OSPAR COMMISSION

Implementation of OSPAR Recommendation 2006/3 on environmental goals for the discharge by the offshore industry of chemicals that are, or which contain substances identified as candidates for substitution

Offshore Industry Series

2013

OSPAR Convention

The Convention for the Protection of the Marine Environment of the North-East Atlantic (the “OSPAR Convention”) was opened for signature at the Ministerial Meeting of the former Oslo and Paris Commissions in Paris on 22 September 1992. The Convention entered into force on 25 March 1998. It has been ratified by Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Luxembourg, Netherlands, Norway, Portugal, Sweden, Switzerland and the United Kingdom and approved by the European Community and Spain.

Convention OSPAR

La Convention pour la protection du milieu marin de l'Atlantique du Nord-Est, dite Convention OSPAR, a été ouverte à la signature à la réunion ministérielle des anciennes Commissions d'Oslo et de Paris, à Paris le 22 septembre 1992. La Convention est entrée en vigueur le 25 mars 1998. La Convention a été ratifiée par l'Allemagne, la Belgique, le Danemark, la Finlande, la France, l’Irlande, l’Islande, le Luxembourg, la Norvège, les Pays-Bas, le Portugal, le Royaume-Uni de Grande Bretagne et d’Irlande du Nord, la Suède et la Suisse et approuvée par la Communauté européenne et l’Espagne.

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1. Introduction

1.1 OSPAR Recommendation 2006/3

The purpose of OSPAR Recommendation 2006/3 is to set an environmental goal for the discharge of offshore chemicals that are, or which contain substances identified as candidates for substitution, in order to set a specific time-frame for moving towards the cessation of these discharges from offshore installations.

The Recommendation applies to Contracting Parties which have offshore installations under their jurisdiction in their internal waters or territorial sea, or on their continental shelf.

1.2 Implementation reporting

Reports on the implementation of this Recommendation should be submitted by Contracting Parties with offshore installations that make discharges, using as far as possible the format set out in Appendix 1 of the Recommendation.

In their implementation reports, Contracting Parties should confirm, the candidates for substitution that have been substituted and the candidates for substitution where the relevant regulatory authority is satisfied that there is currently no suitable alternative.

2. Overview of compliance

OSPAR Recommendation 2006/3 requires Contracting Parties with discharging offshore installations to submit implementation reports to the Secretariat by 31 January 2008, and every three years thereafter. According to OIC work plan 2012/2013, Product 14, contraction parties should report to Norway by 31 October 2012.

The responses received from Contracting Parties were as follows:

Table 1: Overview of the implementation and associated reporting on OSPAR Recommendation 2006/3 on Environmental Goals for the Discharge by the Offshore Industry of Chemicals that Are, or Which Contain Substances Identified as Candidates for Substitution.

Means of implementation						
Contracting Party	**Report available**	**Year of report[1]**	**Reservation**	**Legislation**	**Administrative action**	**Negotiated agreement**
Denmark	Yes	2013	no	no	yes	yes
France	Yes*					
Germany	Yes	2012	no	Not applicable		
Ireland	Yes	2013	no	no	yes	no
The Netherlands	Yes	2012	no	yes	no	no
Norway	Yes	2011	no	yes	yes	no
Spain	No*					
Sweden	Yes*					
United Kingdom	Yes	2012	no	no	yes	yes

[1]The Norwegian and Dutch reported data is from 2011, but were submitted in 2012. The Danish results are from 2012, but the report was submitted in 2013. The report from UK relates to the period up to the end of 2009.

**No discharging offshore facilities, and therefore no requirement for an implementation report*

All Contracting Parties that have provided implementation reports have implemented the Recommendation. No Contracting Party has exercised a reservation and the measure is therefore applicable to all Contracting Parties with discharging offshore facilities.

3. Effectiveness of reporting

3.1 Candidates for substitution that have been substituted

All reporting Contracting Parties indicate that several candidates for substitution have been phased out, but only the United Kingdom has provided a list of substances that have actually been substituted.

The Netherlands reports that the UK list is also representative for the Netherlands. The Netherlands also states that a considerable number of candidates for substitution have been substituted since 2000. The reduction in discharge of these substances went down with about 76% in 2011, compared to 2003.

The UK has introduced new reporting measures for candidates for substitution and the latest data show that out of 433 products carrying substitution warning at the time of adoption of Recommendation 2006/3, a total of 57 products (30 components) have been phased out completely, 97 were phased out for specific functions/applications/sites, and 279 were not phased out. Further details can be seen in the UK report in Appendix 1.

Norway has stated that the discharge of substitution candidates has been reduced by 99% from 1997-2011. In Norway, substitution of chemicals is the responsibility of the operator, and The Climate and Pollution Agency does not have a complete list of all substituted chemicals. The information can be accessed form the operator's annual reports, but to collect this data would be very time consuming.

In Denmark all candidates for substitution to be discharged have been substituted from 1st January 2013. However, some substitution candidates are still in use. The Danish EPA has not set up a list of substitution candidates which should be phased out. Instead, the agency has since 2011 set up a list of accepted green and yellow chemicals and thereby made it easier for the operators to choose among these chemicals.

Ireland reports that their system aims to use the least environmentally harmful product, when feasible alternatives exists. Discharges of several substances have been phased out including: Metallic lead powder, metallic zinc powder, and metallic copper powder.

3.2 Candidates for substitution where the relevant regulatory authority is satisfied that there is currently no suitable alternative, including justification

Subject to a suitable justification, all reporting Contracting Parties have indicated that they will continue to permit the use of products that are, or contain, substances identified as candidates for substitution. Denmark has currently phased out all substitution candidates that were being discharged. No Contracting Party has provided a list of candidates for substitution that currently have no suitable alternative.

However, the UK has data on trials of potential alternative products for 71 of the 279 products that were still in use. Operators have confirmed that trials had not been initiated for 255 of the products, and no information was provided for 27 of the products. Total use and discharge of substitution components in 2009 were 5 725 811 and 1 655 197 kilograms, respectively, and this indicates a reduction of 26 and 25% since 2006. Operators are also required to provide technical justifications for all the offshore chemicals that are, or contain, candidates for substitution that are still in use. See Annex I for a list of candidates for substitution still in use in UK.

The Netherlands reports that there are several candidates for substitution still used and discharged due to the fact that there are no suitable alternative. There is, however, no list or overview for the justification available.

Denmark has phased out all discharges of candidates for substitution, but in some cases there is doubt whether a preparation is a substitution candidate according to the HOCNF guidelines, especially related to point 34 about inseparable mixtures.

Ireland has mentioned several product types (see appendix) for which the relevant regulatory is satisfied that there is currently no suitable alternatives.

Norway has reported that in 2011 a total of 104 substitution candidates were still in use. Operators on the Norwegian Sector are required to report their substitution plans, the reasons why they still have to use or discharge substitution candidates, and when they plan to phase out these substances. Please refer to Annex 1 for a list of candidates for substitution still in use in Norway.

Due to some unspecific chemical names in both the Norwegian and the three lists from UK, and lack of Cas numbers, a complete comparison of the results has not been possible. However, at least 5 substances that have been phased out in the UK are still used in Norway. 37 of the substances on the Norwegian list were found on the UK list for Candidates that have been phased out for some applications or Candidates that have not been phased out, but probably there would be more matching substances if Cas numbers were compared.

3.3 Measures taken to reduce use or discharge of chemicals with no suitable alternative

Denmark and Norway utilise a ‘traffic-light’ prioritisation system for the identification of products that are, or contain, candidates for substitution. The phase-out of ‘red’ or ‘black’ chemicals is prioritised relative to ‘yellow’ or ‘green’ chemicals.

The Norwegian national regulation states that it is the operator's responsibility to choose as environmentally friendly chemicals as possible, and to reduce discharges as much as possible. This is followed up by the authorities through auditing and the operator's annual reports, and justification for technical/safety needs in applications for discharge permits.

