not government policy and not considered a viable option in UK waters.

Some of these techniques are poorly-suited to marine conditions around the coast of the United Kingdom, whilst others (such as bioremediation or the use of sorbents) can only be used in very specific circumstances. Unless the oil can be physically recovered, therefore, the choice is often between leaving the oil alone or using dispersants.

### **Using dispersants – the need for careful consideration**

Any decisions on whether or not to use dispersants should take into account the type of oil involved in the incident and its degree of weathering/emulsification.

Light oils such as middle distillates (gasoline, kerosene and diesel fuel) should not be treated with dispersants. These oils are more toxic than the heavier oils and if dispersed into the water column rather than left to evaporate are more likely to harm marine organisms within the water column (for example fish or algae).

Dispersants can successfully treat light crude oils, light residual fuel oils and lubricating oils. Their use on heavy residual fuel or crude oils is unlikely to be effective and should generally be avoided. However, evidence suggests that some formulations can be effective on certain intermediate fuel oils but test sprays should always be conducted to establish their effectiveness.

Sea, weather and temperature conditions also need to be considered, as well as the volume of oil spilt.

It is vital to consider the impacts of any intervention. Dispersant use can be very effective in preventing damage to wildlife and recreational amenities in coastal areas. However, by increasing the volume of oil which is dispersed into the water column, they may also adversely affect the quality of commercially exploited fish and shellfish, and the marine environment in general.

Dispersant use may also have a harmful effect in shallow waters where there is limited scope for dilution of the dispersed oil. For that reason, their use is carefully regulated in sea depths of less than 20 metres or within one nautical mile of such depths. The relevant licensing authority must approve the use of dispersants and other oil treatment products in such areas on a case by case basis. The licensing authorities would also normally advise on whether their use was appropriate in deeper, offshore waters, in particular protected areas that are situated offshore or near particularly sensitive/vulnerable species and habitats.

### **Consultation – the case for contingency planning**

In determining whether dispersant or other product use is appropriate, a judgement has to be made between the possible impact of the option and the likely consequence of allowing the oil to remain untreated. **The objective is to take the most appropriate action to minimise the effects on the environment and economic activity, after carefully considering all the relevant factors.**

This will involve, among other things, consulting fisheries scientists and those who have expertise in the marine and coastal environment of the area concerned. In particular, the Statutory Nature Conservation Agencies must be consulted. While there is a lot to consider, it is essential that a judgement is made within as short a time as possible. This is particularly important when the use of dispersants is being considered, as many types of oil quickly become resistant to treatment due to weathering.

To ensure full consultation and speed of response, therefore, decisions will normally be taken within the context of a well-established contingency plan for the area concerned.

### **Statutory nature conservation agencies**

Under the Environment Protection Act 1990, the statutory nature conservation agencies carry out a number of statutory responsibilities, including providing ministers with advice on nature conservation issues. The addresses and telephone numbers of the national offices of Natural England, the Countryside Council for Wales and Scottish Natural Heritage are given in section 5 of this booklet (including the Joint Nature Conservation Committee for offshore issues). Consultation by the MMO will be with the headquarters offices of the statutory nature conservation agencies. But each also has a network of local teams who should be consulted on nature conservation issues arising from oil spill incidents in their areas.

In Northern Ireland the Environment and Heritage Service has a dual role, and is both the licensing authority and statutory nature conservation agency.

## **Section 2 – The approval of oil spill treatment products**

### **Dispersants**

Companies planning to market an oil spill treatment product for use in UK waters should first apply to the MMO to have it approved. The product must be tested for its efficacy (effectiveness) and for its toxicological hazard. The MMO must also approve the proposed product's labelling and ensure that it provides users with appropriate information including how and when the product can be used.

Approval is required not only for new products but also for the rebranding of an existing product under a new name. The approval must be renewed after five years (or less where specified), and the approval holder must ensure that the MMO is notified of any change in the company's name, address or the composition of the product.

The efficacy and toxicity tests can either be carried out within MMO-commissioned laboratories, or by independent laboratories selected by the applicant following standard test protocols supplied by the MMO. Companies may choose an independent laboratory with recognised accreditation for either the toxicity test or the efficacy test – or both.

The level of fees payable to the MMO will depend on who carries out the testing. Where a company uses an independent laboratory, there will be no testing fee but a charge will be made for the evaluation of the test results to ensure that they conform to an appropriate standard of scientific quality and adherence to the standard protocols. Full details of the costs involved in processing an application – including the costs of carrying out efficacy and toxicity tests - can be obtained on request from the MMO. Charges are calculated on the basis of full cost recovery.