Denmark had phased out all substitution candidates for discharge by 1st January 2013, and no operators on the Danish sector have permission for release of substitution candidates, unless it can be proved by a method agreed with the Danish EPA that discharge of red chemicals besides being the best solution due to technical and safety reasons, also will be the environmentally best solution and describing alternatives. Denmark has seen increasing problems with registration and evaluation where there is doubt related to inseparable mixtures. Since 2007, only toxicity data on substance level has been accepted under OSPAR regulations. However, it seems that some contracting parties accept these products to be tested as a whole. Denmark reports that of about 400 preparations, 5-10 preparations fall into this category, but suppliers often want to register products without tests on substance level. According to correspondence with Norway, the problem seems to be concentrated about the following groups: polymers, plastic products hardening in well, grease fractions and additives for chemicals in closed systems. Denmark proposes that an administrative solution to this problem could be to demand these preparations to be registered in REACH as an "inseparable mixture". This solution has been used for one preparation in Denmark.

The UK publishes a list of all offshore chemicals currently registered for use on UKCS that confirms whether the products are, or contain a candidate for substitution. The UK has produced a National Plan for the reduction of the use and discharge of substitution candidates, and details of the plan was included in the UK paper submitted to OIC 2007 (OIC 07/3/6). The UK national plan encourages operators to phase out the use and discharge of specific candidates for substitution in accordance with a timetable, initially concentrating on substances that are highly persistent, bioaccumulating and toxic. To demonstrate progress, operators must submit an annual report to DECC providing details of all use and discharge of substitution candidates, and provide a justification for the continued use and/or discharge of such chemicals.

The Dutch operators have a substitution plan as a part of their permits. The plans are reviewed every three years together with the permits. If suitable alternatives are available, chemicals containing candidates for substitution will not be permitted for discharge.

In Ireland the measure is addressed on a case by case basis with Operators proposing discharge of substances identified as candidates for substitution. Operator provides method statement to minimise use or discharge of chemical, including *e.g.* making rig crew aware of the situation.

Annex 1 – Implementation reports

Format for implementation reports concerning OSPAR Recommendation 2006/3 on Environmental Goals for the Discharge by the Offshore Industry of Chemicals that are, or contain Substances that have been Identified as Candidates for Substitution

(Note: In accordance with paragraph 5.1 of the Recommendation, this format should be used as far as possible in implementation reports)

I. Implementation Report on Compliance

Year of Report:	2012
Country:	**Germany**

Reservation applies	No

Is measure applicable in your country?	No

If not applicable, then state why not (*e.g*. no relevant uses or discharges of candidates for substitution)

Means of Implementation of the measure in § 3.1 of the Recommendation (phase-out of discharge of candidates for substitution):	by legislation	by administrative action	by negotiated agreement
	yes/no*	yes/no*	yes/no*

Candidates for substitution that have been substituted	-----

Candidates for substitution where the relevant regulatory authority is satisfied that there is currently no suitable alternative, including justification	------
Measures taken to reduce use or discharge of chemicals with no suitable alternative	-------

Please provide information on:

a. specific measures taken to give effect to this measure;

b. any special difficulties encountered, such as practical or legal problems, in the implementation of this measure;

c. any reasons for not having fully implemented this measure should be spelt out clearly and plans for full implementation should be reported.

Please provide information on:

a. any programme of review of authorisations for the discharge of candidates for substitution, and the progress of such reviews;

b. where the phasing-out of such offshore chemicals is being achieved in some other way, the nature of those other means, and the progress with them.

Format for implementation reports concerning OSPAR Recommendation 2006/3 on Environmental Goals for the Discharge by the Offshore Industry of Chemicals that are, or contain Substances that have been Identified as Candidates for Substitution

(Note: In accordance with paragraph 5.1 of the Recommendation, this format should be used as far as possible in implementation reports)

I. Implementation Report on Compliance

Year of Report:	2012
Country:	**The Netherlands**

Reservation applies	No

Is measure applicable in your country?	Yes

If not applicable, then state why not (*e.g.* no relevant uses or discharges of candidates for substitution)

Means of Implementation of the measure in § 3.1 of the Recommendation (phase-out of discharge of candidates for substitution):	by legislation	by administrative action	by negotiated agreement
	yes	no	no

Candidates for substitution that have been substituted	Considerable number of Candidates for substitution have been substituted since 2000 however there is no specific NL list available. The UK LIST is also representative for NL. The reduction in discharge of substances Candidates for substitution went down with about 76% in 2011 (18517 kg) compared to 2003 (75 680 kg).

Candidates for substitution where the relevant regulatory authority is satisfied that there is currently no suitable alternative, including justification	There are several Candidates for substitution still in use which are being discharged in the NL OSPAR Maritime area due to the fact that there are no suitable alternatives, however there is no NL list and no overview for the justification available.

Measures taken to reduce use or discharge of chemicals with no suitable alternative	As part of the permits every operator has a substitution plan in place. These plans are reviewed every three year together with the permits. Permits for use and discharge are subject to the outcome of these reviews, meaning that if suitable alternatives are available then chemicals containing Candidates for substitution will not be permitted to continue their discharges.

Please provide information on:

a. specific measures taken to give effect to this measure;

b. any special difficulties encountered, such as practical or legal problems, in the implementation of this measure; **The Netherlands issue 70 permits per year which is a considerable burden on the administrative capacity of the NL Competent authority. Besides that the triennial review of the substitution plans also has an impact on this burden.**

c. any reasons for not having fully implemented this measure should be spelt out clearly and plans for full implementation should be reported. **Not applicable.**

Please provide information on:

a. any programme of review of authorisations for the discharge of candidates for substitution, and the progress of such reviews; **at this moment a review process is being carried out with the objective to make the permitting process simpler and easier.**

b. where the phasing-out of such offshore chemicals is being achieved in some other way, the nature of those other means, and the progress with them. **Most of the Candidates for substitution are substituted by other substances having a better environmental profile.**

Implementation report concerning OSPAR Recommendation 2006/3 on environmental goals for the discharge by the offshore industry of chemicals that are, or contain substances that are, identified as 'Candidates for Substitution'

Year of Report:	2012
Country:	**UK**

Reservation applies	No
Is measure applicable in your country?	Yes

If not applicable, then state why not (*e.g.* no relevant uses or discharges of candidates for substitution)

Means of Implementation of the measure in § 3.1 of the Recommendation (phase-out of discharge of candidates for substitution):	by legislation	by administrative action	by negotiated agreement
	No	Yes	Yes

Candidates for substitution that have been substituted	See attached report
Candidates for substitution where the relevant regulatory authority is satisfied that there is currently no suitable alternative, including justification	See attached report
Measures taken to reduce use or discharge of chemicals with no suitable alternative	See attached report

Please provide information on:

a. specific measures taken to give effect to this measure;

The UK publishes a list of all offshore chemicals currently registered for use on the UKCS, that confirms whether the products are, or contain, a Candidate for Substitution. Operators intending to use offshore chemicals on the UKCS are additionally provided with a template that also confirms whether the product is, or contains, a Candidate for Substitution. The UK has produced a National Plan for the reduction of the use and discharge of all offshore chemicals that have been assigned a substitution warning, and details of the

plan were included in the UK paper submitted to OIC 2007 (OIC 07/3/6-E). The UK National Plan encourages operators to phase out the use and discharge of specific Candidates for Substitution in accordance with a timetable, initially concentrating on substances that are highly persistent, bioaccumulating and toxic. To demonstrate progress against the UK National Plan, operators must submit an annual report to DECC providing details of all use and discharge of offshore chemicals that are, or contain, a Candidate for Substitution, and provide a justification for the continued use and/or discharge of such chemicals. Further information is included in the attached report.

b. any special difficulties encountered, such as practical or legal problems, in the implementation of this measure;

No special difficulties have been encountered.

c. any reasons for not having fully implemented this measure should be spelt out clearly and plans for full implementation should be reported.

The measure has been fully implemented, and progress is summarised in the attached report.

Please provide information on:

a. any programme of review of authorisations for the discharge of candidates for substitution, and the progress of such reviews;

In addition to the measures introduced to support the UK National Plan, all authorisations for chemical use and discharge (UK 'Chemical Permits') are subject to formal review, and the reviews include discussion of the phase-out of offshore chemicals that are, or contain, Candidates for Substitution.

b. where the phasing-out of such offshore chemicals is being achieved in some other way, the nature of those other means, and the progress with them.

See attached report.

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OSPAR Recommendation 2006/3 on environmental goals for the discharge by the offshore industry of chemicals that are, or contain substances that are, identified as 'Candidates for Substitution'

Report Aims:

1) *To identify candidates for substitution that have been replaced*
2) *To identify candidates for substitution that have been replaced for some operations*
3) *To identify candidates for substitution where the regulatory authority is currently satisfied that there are no suitable alternatives*
4) *To identify trials being undertaken to replace additional candidates for substitution*
5) *To identify progress in reducing the total use and/or discharge of candidates for substitution*

Introduction

Following the adoption of Recommendation 2006/3, the UK developed a national plan for the phase-out of offshore chemicals that are, or contain, candidates for substitution, or the reduction and phase-out of discharges of those chemicals. The UK also implemented a new annual reporting requirement, requiring operators to provide details of all the offshore chemicals that are, or contain, candidates for substitution that are still in use, those that have been phased-out and those where trials have been, or are being, undertaken to seek alternatives. Operators are also required to provide technical justifications for all the offshore chemicals that are, or contain, candidates for substitution that are still in use.

Marine Scotland was contracted to review the annual reports, to assess progress against the recommendation. This report relates to the period up to the end of 2009 (annual reports received in Q1 2010). More recently data, for 2010 and 2011, is currently being assessed for submission of the next report to the Department of Energy and Climate Change (DECC) in 2013.

Wherever possible, errors in the annual reports (*e.g.* product name spellings and syntax) have been corrected by Marine Scotland, and the comparatively small number of errors that could not be resolved are considered unlikely to have a significant impact on the conclusions of the report.

Progress during period covered by the report

At the time of adoption of Recommendation 2006/3, a total of 433 products carrying substitution warnings were being used on the UK Continental Shelf (UKCS). By the end of 2009, 57 of those products had been phased out completely; 97 had been phased out for specific functions, applications and/or sites, but were still in use for other functions, applications and/or sites; and 279 had not been phased out for any functions, applications and/or sites.

Many of the substitution warnings relate to single components within a product, and those components can be present in more than one product. For the purpose of identifying the specific chemicals that have been phased-out, it is therefore necessary to consider the components, rather than the products. The summary table below details the numbers of products and their substitution components that were phased out during the period of this report.	**Products**	**Components**
Phased Out Completely:	57 (13%)	30 (9%)
Phased out for Some Applications	97 (23%)	125 (37%)

Not Phased Out:	279 (64%)	188 (54%)
Total:	**433 (100%)**	**343 (100%)**

Candidates for substitution that have been phased out completely: It is evident that a number of the substitution components that were phased out completely were common to a number of products, as the removal of 57 products only resulted in the removal of 30 substitution components. A list of those components is provided in Appendix 1. Where the component name would identify the proprietary name of an offshore chemical and/or the supplier or manufacturer of that chemical, the relevant information has been replaced with a code name.

Candidates for substitution that have been phased out for some functions, applications and/or sites: It is evident that more than one substitution component was phased out when alternatives were identified for some functions, applications and/or sites, as the removal of 97 products resulted in the removal of 125 components. A list of those components is provided in Appendix 2. Where the component name would identify the proprietary name of an offshore chemical and/or the supplier or manufacturer of that chemical, the relevant information has been replaced with a code name.

Candidates for substitution that have not been phased out: It is evident that there are a number of common substitution components in the products that have not been phased out for any functions, applications and/or sites, as the 279 products still in use contain 188 substitution components. A list of those components is provided in Appendix 3. Where the component name would identify the proprietary name of an offshore chemical and/or the supplier or manufacturer of that chemical, the relevant information has been replaced with a code name.

Trials being undertaken to replace additional candidates for substitution

In addition to the research and development undertaken by chemical manufacturers, chemical suppliers and offshore operators to identify potential alternatives to candidates for substitution, it is often necessary to undertake onshore and offshore trials to determine the suitability and efficacy of the replacement product. In some cases these trials can just involve removal of the substitution component in a product, to determine if there is a significant adverse effect on performance.

A total of 774 reports were received from operators in relation to the 279 products that are still in use. Trials of potential alternative products were identified for 71 of the products covering 57 substitution components. Operators confirmed that trials had not been initiated for 255 of the products, and no information was provided for 27 of the products. The responses are summarised in the table below.

	Operator Reports	**Number of Products**	**Number of Components**
	774	**279**	**188**
Trials Initiated	120	71	57
No Trials	626	255	177
Not Specified	28	27	18

It should be noted that the number of products and substitution components detailed in the operator reports do not equate to the number of products or substitution components that have not been phased out for any functions, applications and/or sites, as some operators confirmed that they were trialling replacements for a

particular product, but other operators confirmed that they were not undertaking trials in relation to the same product.

Total use and discharge of candidates for substitution

Total use and discharge of substitution components in 2006 were 7 718 194 kg and 2 195 753 kg respectively. Total use and discharge of substitution components in 2009 were 5 725 811 kg and 1 655 197 kg respectively. Although comparison of the data for the two years does not take account of differences in the levels of offshore activity, the data indicates a 26% reduction in the use of substitution components and a 25% reduction in the discharge of substitution components.

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07 January 2013

Appendix 1

Candidates for substitution that have been phased out completely

Substitution Component
2,3,4,5-Tetrafluorobenzoic acid
2,4,5-Trifluorobenzoic acid
2,5-difluorobenzoic acid
2,6-difluorobenzoic acid
2-Propen-1-aminium,N,N-dimethyl-N-2-propenyl-,chloride (9Cl) (C8 H16N.Cl)
2-Propenoic acid, homopolymer, sodium salt (C16P1)
3,4-difluorobenzoic acid
4-Fluorobenzoic acid
Alcohol ethoxylate
Amines, coco alkyl (unspecified molecular formulas)
C10-16 alcohol ethoxylate (7 mole EO)
C8 -alkyl phenol/formaldehyde resin ethoxylate (50% EO)
Cross-linked ethylene oxide propylene oxide block polymer (C6P2)
Dimethylamine epichlorohydrin copolymer
Fluorosilicone polymer (10000 cst)
High density polyethylene/polypropylene matrix
Iso-propylamine dodecylbenzene sulphonate
Olefin-alkyl ester copolymer (C15P1)
Oxyalkylated alkylphenolic resin
Oxyalkylated alkylphenolic resin, nonyl and butyl phenol and formaldehyde reacted (catalysed with potassium hydroxide), ethoxylated
Oxyalkylated diethylenetriamine
Oxylated polyester amine (C6P3)

Substitution Component
Poly alkylamino ethoxylate (C6P4)
Poly(oxy)-1,2-ethanediyl),-isotridecyl-hydroxy-phosphate
Poly(oxy-1,2-ethanediyl), .alpha.-sulfo-.omega.-hydroxy-, C10-16-alkyl ethers, sodium salts
Poly(oxy-1,2-ethanediyl), alpha,alpha-(((9Z)-9-octadecenylimino)di-2,1-ethanediyl)bis(omega-hydroxy-
Polyoxyalkylated glycerol ester
Quaternary ammonium compounds, benzylcoco alkyldimethyl, chlorides
Sodium 4-trifluoromethyl benzoate
Sodium N-coco-beta-aminopropionate

Appendix 2

Candidates for substitution that have been phased out for some applications:

Substitution Component
(C18)Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides
(C21P1)
(C23)
(C32P1)
(C3P1) Amine Acetate
(C3P2) Phosphate Ester
(C7P1) Alkyl tetrahydro imidazoline ethoxylate
(C7P3), Diamine/triamine ethoxylate (10EO)
(Nitrilotris(methylene))triphosphonic acid
1 2 ethanediamine N N N N tetramethyl polymer with 1 1 oxybis 2-chloroethane
1,2-Ethanediamine, polymer with methyloxirane and oxirane
1H imidazoledipropanoic acid, 4,5,-dihydro 1-(2-hydroxyethyl), 2-norcoco alkyl derivatives, di sodium salts
1H-Imidazole-1-ethanamine, 4,5-dihydro-2-undecyl-
1H-imidazole-1-ethanamine,4,5-dihydro-,2-nortall-oil alkyl derivatives
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-coco acyl derivs, inner salts
1-propanesulphonic acid, 2-methyl-2-(1-oxo-2-propenyl)amino)-, monosodium salt, polymer with 2-propenamide
2,3,4-Trifluorobenzoic acid
2,4,7,9-tetramethyl-5-decyne-4,7-diol
2,4-difluorobenzoic acid
2,6-Di-tert-butyl-dimethylamino-p-cresol
2-ethylhexyl molybdenum dithiophosphate
2-Fluorobenzoic acid