### **Other oil spill treatment products**

The MMO is also responsible for the approval of other oil spill treatment products intended for use in UK marine waters. The approval process for these products is broadly similar to that for dispersants, although the test protocols (and consequently the fees charged) may differ. Sorbents, for example, do not have to undergo an efficacy test.

Bioremediation products, on the other hand, are subject to two further toxicity tests, and it will also be necessary to obtain microbiological hazard data. Under the Offshore Marine Conservation

(Natural Habitats, &c.) Regulations 2007, a licence is needed to introduce a new plant or animal species. If your Bioremediation Product contains a bacterial component you may need to apply for a wildlife licence.

For more information about the approval procedures for other oil treatment products, contact the MMO at the address shown in section 5.

## Testing

### Testing dispersant specifications and efficacy

Products are tested for conformity to the specifications outlined in appendix A to WSL Report LR448.

This includes aspects of appearance, dynamic viscosity, flash point, cloud point, miscibility and efficiency. Efficacy is determined by a standard laboratory-based procedure described in annex 1 to appendix A WLS Report LR448. The efficacy test aims to assess the proportion of the total volume of treated oil that is dispersed into the water column.

The minimum efficacy requirements depend on the type of dispersant being tested. Type 1 (hydrocarbon solvent-based dispersant applied undiluted) and Type 2 (concentrates diluted 1:10 with seawater before application) must achieve an efficacy of 30 per cent. Type 3 (high efficacy concentrates applied undiluted) must achieve an efficacy of 60 per cent.

Copies of the test protocol described above is available on the MMO website at [www.marinemanagement.org.uk/protecting/pollution/documents/approval\\_lr448.pdf](http://www.marinemanagement.org.uk/protecting/pollution/documents/approval_lr448.pdf)

### Testing dispersant toxicity to marine species

There are two toxicity tests. The first test is called the Sea Test and is carried out using the brown shrimp (*Crangon crangon*). This test compares the relative toxicity of an oil-dispersant mix to that of oil alone. The second test is called the Rocky Shore Test and is carried out using the common limpet (*Patella vulgate*). This test compares the toxicity of dispersant alone to that of the standard test oil.

All new products must pass toxicity testing relevant to where they can be used.

Details of the test protocols are contained in MAFF Fisheries Research Technical Report Number 102. This can be found on the MMO website at [www.marinemanagement.org.uk/protecting/pollution/documents/tech102.pdf](http://www.marinemanagement.org.uk/protecting/pollution/documents/tech102.pdf).

## Approved labelling

The product label must be agreed by the MMO before the product can be approved. The label must contain the following information.

1. Product name.
2. Name, address and daytime or silent hours telephone number of manufacturer or importer or rebrander.
3. List of ingredients.
4. Oil treatment product (dispersant type, sorbent, bioremediant or other).
5. A warning against mixing the product with any other products.
6. Date of manufacture, batch number and expiry date (subject to extension).
7. Recommended storage instructions.
8. Risk symbol and description.
9. Usage instructions including a statement that details that the product should not be used in less than 20 metres of water or within 1 mile of water less than 20 metres deep without the approval of the licensing authority.
10. Basic safety instructions or caution and any appropriate chemical hazard signs.

The label should also meet the requirements of the Chemicals (Hazard Information and Packaging for Supply) Regulations 2009. These are generally known as CHIP 4.

## Getting oil spill treatment products approved: a step-by-step guide

### Step 1

Obtain the relevant application forms, together with details of the procedures to be followed and the fees payable, from the MMO (the MMO should be contacted if further guidance is required at any stage of the approval process).

### Step 2

Send the completed application form, together with the appropriate fee, to the MMO at the address shown in section 5. You will also need to provide evidence in support of your application. The amount of supporting information required varies.

- Renewals of existing approvals and the rebranding of an approved product under a new name will normally be considered on the basis of an undertaking (or confirmation from the manufacturer) that the composition of the product is totally unchanged.
- Products which have not previously been approved for use in the UK, however, will need to undergo toxicity tests.
- Dispersants, bioremediation products and, on a case-by-case basis, some other types of oil spill treatment product will also have to be tested for their efficacy.

In all cases the application must be accompanied by an example of the proposed product label.

### Step 3

If you choose to have the tests carried out by a laboratory commissioned by the MMO, send a sample of the product separately from the application form directly to the laboratory. The size of the sample will depend on the types of tests required. Full details are given on the application form itself or are available from the MMO on request.

If you have tested the product in a non-MMO laboratory, send the test results to the MMO with the application form. The MMO will arrange to evaluate the test data to ensure that it conforms to the standard test protocols.

#### **Step 4**

Await confirmation of approval.

The MMO aims to consider the application, scrutinise the proposed labelling and carry out the toxicity tests on a product within approximately five weeks of receiving all the relevant data. However, where the product efficacy also needs to be tested more time will be needed. This is because a product is only tested for toxicity if it has already been shown to pass the efficacy test.

The product may be marketed for use in English and Welsh waters as soon as the MMO issues the formal approval notice. At the same time, details of the product and the name and address of the approval holder will be registered and this information will be made publicly available on the MMO website.

The MMO will also notify colleagues in Scotland and Northern Ireland so that they can mirror the approval if appropriate, but the product should not be used in these waters until confirmation Marine Scotland and the Environment and Heritage Service has been obtained.

### **Section 3 – Good practice when using oil dispersants**

Dispersants should only be used as part of a Maritime and Coastguard Agency-approved contingency plan which clearly sets out the options for dealing with oil spill incidents in particular circumstances. Such a plan will indicate when it is appropriate to use dispersants as opposed to alternative treatment methods such as mechanical recovery. The plan will also help dispersant users to determine equipment requirements and the best way to site and store the products they hold in stock.

The following guidance supplements rather than replaces the decision-making process contained in a contingency plan. It can be used as a reminder of the key issues associated with dispersant use, but is not intended as a substitute for specialist knowledge of those issues or for proper training of personnel.

Although many of the points listed apply to all types of dispersant use, the guidance is aimed particularly at shipboard and onshore operations rather than aerial spraying.

For more comprehensive information about dealing with oil spills in inshore waters and on beaches please consult the **Marine Pollution Clean-up Manual**. This is a technical manual which is produced by, and can be obtained from, the Maritime and Coastguard Agency.

#### **Responding to oil spills: the first steps**

The Maritime and Coastguard Agency (MCA) should be informed immediately of any oil spill in marine waters via the nearest coastguard station. The MCA is responsible for the development of the National Contingency Plan for dealing with such incidents, and for the integration of local contingency plans into this national response. The National Contingency Plan can be found at [www.dft.gov.uk/mca/mcga07-home/emergencyresponse/mcga-pollutionresponse/mcga2007-ncp.htm](http://www.dft.gov.uk/mca/mcga07-home/emergencyresponse/mcga-pollutionresponse/mcga2007-ncp.htm)

The MMO have their Marine Pollution Contingency Plan which can be found at [www.marinemanagement.org.uk/protecting/pollution/documents/contingency\\_plan\\_external.pdf](http://www.marinemanagement.org.uk/protecting/pollution/documents/contingency_plan_external.pdf)

The MCA also offer advice on responding to oil spills, and co-ordinate several emergency exercises each year which simulate oil spills around the UK coast.

Major oil pollution incidents are monitored as they develop. The Maritime Rescue Co-ordination Centres (MRCC) act as co-ordinators, and copy all pollution or situation reports to the licensing authority. Copies are also sent to relevant national and regional conservation agencies, and local authorities that might be affected by the oil spill.

In the event of a major spill these organisations monitor the situation together by establishing an environment group to advise on the appropriate response to changing circumstances at a location in the area likely to be affected by the spill.

Once the licensing authority has been alerted to an incident it will aim to ensure that damage caused by the oil or treatment of the spill (for example, the use of dispersants) is minimised. In doing so, it will consult scientists at the Centre for Environment, Fisheries and Aquaculture Science (Cefas) about the implications for fisheries and for other marine fauna and flora. Statutory nature conservation agencies and the Food Standards Agency will also be consulted as appropriate.

The licensing authority aims to give approval, or refusal, to use oil spill treatment products within one hour of notification of the incident. It may also be able to advise on the type of dispersant most suitable for dealing with a particular incident.

In the case of major spills, any spraying of dispersants is normally carried out under the supervision of the MCA. Where there are important environmental or fisheries concerns, the licensing authority and conservation agencies will also be closely involved.

Less serious spills may not require the prolonged involvement of MCA. In such cases, it is up to the authorities dealing with the incident to make direct contact with the relevant licensing authority in advance of any proposed use of oil dispersants or other oil spill treatment products. In coastal waters, including areas within harbour limits, formal approval will usually be required.