Substitution Component
2-propanoic acid, polymer with formaldehyde, 2,5-furandione, methyloxirane
2-propenoic acid polymer with 2-methyl-2-[(1-oxo-2-propenyl) amino]-1-propane sulphonic acid monosodium salt & sodium phosphonite
3-Fluorobenzoic acid
3-trifluoromethylbenzoic acid
9-Octadecen-1-ol, (9Z)-, phosphate
acrylonitrile-butadiene copolymer
Alcohols, C9-11, ethoxylated
Alcohols, C9-11-branched and linear, C10-rich
Alkyl diphenylamine
Alkyl trimethyl ammonium methyl sulphate
Alkylphenol/formaldehyde resins alkoxylate (493)
Amine ethoxylate
Benzene sulfonic acid, mono-C10-C14 alkyl derivs
Benzenenmethanaminium, N.N-dimethyl-N-[2-{(1-oxo-2-propenyl)oxy}ethyl]-,chloride, polymer with 2-propenamide and N,N,N-trimethyl-2-[(1-oxo-2-propenyl)oxy]ethanaminium chloride
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
Benzenesulfonic acid, C10-14-alkyl derivs sodium salts
Benzenesulfonic acid, C10-14-alkyl derivs, sodium salts
Benzenesulfonic acid, dodecyl- (8Cl, 9Cl)
Benzyl C10-16 alkyl dimethyl ammonium chloride
Benzyl chloride quaternary ammonium salt
Block alkoxylate
Butylated hydroxytoluene
C10/12, 16 alcohol ethoxylated, propoxylated, 8 EO, 2 PO
C12-C15 Ethoxylated alcohol with 7.25 mols EO +/- 0.5 mol weight 203 - Neodol 25-7 / Surfactant

Substitution Component
C12-C16 Alkyl dimethyl benzyl quaternary ammonium chloride
C9-C11 Fatty Acid (6 mole EO)
C9-C11 primary alkylalcohol ethoxylate
Cocoalkylamine/Beta-alanine, N-(2-carboxyethyl)-,N-coco alkyl derivs.
Cocoalkylamino propionic acid
Cocodimethyl benzyl ammonium chloride(C5)
Coconut diethanolamide
cyclohexylamine/dodecylbenzenesulphonic acid salt
Diethylene triamine pentakis methylene phosphonic acid, disodium salt
Dimerised C18 unsaturated fatty acids, with residual monomeric acids
Dimethyl siloxane
Dimethyl siloxanes and silicones
Dithiocarbamate - hexanedinitrile, hydrogenated, high boiling fraction, reaction products with epichlorohydrin-glycerol polymer, N-(dithiocarboxy)derivatives-potassium salts
Dodecylbenzene sulphonic acid, compound with isopropylamine (1:1)
EO PO co-polymer on polyethylene imine (89.85%) in Xylene (10.15%)
Ethoxylated propoxylated 4-nonylphenol-formaledehyde resin
Ethylene oxide/propylene oxide block copolymer
Ethylene oxide/propylene oxide condensate of a long chain fatty alcohol
Ethylenediaminetetraacetic acid, sodium salt of
Ethylenediaminetetraacetic acid, tetrapotassium salt
Fatty acids, C18-unsatd, dimmers
Fatty acids, coco, reaction products with ethanolamine, ethoxylated
Fatty acids, tall oil reaction products with 2,2-aminodiethanol
Fatty acids, tall-oil, reaction products with diethylenetriamine, acetates

Substitution Component
Fluorescein
Hexamethylene tetramin, compound with 1-chloro-2,3-epoxypropane
Hydrogenated styrene-isoprene block polymer - (C22P1) / Viscosifier
Imidazoline
Imidazoline of TOFA and Amino ethyl ethanolamine
Lead
Liquid alkyl thiourea
Lubricating greases
LZ 7791 Methylacrylate copolymer in mineral oil
Methyldiethanolamine
Modified amidoamine from Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine
Molybdenum, bis(O,O-bis(2-ethylhexyl) phosphorodithioato- S,S')dioxodi-mu-thioxodi-, (Mo-Mo)
Morpholine derivative residues - aliphatic and heterocyclic mono and diamines
N-(p-tert octylphenyl)-1-naphthylamine
N,N,N-polyoxyethylene(12)-N-tallow-1,3-diaminopropane
N-coco alkyl trimethyl diamine
Octadecanamide, N,N'-1,2-ethanediyl bis 12-hydroxy
Octadecanoic acid, 12-hydroxy-, homopolymer, octadecanoate
Organoclay
Phenolphthalein, disodium salt
Poly(oxy-1,2-ethanediyl), alpha,alpha-((methyloctadecyliminio)di-2,1-ethanediyl)bis(omega-hydroxy-, chloride
Poly(oxy-1,2-ethanediyl),alpha-octadecyl-omega-hydroxy-(9Cl)
Polyacrylic acid
Polyamide from Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine

Substitution Component
Polydimethylsiloxane
Polyether polyol (C12)
Polyhexa-methylene biguanide hydrochloride
Polyoxyethylene (15) tallow amine
Polypropylene glycol 4000
Polytetrafluoroethylene
Quarternary ammonium compounds, benzylcoco alkylbis - (hydroxyethyl), chlorides
Quaternary Ammonium Chloride (coco alkyl dimethyl benzyl ammonium chloride)
Quaternary ammonium compounds, benzl hydrogenated tallow alkyl dimethyl, chloridess compounds with Bentonite
Quaternary ammonium compounds, benzyl C12-16 alkyl dimethyl chlorides
Quaternary ammonium compounds, benzylbis(hydrogenated tallow alkyl) methyl, chlorides, compounds with bentonite
Quaternary ammonium compounds, benzyl-C10-21-alkyldimethyl, chlorides
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides
Silicone fluid (fluorosilicon polymers) component B-53,000-59,000
Silicone fluid (fluorosilicone polymers) (component A-4600)
Sodium dodecylbenzene sulphonate
Sodium mercaptobenzotriazole
Sodium tolutriazole
Sorbitan stearate
sulfonated organic polymer
Sulphonated sodium polyacrylate copolymer
Sulphurous acid, monosodium salt polymer with formaldehyde and acetone
Tall oil diethylene triamine imidazoline acetates

Substitution Component
Tall oil fatty acid/triethylenetriamine imidazoline reaction product with acrylic acid
Tall oil polybasic acid
Tetramethylol acetylene diurea
Thiourea/formaldehyde polymer
Trifluoropropylmethyl siloxane
Triisodecyl benzene 1,2,4 tricarboxylate
Triphenyl phosphorothionate
Trisodium nitrilotriacetate

Appendix 3

Candidates for substitution that have not been phased out:

Substitution Component
(C1) Polymer
(C25P1)
(C5P2)Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides
(C9)
1,2-Ethanediamine, N-(2-aminoethyl)-, ethoxylated propoxylated
1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-,polymer with oxirane
1-Decene, homopolymer, hydrogenated
1H-Benzotriazole, 4(or 5)-methyl-
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-C8-22 acyl derivs., hydroxides, inner salts
2-(2-Aminoethoxy)ethanol
2,5-Furandione, 3-(hexadecenyl)dihydro-
2-phosphino-1,2,4 butane tricarboxylic acid sodium salt
2-Propanol, 1-(2-butoxy-1-methylethoxy)-
2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with 1-ethenyl-4-methylbenzene, 2-ethylhexyl 2-propenoate and 2-methylpropyl 2-methyl-2-propenoate
2-Propenoic acid, 2-methyl-, telomer with 2-propenio acid and sodium hydrogen sulfite, sodium salt (9Cl) (C4H6O2.C3H4O2)x.H2O3S.xNa)
2-Propenoic acid, homopolymer, sodium salt
2-Propenoic acid, homopolymer-, sodium salt
3-[(2-Aminoethyl)amino]propionitrile polymer
4-(Trifluoromethyl) benzoic acid
4-Nonylphenol formaldehyde resin ethyleneoxide condensate
5-Chloro-2-methyl-3(2H)-Isothiazolone and 2-methyl-3(2H)-isothiazolone methyl-3(2H)-isothiazolone
6,6,6-(1,3,5-triazine-2,4,6-triiyltriimino) trishexanoic acid