### **Spills in or near shallow waters**

The use of oil dispersants or other oil spill treatment products in sea depths of less than 20 metres (chart datum), or within one nautical mile of such depths, **must be approved** by the appropriate licensing authority.

The chemical treatment of oil in deeper waters is less likely to cause damage to fisheries or the marine environment. It is not therefore subject to the same requirements for approval. Nevertheless, only products approved for use in the UK should be used and organisations are encouraged to seek advice from the relevant licensing authority whenever they propose to use oil dispersants at sea. By doing so, they can make use of the specialist knowledge relating to fisheries, marine habitats and dispersants that the licensing authorities, and the relevant statutory nature conservation agencies that they consult have ready access to.

### **Offshore dispersants**

Offshore dispersants are not required to pass the Rocky Shore Toxicity Test, but may only be used in waters more than 12 nautical miles from the baseline. Furthermore, every use of an offshore dispersant must be approved by the appropriate licensing authority.

### **Standing approvals**

Some organisations, such as port authorities and maritime local authorities, can apply for standing approvals to use specific quantities of dispersant during an incident in harbours or similar areas for

which they are responsible, without consulting the licensing authority. This permits a faster response to oil spills, following procedures anticipated in agreed contingency plans. Standing approvals may also be given to the operators of oil and gas installations in coastal waters, or fixed locations such as terminals. Standing approvals are only issued by the licensing authority after consultation with the appropriate statutory nature conservation agency. There must be a commitment to contact the licensing authority as soon as possible during the incident, and to report back to them on the extent and efficacy of dispersant use once it is over. A typical report will include the following information:

- name of organisation
- incident number
- date
- nature of spill
- location
- remedial action taken
- dispersant used (including volume)
- date of manufacture of the dispersant used
- when efficacy last tested (if applicable)
- comments on efficacy relating to incident
- other comments
- date of report
- time of report
- name of person making report.

Standing approvals are granted for five years only and a further application must be submitted prior to the expiry date.

### **Force majeure situations**

Approved oil dispersants and other oil spill treatment products may be used without prior consultation with the licensing authority where there is a genuine risk to human life or to the safety of an installation or vessel, for example, where there is serious danger from fire or explosion. However, the relevant licensing authority and statutory nature conservation agency should be informed as soon after the event as possible.

### **The use of approved products**

Only products which have been approved for use in the UK under the approval process described in this booklet may be deployed for the treatment of oil spills. The MMO, as operators of the approval scheme, maintains a list of currently approved products, together with the company title and address of the product approval holder. A copy of this list is available on the MMO website at [www.marinemanagement.org.uk/protecting/pollution/documents/approval\\_approved\\_products.pdf](http://www.marinemanagement.org.uk/protecting/pollution/documents/approval_approved_products.pdf)

The MMO cannot and does not, however, recommend the purchase or use of one product over another.

### **Controls on products in storage**

Provided a dispersant is approved at the time of its manufacture, it may continue to be held in stock and used for the treatment of oil spills even if the approval has since lapsed. It is important to ensure, however, that stocks of dispersant do not lose their efficacy.

Stockholders are required to arrange for one sample from each bulk tank to be retested for efficacy every five years.

Where dispersants remain sealed in the manufacturer's original packaging, the initial retest can be carried out after ten years. After that initial period, however, retesting must continue at five yearly intervals.

## **Retesting for efficacy**

All dispersants stocks, other than products kept in the manufacturer's original, unopened and undamaged package, must be tested for efficacy within five years from the date of manufacture and on a five-yearly cycle thereafter. All stocks held in the original, sealed manufacturer's packaging must be tested for efficacy within ten years of the date of manufacture and thereafter at no longer than five-yearly intervals.

Stored products are tested for efficacy using the same standard laboratory-based procedure for dispersant approval as described in **Annex 1 to Appendix A WSL Report LR448**. Some loss of efficacy is permissible. Therefore, the pass rate is set at 75 per cent of the original minimum standard of efficacy, for example, for a type 3 dispersant the retest pass level will be 45 per cent. Stocks which fail to achieve this pass level should be disposed of in accordance with waste regulations.

For more information on the retesting requirements contact the MMO.

## **Purchasing dispersants**

Always ensure that the dispersant you intend to buy is approved for use in UK waters at the time of manufacture. The MMO keep a record of all currently approved products which can be found at [www.marinemanagement.org.uk/protecting/pollution/documents/approval\\_approved\\_products.pdf](http://www.marinemanagement.org.uk/protecting/pollution/documents/approval_approved_products.pdf)

## **Storage**

Make sure that product containers are clearly labelled and that suppliers' labels are not disfigured. The labelling should be chemical resistant and weatherproof, and preferably fixed to the container in two places to avoid being obscured when containers are stacked.