Substitution Component
acrylamide/tertiarybutylacrylate copolymer
Acrylamido Methyl Propane Sulphonic acid / Alkyl acrylamide copolymer
Acrylic resin
Acylated condensed alkanolamines
Alkyl pyridine quaternary ammonium salt
Alkyl tetrahydro imidazoline ethoxylate (C7P1)
Alkylaryl sulphonate
Alkylene oxide Block Polymer (DP 318)
Amine Treated Lignite
Amines, coco alkyl, acetates
Amines, N-coco alkyltrimethylene di, acetates
Amines, N-coco alkyltrimethylenedi-, acetates
Amines, polyethylenepoly-, triethylenetetramine fraction
Amino based fatty acids
Ammonium AHPS VIMA Acrylamide Terpolymer
Anhydride Polyamine reaction product
Aromatic solvent containing 93.5% solvent naphta and 6.5% 1,2,4-Trimethylbenzene
Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs
Benzenesulfonic acid, C10-16-alkyl derivatives with impurities (C27P1)
Benzenesulfonic acid, dodecyl-, branched, calcium salts
Bis alkenyl succinimide derivative
Butanedioic acid, methylene-, polymer with 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propane sulphonic
C11 Alcohol ethoxylate (3 mole EO)
C11 Alcohol ethoxylate (7 mole EO)
C11-C14 Ethoxylated branched alcohols (C13 rich), sulphated, sodium salt

Substitution Component
C11-C15 H23-31 O[CH2CH2O]7 H - Secondary Alcohol ethoxylate
C16-C20 saturated & unsaturated methyl acid esters
C9-C11 alcohol ethoxylate (5 mole EO)
C9-C11 Fatty alcohol ethoxylate (4 mole EO)
C9-C11 Primary alcohol ethoxylate
Calcium Dinonylnaphthalenesulfate
Castor oil, hydrogenated
Cocoalkyldimethyl benzyl ammonium chloride
Cocoamido propyl betaine
Cocobetaine
Copolymer of acrylic acid and mono-/diacrylate ester derived from mixed ethylene oxide/propylene oxide block copolymer
Copolymer of ethylene oxide and propylene oxide (50/50 w/w mix) initiated using 1,4-butanediol (XZ96120)
Copolymer of Sodium AMPS, n-vinyl pyrrolidine
Copolymer of styrene-divinyl benzene
DGA phosphonate [(PO(OH)2CH2)2NC2H4OC2H4OH]
D-glucopyranose oligomers, monosulfosuccinate coc alkyl glycosides, sodium salts
D-Glucopyranose, oligomeric, C10-16-alkyl glycosides
Di-(2-EthylHexyl) sodium sulphosuccinate 66% & Monopropylene glycol 13% & water 21%
Diamine/Triamine ethoxylate (4305)
Diethylamine
Diethylene triamine pentaacetic acid
Diethylenetriamine penta(methylene phosphonic acid), sodium salt (32%)
Diethylenetriamine pentaacetic acid (DTPA) {N,N-bis[2-(bis[Carboxymethyl]amino)ethyl]-glycine;Pentetic Acid}

Substitution Component
Dihydrogenated Tallow dimethyl ammonium chloride
Dimethylamine epichlorohydrin ammonia terpolymer
Dimethylamine epichlorohydrin ethylene diamine polymer
Dimethylcocobenzalkonium chloride
Dipentene-rich turpentine oil
Distillates (petroleum), hydrotreated heavy paraffinic
Edetate dipotassium anhydrous
Ethoxylated Coco Fatty Acid
Ethylene Dichloride-ammonia polymer, Reaction product with carbon disulphide and sodium hydroxide
Ethylene oxide / Propylene oxide copolymer
Ethylene oxide adduct of a fatty amine (Ethoxylated amine) dod. 4305-1
Fatty acid amide
Fatty acids, C16-18 & C18 unsatd. methyl esters
Fatty acids, C18-unsatd, dimers (C20P1)
Fatty acids, coco, reaction products with ethanolamine
Fatty acids, tall-oil, polymers with diethylenetriamine and fumaric acid
Fatty acids, tall-oil, reaction products with tetraethylenepentamine
Fatty acids,tall-oil, compds. with polyethylenepolamine-tall-oil fatty acid reaction products.
Fatty acids; Tall oil reaction products with diethylenetriamine
Fatty alcohol polyglycolether (2-5 mole EO)
Fatty alkyl amidopropyl betaine
Flouro propyl silicone
Fluorescein sodium
fluorescein, dipotassium salt
Fluorescent Yellow 131SC 40% in Petroleum distillates, hydrotreated light napthenic

Substitution Component
Formaldehyde, polymer with 4-(1,1-dimethylethyl)phenol, dinonylphenol, nonylphenol and oxirane
Glycine N, N, -bis{2 -[bis (carboxymethyl) amino] ethyl} penta potassium salt
Grafted Humic Acid/2-Acrylamido-2-methyl propane Sulphonic Acid
HCl Neutralised Poly (oxy(methyl-1,2-ethanediyl)), alpha-(2-aminomethylethyl)omega-(2-aminomethylethoxy)
Hexadecanoic acid, 2-sulfo-, 1-methyl ester, sodium salt
Hydro-w-hydroxypoly[oxy(methyl-1,2-ethanediyl)]
Hydroxyethyl cellulose vinyl phosphonic acid
Imidazoline derivative,
Imidazolium compounds, 1-(2-(2-carboxyethoxy)ethyl)-1(or 3)-(2-carboxyethyl)-4,5-dihydro-2-norcoco alkyl, hydroxides, disodium salts
Isopropylamine salt of DDBSA
Maleated tall oil
Maleinised Fatty Acid
Methyl oxirane polymer with oxirane
Methylstyrene/acrylate copolymer (pre-cross-linked)
Mono alkyl and G alkyl phosphoric acid G alkyl amine salt
Monoethanolamine phosphonate
Monoethanolamine phosphonate (C16P2)
Morpholine process residuum from the reaction of diethylene glycol and ammonia consisting predominantly of [(aminoethoxy)ethyl] morpholine, 3-morpholinone and 4,4'-(oxydi-2,1-ethanediyl)bis[morpholine]
n-benzyl-alkylpyridinium chloride
Nonanoic acid, 2-ethyl-2-(((1-oxononyl)oxy)methyl)-1,3-propanediyl ester
Nonyl and butyl phenol and paraformaldehyde reacted (catalysed with Sodium hydroxide), ethoxylated (1.6 mole EO)
Nonyl and butyl phenol formaldehyde resins (base catalysed with NaOH), ethoxylated

Substitution Component
n-tallow alkyl-1,3-propylenediamine
n-tallow-1,3-diamino-propane
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate
Organically modified Hectorite clay
Oxidised tall oil
Oxylated diethylenetriamine
Paraffin wax
Pentafluorobenzoic acid
Phenol polymer 2.823-4.704% with formaldehyde 0.168-0.280% and phenol 0.009-0.016% formaldehyde
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane and methyloxirane
Phosphonomethylated polyamine salts
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts
Poly (olefin ester) - (C41P1)
Poly(oxy-1,2-ethanediol)-alpha,-hydro-.omega.-hydroxy, mono-C10-16 alkylethers, phosphates
Poly(oxy-1,2-ethanediyl), alpha-(2-ethylhexyl)-omega-hydroxy-
Poly(oxy-1,2-ethanediyl), alpha-isodecyl-omega-hydroxy-
Poly(oxy-1,2-ethanediyl), alpha-tridecyl-omega-hydroxy-
Poly(oxy-1,2-ethanediyl), alpha-tridecyl-omega-hydroxy- aka (C11P1)
Poly[oxy(methyl-1-2-ethanediyl)],a-hydro-w-hydroxy
Poly-1-decene (C4P1)
Polyacrylic acid (C37P1)
Polyalkylene glycol
Polydimethylsiloxane (surface active)
Polyethoxylated Phenol, Phosphate
Polyethylene