Dispersants will normally need to be maintained at a constant temperature, preferably in the range -10 to +30 degrees Celsius. Changes in storage temperature can encourage condensation to form, to the detriment of the contents and container.

Dispersants stored in plastic containers should be kept out of sunlight.

Where dispersants are kept in bulk tanks, a log should be kept of the contents and use.

If products are changed, or a new batch is introduced into a bulk tank, the tank must be completely drained and flushed clean before being refilled.

Products must be retested periodically to ensure continuing efficacy. Dispose, in strict accordance with the appropriate waste disposal regulations, of any that do not meet 60 per cent of the original minimum standard of efficacy (see **Retesting for efficacy**).

Be aware that the contents of partially filled containers can deteriorate quite quickly. Never mix products, either in storage or during application, unless the manufacturer's or supplier's instructions state how to mix them safely.

## **Protective clothing**

Ensure that the skin, eyes and respiratory tract of users are protected in accordance with the manufacturer's or supplier's instructions and with health and safety requirements.

Operators should be provided with appropriate personal protective equipment, for example:

- full cover impervious plastic overalls
- impervious gloves
- eye protection, and if necessary, face protection suitable for chemical exposures
- chemical resistant safety footwear.

## **Safe handling and disposal**

Handling should only be undertaken in well ventilated areas away from heat, sparks and naked flames.

Treat dispersants as potentially combustible. Fires should be extinguished using carbon dioxide, chemical powder, foam, sand or earth. Larger fires may be fought using water fog.

Take care to avoid spillages during handling. Where spillages do occur, mop up quickly using a suitable sorbent. The area can be flushed using large quantities of water, but it is important to ensure that most of the dispersant is prevented from draining away from the site of the spillage by mopping up or creating a suitable barrier. Always keep work areas free of spillages as most dispersants create a very slippery surface.

If a dispersant comes into contact with the eyes or skin, treat the affected area with prolonged fresh water flushing. Seek medical advice if irritation persists.

Avoid dispersants coming into contact with painted surfaces.

Redundant stocks of dispersant should be disposed of within the normal framework of legislation for the disposal of chemical waste. The main legislative requirements are contained in the Waste Management Licensing Regulations 1994 and the Special Waste Regulations 1980 (as amended by the Special Waste (Amendment) Regulations 1996). Redundant dispersants with a hydrocarbon base must be dealt with as special wastes which require incineration.

## **Training**

Ensure that those who handle, store or use dispersants are properly trained and are competent. The MCA runs accredited oil spill training courses which include advice on the use of dispersants.

Ensure that all those involved with dealing with an oil spill incident are aware of your contingency plan and the procedure for approving and controlling the use of dispersants.

Check that the manufacturer's instructions for the safe and effective handling of a dispersant are followed at all times. A material safety data sheet should also be complied with and readily available for reference.

## **Consultation**

Advise the MCA and licensing authority of your intended response to a pollution incident, seek any necessary approval, and continue to consult them throughout the duration of the response to the incident.

## **Record keeping and reporting**

Keep a strict record of the type and volume of dispersant used at specific times in specific, identifiable areas.

Keep the MCA and the licensing authority informed of developments following the use of dispersants.

Once the operation has been completed, prepare a report detailing the dispersant application and send it to the appropriate licensing authority that will use it to monitor the efficacy of particular actions and products. An example of the information required on the report is given in the section on **standing approvals**. Where dispersants have been used under a standing approval, such a report will normally be a condition of that standing approval.

### **Before spraying**

As far as possible, the response to an oil spill incident should be pre-planned. It is important to establish an order of priority for the resources that require protection and to determine the circumstances under which dispersants may be used. This information will be set out in a contingency plan.

Potential users should ensure that they have a clear understanding of the circumstances under which they need to seek the licensing authority's approval for dispersant use and of the information they need to provide to obtain such approval. The local contingency plan will contain information about this.

Normally, a test spray should be carried out prior to full-scale operations.

### **When to spray**

Aim for a fast response, but ensure that all relevant information and consultation have been taken into account. In particular, consider:

- The state of the sea, for example, wave height and temperature.
- The weather conditions and remaining daylight.
- The potential for dilution.
- Whether the advantages of dispersant use as opposed to any other treatment method (or the option of leaving the oil to dissipate naturally) justify this treatment method.

Seek advice if uncertain.

### **When not to spray**

Dispersants should not be used to treat spills of diesel, gas oil, or similar light oil types which are likely to evaporate from the sea surface naturally. In these cases dispersant use is likely to increase the potential environmental impact rather than have a beneficial effect.

Dispersants should not be used to treat oils that have a viscosity greater than the maximum specified for the dispersant. Spraying in wind speeds greater than Force 6 (22 to 27 knots), or where there is a risk of the dispersant being blown back onto the land, is not recommended.

Dispersants should not be used in a freshwater environment, on mudflats or on saltmarshes, unless this has been specifically recommended by the statutory nature conservation agency.

## Health and safety

Dispersants should always be used in accordance with the manufacturer's supplier's instructions. In addition to these, a number of regulations apply.

Safety during the use of oil dispersants is regulated by the Control of Substances Hazardous to Health Regulations (COSHH) and the associated Approval Codes of Practice, although these regulations do not apply to ships' crew. The regulations apply to hazardous substances as defined and require employers to:

- undertake a risk assessment
- control exposure, so far as is reasonably practicable, by means other than the use of personal protective equipment (PPE).

The use of protective clothing is subject to the Personal Protective Equipment at Work Regulations 1992. PPE should also conform to the requirements of the Personal Protective Equipment (EC Directive) Regulations 2002.

Further information on these regulations can be obtained from the Health and Safety Executive.

## How to spray

### From on board a vessel

- Droplet size should be about that of an average raindrop. Too fine a spray will be ineffective and may blow off target. Too large a droplet will penetrate the oil and quickly become diluted, reducing the efficacy of the dispersant.
- Remember to be selective of the areas treated, being careful not to cause further pollution by spraying areas unaffected by the spill. No more than 20 per cent of the dispersant (and considerably less if possible) should fall off-target.
- Where possible, use a spotter plane to control larger spraying operations or ones where the surface oil has become fragmented. This is a particularly effective way of maximising the efficient use of dispersant.
- Begin at the edge posing the greatest threat and prioritise spraying thick patches of oil rather than thin films or sheen which will more easily disperse through natural processes.
- If a large, thick patch is identified, it may be advantageous to spray right round the outer edge first in order to restrict the spread of oil. Otherwise use parallel and continuous runs.
- Where practicable, and if wave action is not considered sufficiently strong to aid chemical dispersion, use mechanical means (surface breaker boards, for example) to increase water agitation.

### On shorelines

- Dispersants can be used on some shorelines (particularly sandy beaches), but only as part of the final stages of clean-up. The maximum depth of oil that can be treated effectively by dispersants is 6 mm. For heavy pollution, the bulk of the stranded oil must be mechanically removed before dispersant use.
- Rocky shores will not normally benefit from dispersant use because the wave energy associated with this type of coastline provides a high natural cleaning rate. Where, however, some spraying of the rock face is considered necessary, care should be taken to ensure that the dispersant does not accumulate in rock pools.
- Avoid using dispersants in cases where further stranding of oil is likely to occur on successive tides as repeated dispersant application could cause serious damage to the marine environment.

- Apply the dispersant to coincide with the tidal washing of the treated area within 30 minutes of the treatment, or use hosed seawater to wash off the dispersant and treated oil. This will minimise the effect on littoral organisms and the penetration into beach sediments.
- Dispersants are often not the best method of dealing with shoreline pollution, therefore other options (cobble-washing, for example) should always be considered first. The statutory nature conservation agencies will be able to provide advice on the relative benefits and impacts of different clean-up techniques.

## **Section 4 – Acknowledgements and further reading**

There are many publications which deal with the response to oil spill incidents from alternative perspectives to that of this booklet, or in greater technical detail. In preparing this booklet we have made considerable use of these other publications and have also benefited from the time spent by industry representatives, conservation agencies, the MCA, and other organisations who have kindly commented on drafts of the text.