Substitution Component
Polyethylene gylcol 8000
Polyethylene imine
Polyethylene polyamine
Polyolefin amide alkeneamine reacted in aliphatic hydrocarbon solvent
Polyolefin ester in mineral oil (C15P2)
Polyoxyethylene (12eo) tallow diamine
Polypropylene
Polypropylene co-polymer
Polypropylene glycol (MW 400)
Polyquarternary - reaction between 2-vinyl pyridine and styrene copolymer, quaternised with dimethylsulphate.
Polyquaternary amine
Polysulphonic/carboxylic acid solution, sodium salt
Polyvinylpyrrolidone
Pyridium, 1-(phenylmethyl)-,ethyl methyl derivatives, chlorides
quaternary ammonium compounds, benzyl-C10-16-alkyldimethyl chlorides
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl) dimethyl, chloride with bentonite. Contains max 5% crystaline silica impurity.
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with attapulgite
Quaternary ammonium compounds, coco alkylbis(hydroxyethyl)methyl, ethoxylated, chlorides
Reaction product of ethylenediamine with a bisphenol A-epichlorohydrin epoxy resin
Reaction product of polypropylene glycol and maleic anhydride in the presence of dodecylbenzene sulphonic acid
Reaction product of tall oil fatty acid, diethylene triamine and maleic anhydride
Rubber
Silicone fluid, (60,000 cst)

Substitution Component
Siloxanes and Silicones, di-Me, Me trifluoropropyl, hydroxy-terminated
Sodium asphalt sulphonate
Sodium chlorite
Sodium EDTMP
Sodium methyl siliconate
Sodium salt of polyacrylic acid
Styrene-1,3-butadiene copolymer
Tall oil diethylene triamine imidazoline
Tall oil/oleyl diethanolamide
Tertiary Butyl hydroperoxide
Thermoplastic phenol-formaldehyde-type resin
TOFA/DETA amide
TOFA/DETA imidazoline acetate
Triethylenetetramine, ethoxylated & propoxylated (33 mole EO, 79 mole PO)
Triflouropropyl, methyl and dimethyl siloxane copolymer, trimethyl-terminated
Trifluoropropylmethyl siloxane, trimethyl terminated
Trimethylolpropane, propoxylated, ethoxylated (20%)
Trisodium N-hydroxy ethylethylene
Undecyl alcohol ethoxylate (5 moles ethylene oxide)
Undecyl alcohol ethoxylate (7 moles ethylene oxide)
Vinyl acrylate copolymer (pre-crosslinked)
Wattlebark tannin
Zeco North American asphaltum

Format for implementation reports concerning OSPAR Recommendation 2006/3 on Environmental Goals for the Discharge by the Offshore Industry of Chemicals that are, or contain Substances that have been Identified as Candidates for Substitution

(Note: In accordance with paragraph 5.1 of the Recommendation, this format should be used as far as possible in implementation reports)

I. Implementation Report on Compliance

Year of Report:	2011
Country:	**Norway**

Reservation applies	no

Is measure applicable in your country?	yes

If not applicable, then state why not (*e.g.* no relevant uses or discharges of candidates for substitution)

Means of Implementation of the measure in § 3.1 of the Recommendation (phase-out of discharge of candidates for substitution):

by legislation	by administrative action	by negotiated agreement
yes	yes	no

Candidates for substitution that have been substituted	Norwegian legislation includes a general requirement to always choose and use the best environmental available alternative. This is the responsibility of the operator, who according to the regulations has to make annual substitution plans for substitution candidates. Since substitution and choice of chemicals is the responsibility of the operator, the Climate and Pollution Agency (Klif) does not have a complete list of all substituted chemicals. The information can be accessed from the operator's annual reports, but this work would be very time consuming and we do not have the opportunity to perform this task now. In 1997 the Norwegian Government developed specific national goals for the phase out of possible hazardous chemicals discharged by the offshore industry. The "Zero Discharge Policy" included a goal for the cessation of discharge of hazardous chemicals before 31st of December 2005. The Zero Discharge Policy was further developed in a White Paper from 2003 where it was specified that there should be no discharge of chemicals identified as substitution candidates (Norwegian red category) or chemicals listed for priority action, (including substances defined within the Norwegian black category) after 2005. Discharge of such chemicals/substances should only be permitted if there was no available alternative that satisfied technical and safety requirements. The discharge of substitution candidates has been reduced by more than 99 % in the period 1997-2011. According to national regulations, red and black category substances are only permitted if no alternatives (technical/safety) are available. The operators need a permid to use and discharge these chemicals.
Candidates for substitution where the relevant regulatory authority is satisfied that there is currently no suitable alternative, including justification	The Norwegian operators are required to report yearly their substitution plans, the reasons why they still have to use and discharge substances in red or black category, and when they plan to phase it out. The report usually contains the name of the replacement chemical if relevant. Klif will also require that the operators justify that there are no suitable alternatives when they apply for discharge permits. Please refer to Table 1 for candidates for substitution still in use. As the Norwegian authorities do not authorize and approve offshore chemicals, this list includes all substitution candidates, and whether or not suitable alternatives exist has not been subject to any approval/authorization process.

Measures taken to reduce use or discharge of chemicals with no suitable alternative	Operators' responsibility to choose as environmentally friendly chemicals as possible, according to national regulations, and to reduce their discharges as much as possible. This is followed up by Klif through auditing and the operators' annual reports, and their justification for technical/safety needs when submitting applications for discharge permits is subject to evaluation by Klif.

Please provide information on:

a. specific measures taken to give effect to this measure;

b. any special difficulties encountered, such as practical or legal problems, in the implementation of this measure;

c. any reasons for not having fully implemented this measure should be spelt out clearly and plans for full implementation should be reported.

Please provide information on:

a. any programme of review of authorisations for the discharge of candidates for substitution, and the progress of such reviews;

b. where the phasing-out of such offshore chemicals is being achieved in some other way, the nature of those other means, and the progress with them.

Table 1: Inventory for the Development of OSPAR List of Candidates for Substitution

OSPAR Country: Norway

No	Substance	Cas number	OSPAR LCPA list	2 out of 3 criteria	Specify relevant 2 out of 3 criteria			Inorganic and LC50 or EC50<1 mg/l	Biodeg <20 % in 28 days	Alternative chemical or technique available
					Bio-degradation	Bioaccumulation	toxicity			
1	Metallic Lead Powder	7439-92-1	yes							
2	Di-2 ethylhexyl phthalate		yes							
3	2,6-bis(1,1-dimethylethyl)-4-methyl phenol	128-37-0		yes	x	x				
4	Triisidecyl Benzene 1,2,4 tricarboxylate	36631-30-8		yes	x	x				
5	Triphenyl phosphorothionate	597-82-0		yes	x	x				
6	Solvent Refined Light Naphthenic Petroleum Distillate	64741-97-5		yes	x	x				
7	Highly refined mineral oil	64742-53-6		yes	x	x				
8	Petroleum destillates, hydrogen treated, light paraffinic; base oil - unspecified	64742-55-8		yes	x	x				
9	N-(p-tert octylphenyl)-1-naphthylamine	68259-36-9		yes	x	x				
10	Alkyl diphenylamine	68411-46-1		yes	x	x				
11	Zinc dialkyldithiophosphates	68649-42-3		yes	x	x				
12	Substance *			yes	x	x				
13	Triphenylthiophosphate and tertiary			yes	x	x				

No	Substance	Cas number	OSPAR LCPA list	2 out of 3 criteria	Specify relevant 2 out of 3 criteria			Inorganic and LC50 or EC50<1 mg/l	Biodeg <20 % in 28 days	Alternative chemical or technique available
					Bio-degradation	Bioaccumulation	toxicity			
	butylated phenyl derivatives									
14	Substance **			yes	x	x				
15	Triphenyl phosphorothionate			yes	x	x				
16	Other additives			yes	x	x				
17	Amines, C11-14 branched alkyl, monohexyl and dihexyl phosphates	080939-62-4		yes	x		x			
18	Polyfluoralkyl betaine	161278-39-3		yes	x		x			
19	Alkyl-benzyl-dimethylammoniumklorid	63449-41-2		yes	x		x			
20	Molybdenum salt of a phosphate ester	72030-25-2		yes	x		x			
21	Mixture of long chain alkenyl acid and long chain alkenyl acid alkyl ester in mineral oil	52305-09-6		yes	x		x			
22	Aminetoksylat			yes	x		x			
23	Substance ***	244-501-4		yes	x	x	x			
24	1,2-Benzisothiazol-3(2H)-one	2634-33-5		yes	x		x			
25	Amine ethoxilate	26635-93-8		yes	x		x			
26	Calcium Dinonylnaphthalenesulfonate	57855-77-3		yes	x		x			
27	Ethoxylated amine	61791-14-8		yes	x		x			

No	Substance	Cas number	OSPAR LCPA list	2 out of 3 criteria	Specify relevant 2 out of 3 criteria			Inorganic and LC50 or EC50<1 mg/l	Biodeg <20 % in 28 days	Alternative chemical or technique available
					Bio-degradation	Bioaccumulation	toxicity			
28	Distillates(petroleum), solvent-refined heavy paraffinic	64741-88-4		yes	x	x				
29	Highly refined mineral (lubricating) oil	64742-65-0		yes	x	x				
30	Solvent Naptha (petroleum) heavy aromatic	64742-94-5		yes	x	x				
31	Alcohol alkoxylate	68002-96-0		yes		x	x			
32	Vegetable oil	68439-93-0		yes	x	x				
33	Highly refined white oil	8042-47-5		yes	x		x			
34	Dodecyl benzene sulphonic acid	85117-49-3		yes	x	x	x			
35	2,6-Di-tert-butyl-dimethylamino-p-cresol	88-27-7		yes	x	x	x			
36	Fatty acid amine condensate	N/A		yes	x	x	x			
37	Proprietary organosiloxane preparation	N/A		yes	x		x			
38	Fatty acid amine condensate	N/A		yes	x	x	x			
39	Triarylphosphate isopropylated			yes		x	x			
40	Block polymer			yes	x	x				
41	Aromatic solvent			yes	x		x			
42	Polyisobutylene / Distillates (petroleum), solventrefined heavy paraffinic mixture			yes	x	x				

No	Substance	Cas number	OSPAR LCPA list	2 out of 3 criteria	Specify relevant 2 out of 3 criteria			Inorganic and LC50 or EC50<1 mg/l	Biodeg <20 % in 28 days	Alternative chemical or technique available
					Bio-degradation	Bioaccumulation	toxicity			
43	Quaternary compound			yes	No data					
44	Proprietary organosiloxane preparation			yes	x		x			
45	Ester/amide/carboxylate and an amine			yes	x	x	x			
46	Mineral oil			yes	x	x				
47	methacrylate copolymer in mineral oil			yes	No data					
48	Ester/amide/carboxylate and an amine			yes	x	x	x			
49	Metallic Copper	7440-50-8						yes		
50	Triethanolamine	102-71-6							yes	
51	2,3,4,5-tetrafluoro benzoic acid	1201-31-6							yes	
52	2,4-difluorobenzoic acid	1583-58-0							yes	
53	Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	2082-79-3							yes	
54	Poly[oxy(methyl-1,2-ethanediyl)], a-hydro-w-hydroxy	25322-69-4							yes	
55	2,5-difluoro benzoic acid	2991-28-8							yes	
56	Propyl sodium sulphonated polymer	33968-97-7							yes	

No	Substance	Cas number	OSPAR LCPA list	2 out of 3 criteria	Specify relevant 2 out of 3 criteria			Inorganic and LC50 or EC50<1 mg/l	Biodeg <20 % in 28 days	Alternative chemical or technique available
					Bio-degradation	Bioaccumulation	toxicity			
57	Dipropylenglykolmethyleter	34590-94-8							yes	
58	2,6-difluorobenzoic acid	385-00-2							yes	
59	2-trifluoromethyl benzoic acid	433-97-6							yes	
60	2,4,5-Trifluorobenzoic acid	446-17-3							yes	
61	3,5-difluoro benzoic acid	455-40-3							yes	
62	Fluorescein Dye	518-47-8							yes	
63	Carbopol 940 / 2-propenoic acid, homopolymer, compound with 2,2',2''-nitrilotris[ethanol]	52880-57-6							yes	
64	Tripropylene glycol n-butylether, TPnB	55934-93-5							yes	
65	2,3,4-trifluoro benzoic acid	61079-72-9							yes	
66	Modified polycarboxylate ether	629614-80-8							yes	
67	Polydimethyl siloxan (PDMS)	63148-62-9							yes	
68	Butyl sodium sulphonated polymer	72361-57-0							yes	
69	Lubricating Grease (petroleum base)	74869-21-9							yes	
70	Aluminium Complex Lubricating Grease	74869-21-9							yes	
71	7-Amino-1,3-naphthalenedisulfonic acid monopotassium salt	842-15-9							yes	

No	Substance	Cas number	OSPAR LCPA list	2 out of 3 criteria	Specify relevant 2 out of 3 criteria			Inorganic and LC50 or EC50<1 mg/l	Biodeg <20 % in 28 days	Alternative chemical or technique available
					Bio-degradation	Bioaccumulation	toxicity			
72	Poly tetra fluoroethylene	9002-84-0							yes	
73	Hydroxyl Terminated Poly (oxyalkylene) Complex Polyether	9082-00-2							yes	
74	Benzotriazole	95-14-7							yes	
75	Tetramethyl-5-decyne-4,7-diol, 2,4,7,9	N/A							yes	
76	Oxyalkylated polymer	N/A							yes	
77	Proprietary organosiloxane preparation	N/A							yes	
78	Acryl copolymer	N/A							yes	
79	Glycol ether	N/A							yes	
80	Alkylene glycol	N/A							yes	
81	Ethylvinyl acetate polymer								yes	
82	Silicate Stabilizer								yes	
83	Esterpolyol								yes	
84	Polymer								yes	
85	Aminopolyol								yes	
86	Polydimetylsiloxane								yes	
87	Modified Polyacrylate								yes	
88	PDMS (Polydimethyl siloxane)								yes	

No	Substance	Cas number	OSPAR LCPA list	2 out of 3 criteria	Specify relevant 2 out of 3 criteria			Inorganic and LC50 or EC50<1 mg/l	Biodeg <20 % in 28 days	Alternative chemical or technique available
					Bio-degradation	Bioaccumulation	toxicity			
89	Fluorosilicone								yes	
90	Ethyl vinyl acetate polymer								yes	
91	Acrylate polymer								yes	
92	Organosiloxane preparation								yes	
93	Polyol								yes	
94	Modified EO/PO block co-polymer								yes	
95	Polymeric alkoxylate								yes	
96	Polymerised polyol								yes	
97	Alkoxylate quaternary polyamine								yes	
98	Inorganic polyphosphate								yes	
99	PDMS (Polydimethyl siloxane)								yes	
100	Polymeric alkoxylate								yes	
101	Alkoxylate quaternary polyamine								yes	
102	Polyolester								yes	
103	Polyglycol block polymer								yes	
104	Amine Phosphonate								yes	

*Name of substance could not be found, the operator has only stated a commercial name, this is not reported due to confidentiality

Format for implementation reports concerning OSPAR Recommendation 2006/3 on Environmental Goals for the Discharge by the Offshore Industry of Chemicals that are, or contain Substances that have been Identified as Candidates for Substitution

(Note: In accordance with paragraph 5.1 of the Recommendation, this format should be used as far as possible in implementation reports)

I. Implementation Report on Compliance

Year of Report:	2013
Country:	**Ireland**

Reservation applies	No

Is measure applicable in your country?	Yes

If not applicable, then state why not (*e.g.* no relevant uses or discharges of candidates for substitution)

Means of Implementation of the measure in § 3.1 of the Recommendation (phase-out of discharge of candidates for substitution):	by legislation	by administrative action	by negotiated agreement
	No	Yes	No

Candidates for substitution that have been substituted	The system used in Ireland aims to use the least environmentally harmful product, when feasible alternatives exists. Discharges of several substances have been phased out including: Metallic lead powder Metallic zinc powder Metallic copper powder

Candidates for substitution where the relevant regulatory authority is satisfied that there is currently no suitable alternative, including justification	• Many oil based drilling fluid additives with no planned discharges. • Some thread-locking compounds. Method statement provided to prevent discharge or hold to absolute minimum. • Some cement additives that will be bonded in the cement matrix and not bio-available when rinse water is discarded.
Measures taken to reduce use or discharge of chemicals with no suitable alternative	• The measure is addressed on a case by case basis with Operators proposing discharge of substances identified as candidates for substitution. Operator provides method statement to minimise use or discharge of chemical, including *e.g.* making rig crew aware of the situation.