### **Approval of oil spill treatment products**

#### **Toxicity**

Kirby, M. F., Matthiessen, P. and Rycroft, R.J. (1996), "Procedures for the Approval of Oil Spill Treatment Products", MAFF Fisheries Research Technical Report No. 102, Directorate of Fisheries Research, Lowestoft

[www.marinemanagement.org.uk/protecting/pollution/documents/tech102.pdf](http://www.marinemanagement.org.uk/protecting/pollution/documents/tech102.pdf)

#### **Efficacy of dispersants**

Warren Springs Laboratory (WSL), (2007), "Specification for Oil Spill Dispersants", Appendix A to WSL Report LR448 (OP), Warren Springs Laboratory

[www.marinemanagement.org.uk/protecting/pollution/documents/approval\\_lr448.pdf](http://www.marinemanagement.org.uk/protecting/pollution/documents/approval_lr448.pdf)

Warren Springs Laboratory (WSL), (2007), "The Determination of the Efficiency Index of Oil Spill Dispersants", Annex 1 to Appendix A, WSL Report LR448 (OP), Warren Springs Laboratory

[www.marinemanagement.org.uk/protecting/pollution/documents/approval\\_lr448.pdf](http://www.marinemanagement.org.uk/protecting/pollution/documents/approval_lr448.pdf)

#### **Efficacy of bioremediation products**

Swannell, R. P. J., Mitchell, D. J., and Flemming, A. J., (1997), "Protocol for the Testing of Bioremediation Products", Report No: AEAT-1981, National Environmental Technology Centre, produced for MAFF and NER Inc by AEA Technology

[www.marinemanagement.org.uk/protecting/pollution/documents/approval\\_bioremediation.pdf](http://www.marinemanagement.org.uk/protecting/pollution/documents/approval_bioremediation.pdf)

#### **Dispersant use**

The Maritime and Coastguard Agency (MCA), (2006), "Marine Pollution Clean-up Manual", The MCA, Southampton

[www.dft.gov.uk/mca/mcga07-home/emergencyresponse/mcga-pollutionresponse/mcga-dops\\_cp\\_environmental-counter-pollution/mcga-env-cp-marinepollutioncleanupmanual.htm](http://www.dft.gov.uk/mca/mcga07-home/emergencyresponse/mcga-pollutionresponse/mcga-dops_cp_environmental-counter-pollution/mcga-env-cp-marinepollutioncleanupmanual.htm)

The International Maritime Organization and the United Nations Environment Programme, (1995), "IMO/UNEP Guidelines on Oil Spill Dispersant Application, including Environmental Considerations, IA575E", International Maritime Organization, London - can be purchased online at [https://shop.imo.org/b2c\\_shop/b2c/init.do](https://shop.imo.org/b2c_shop/b2c/init.do)

International Petroleum Industry Environmental Conservation Association (IPIECA), (2001), "Dispersants and their Role in Oil Spill Response (2nd Edition)", The IPIECA Oil Spill Report

Series, Volume 5, IPIECA, London - can be purchased online at [www.ipieca.org/system/files/publications/Vol5\\_Dispersants\\_0.pdf](http://www.ipieca.org/system/files/publications/Vol5_Dispersants_0.pdf) (PDF 762 KB)

The International Tanker Owners Pollution Federation Limited (ITOPF), (2005), "The Use of Chemical Dispersants to Treat Oil Spills", Technical Paper Number 4, ITOPF, London [www.itopf.com/assets/documents/tip4.pdf](http://www.itopf.com/assets/documents/tip4.pdf) (PDF 532 KB)

A list of other ITOPF Technical Information Papers can be found at [www.itopf.com/information-services/publications/technical-reports/](http://www.itopf.com/information-services/publications/technical-reports/)

The Maritime and Coastguard Agency (MCA), (2006), "National Contingency Plan for Marine Pollution from Shipping and Offshore Installations", MCA, Southampton [www.dft.gov.uk/mca/mcga07-home/emergencyresponse/mcga-pollutionresponse/mcga2007-ncp.htm](http://www.dft.gov.uk/mca/mcga07-home/emergencyresponse/mcga-pollutionresponse/mcga2007-ncp.htm)

### **Health and safety**

For information about general Health and Safety please see the Health and Safety Executive (HSE) website at [www.hse.gov.uk](http://www.hse.gov.uk)

For information about CHIP Regulations please see the HSE website [www.hse.gov.uk/chip/](http://www.hse.gov.uk/chip/)

## **Section 5 – Contacts for further advice and information**

### **Centre for Environment, Fisheries and Aquaculture Science**

Cefas Laboratory

Lowestoft

Suffolk

NR33 0HT

Tel (switchboard): 01502 562 244

Tel (Ecotoxicology and Chemical Risk Assessment Team Leader): 01502 527 796

Website: [www.cefas.defra.gov.uk](http://www.cefas.defra.gov.uk)

### **Countryside Council for Wales (for Welsh territorial waters)**

Marine Industries Policy Officer

Maes y Ffynnon

Ffordd Penrhos

Bangor

Gwynedd

LL57 2DWN

Tel: 01248 387 293

24 hour pager: 07659 140 040

Fax: 01248 385 511

Website: [www.ccw.gov.uk/?lang=en](http://www.ccw.gov.uk/?lang=en)