Please provide information on:

a. specific measures taken to give effect to this measure;

- Each application for chemical use and discharge is reviewed.
- Substances identified for substitution and substances giving high risk or hazard quotients are further investigated and alternatives discussed with Supplier and Operator.
- If suitable alternative is available, then Operator is requested to use it.
- If technical reason why this is unsuitable, then adequate justification must be provided.
- Operators must endeavour to replace chemicals planned for discharge, which have been identified as OSPAR candidates for substitution.

b. any special difficulties encountered, such as practical or legal problems, in the implementation of this measure;

c. any reasons for not having fully implemented this measure should be spelt out clearly and plans for full implementation should be reported.

Please provide information on:

a. any programme of review of authorisations for the discharge of candidates for substitution, and the progress of such reviews;

b. where the phasing-out of such offshore chemicals is being achieved in some other way, the nature of those other means, and the progress with them.

Format for implementation reports concerning OSPAR Recommendation 2006/3 on Environmental Goals for the Discharge by the Offshore Industry of Chemicals that are, or contain Substances that have been Identified as Candidates for Substitution

(Note: In accordance with paragraph 5.1 of the Recommendation, this format should be used as far as possible in implementation reports)

I. Implementation Report on Compliance

Year of Report:	2013
Country:	**Denmark**

Reservation applies	No

Is measure applicable in your country?	Yes

If not applicable, then state why not (*e.g.* no relevant uses or discharges of candidates for substitution)

Means of Implementation of the measure in § 3.1 of the Recommendation (phase-out of discharge of candidates for substitution):	by legislation	by administrative action	by negotiated agreement
	No	Yes	Yes

Candidates for substitution that have been substituted	All candidates for substitution to be discharged have been substituted from 1st January 2013.

Candidates for substitution where the relevant regulatory authority is satisfied that there is currently no suitable alternative, including justification	None. But in some cases (see below) there is doubt whether a preparation is substitution candidate or not according to the guidelines for the HOCNF (OSPAR Agreement 2012-05), especially related to point 34 about inseparable mixtures.

Measures taken to reduce use or discharge of chemicals with no suitable alternative	Se below

a. Specific measures taken to give effect to this measure

- December 2005 Denmark set up a national offshore action plan (a voluntary agreement between the Minister for the Environment and the Danish operators) which for the substitution candidates ("red" chemicals) said:

  "*Operators must continue the process of substituting chemicals so that discharges of "red" chemicals cease no later than by the end of 2008, where it is realistically possible ("Best Available Technique"), and where use of alternative chemicals will be an overall environmental advantage*"

- Since 2006 the Danish Minister for the Environment has yearly provided a status report for the Danish Parliament of the progress of the national offshore action plan.

- In the past Danish EPA has yearly asked the operators to ask their suppliers to demonstrate which "considerable efforts" have been done to phase out the remaining substitution candidates.

- The calling in for new applications for discharge of offshore chemicals for 2013 showed that none of the Danish operators in their applications had asked for discharge of red chemicals (some had done so for the use of red chemicals). According to this Danish EPA has in the new permissions for 2013 stated that discharge of red chemicals and potential red chemicals[2] is not allowed unless it can be proved by a method agreed with the Danish EPA that discharge of that red chemical besides being the best solution due to technical and safety reasons, also will be the environmentally best solution and describing which alternatives have been evaluated.

b. Any special difficulties encountered, such as practical or legal problems, in the implementation of this measure

Especially in the last one or two years we have seen increasing problems with the registration and evaluation of a group of chemicals where there is doubt whether the preparation is a substitution candidate or not according to the guidelines for the HOCNF (OSPAR Agreement 2012-05), especially related to point 34 about inseparable mixtures.

Since 2007 only data for toxicity on substance by substance level have been accepted according to "Further Guidance on the Assessment of the Toxicity of Substances under the Harmonised Pre-Screening Scheme of OSPAR Recommendation 2000/4 (Reference number: 2002-4)" point 3.

But according to what we are told by the suppliers for these "inseparable mixtures" (ISM) it seems that some other contracting parties accept that they are evaluated for groups of substances as a whole.

In Denmark out of about 400 preparations used by the operators we have 5-10 preparations in this category. But for much more preparations the suppliers want to get their preparations registered without tests done by the substance by substance principle.

Attached the problem is illustrated.

[2] Potential red chemicals are chemicals for which it is not in an acceptable way proved that they are not red chemicals.

According to correspondence with Norway the problem seems to be concentrated about the following groups of chemicals:

- Polymers
- Plastic products hardening in the well
- Greasefractions
- Additives for chemicals in closed systems

An administrative solution could be to demand these preparations to be registered in REACH as an "inseparable mixture". For one of the preparations this solution has been used in Denmark.

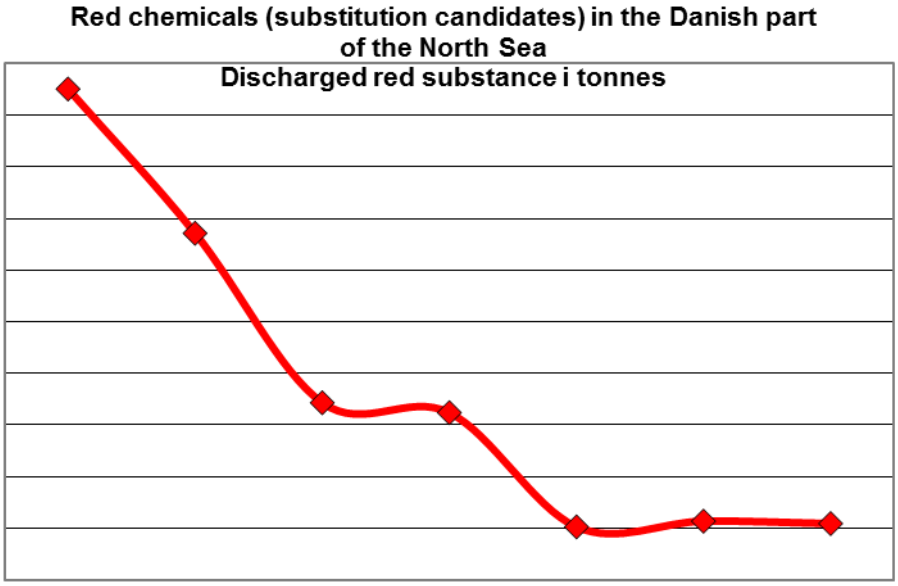
c. Any reasons for not having fully implemented this measure should be spelt out clearly and plans for full implementation should be reported

None

Please provide information on:

a. Any programme of review of authorisations for the discharge of candidates for substitution, and the progress of such reviews

See above.



b. Where the phasing-out of such offshore chemicals is being achieved in some other way, the nature of those other means, and the progress with them.

Danish EPA has not set up a list of substitution candidates which should be phased out.

Instead, Danish EPA has since 2011 set up a list of accepted green and yellow chemicals (preparations) and made it easier for the operators to choose among these chemicals.

In relation to OSPAR recommendation 2010/4 about Pre-screening green chemicals are the groups ending in A. Permission ("PLONOR" and "Inorganic and LC50 not < 1 mg/l") and yellow chemicals are "Ranking".

Since the autumn 2011 where two of the Danish operators announced a calling in for new chemicals there has been an overwhelming interest from the suppliers to get their preparations on these lists.

But it has always been the policy of the Danish EPA only to evaluate and accept the "colour-setting" of chemicals applied for by the Danish operators for discharge to the sea.

According to the HMCS of OSPAR all chemicals can be registered in the Danish Product Register, but since 2000 there have been registered three times as much preparations compared to the number in fact used by the Danish operators.

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