### **Energy Institute**

61 New Cavendish Street

London

W1G 7AR

Tel: 020 7467 7100

Website: [www.energyinst.org.uk/](http://www.energyinst.org.uk/)

### **Environment Agency**

Head Office

Block 1, Government Buildings  
Burghill Road  
Westbury on Trym  
Bristol  
BS10 6BF  
Tel (24 hour incident hotline): 0800 807 060  
Website: [www.environment-agency.gov.uk/](http://www.environment-agency.gov.uk/)

**Health and Safety Executive**

HSE Infoline  
Caerphilly Business Park  
Caerphilly  
CF83 3GG  
Tel: 0845 345 0055  
Website: [www.hse.gov.uk/](http://www.hse.gov.uk/)

**Joint Nature Conservation Committee**

Marine Pollution Advisor  
JNCC Dunnet House  
7 Thistle Place  
Aberdeen  
AB10 1UZ  
Tel: 01224 655 716  
Outside office hours: 07974 257 464  
Fax: 01224 621 488  
Website: [www.jncc.defra.gov.uk](http://www.jncc.defra.gov.uk)

**Natural England (for English territorial waters)**

Natural England Marine Pollution Officer  
Evidence Team  
Juniper House  
Murley Moss  
Oxenholme Road  
Kendal  
Cumbria  
LA9 7RL  
Tel: 0300 060 0002  
24 hour pager: 07659 124 846  
Website: [www.naturalengland.org.uk/](http://www.naturalengland.org.uk/)

**Northern Ireland Environment Agency (for Northern Irish waters)**

Duty Emergency Pollution Officer  
Water Management Unit  
Northern Ireland Environment Agency  
17 Antrim Road  
LISBURN  
County Antrim  
BT28 3AL  
Tel: 028 9025 47141  
Website: [www.ni-environment.gov.uk/](http://www.ni-environment.gov.uk/)

**The Maritime and Coastguard Agency**

Spring Place

105 Commercial Road  
Southampton  
Hants  
SO15 1EG  
Tel: 02380 329 544  
Website: [www.mcga.gov.uk/c4mca/mcga07-home](http://www.mcga.gov.uk/c4mca/mcga07-home)

### **Marine Management Organisation**

Marine Pollution Manager  
PO Box 1275  
Newcastle upon Tyne  
NE99 5BN  
Tel: 0191 376 2511  
Website: [www.marinemanagement.org.uk](http://www.marinemanagement.org.uk)

### **Marine Scotland**

Marine Laboratory  
Licensing Operations Team  
PO Box 101  
375 Victoria Road  
Aberdeen  
AB11 9DB  
Tel: 01224 295 441  
Website: [www.marlab.ac.uk/](http://www.marlab.ac.uk/)

### **Marine Scotland**

Marine Planning and Policy Division  
Marine Planning Branch  
Area 1-A(S)  
Victoria Quay  
Edinburgh  
EH6 6QQ  
Tel: 0131 244 6233  
Website: [www.scotland.gov.uk/About/Directorates/Wealthier-and-Fairer/marine-scotland](http://www.scotland.gov.uk/About/Directorates/Wealthier-and-Fairer/marine-scotland)

### **Scottish Natural Heritage (for Scottish territorial waters)**

Silvan House  
3rd Floor East  
213 Corstorphine Road  
Edinburgh  
EH12 7AT  
Tel: 0131 316 2610  
24 hour pager: 07699 761 509  
Fax: 0131 466 2405  
Website: [www.snh.org.uk/](http://www.snh.org.uk/)

### **UK Oil and Gas**

6th Floor East  
Portland House  
Bressenden Place  
London  
SW1E 5BH  
Tel: 020 7802 2400

Website: [www.oilandgasuk.co.uk](http://www.oilandgasuk.co.uk)

**UK Spill Ltd**

Keepers Cottage

Acton Scott

Church Stretton

Shropshire

SY6 6QN

Tel: 07804 868 980

Website: [www.ukspill.org/](http://www.ukspill.org/)

**The International Tanker Owners Pollution Federation Limited**

1 Oliver's Yard

55 City Road

London

EC1Y 1HQ

Tel: 020 7566 6999

Emergency telephone (24 hour): 07623 984 606

Fax: 020 7566 6950

Website: [www.itopf.com/](http://www.itopf.com/)