

**Review Statement for  
the OSPAR Background Document on  
mercury and organic mercury compounds**

### **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

OSPAR Background Documents are periodically reviewed and revised as necessary to take account of the latest information so that any additional risks to the marine environment can be highlighted, and additional measures and controls can be acknowledged.

In cases where a revision was not advised, a Review Statement supplementing the Background Document is prepared by lead countries, highlighting new developments since the adoption of the Background Document. The Review Statement will be updated, as appropriate, with information on progress on actions agreed in Background Documents.

The OSPAR Background Document on mercury and organic mercury compounds was first published in 2000 and updated in 2004 with a monitoring strategy for mercury (OSPAR Publication number 100/2000). Following a review by the OSPAR Hazardous Substances Committee in 2009, this Review Statement, prepared by the United Kingdom who is the lead country for this chemical, was adopted.

## 2. EU mercury strategy

Following an invitation from the Environment Council, the European Commission adopted on 28 January 2005 a Community Strategy Concerning Mercury (EU Communication COM(2005) 20) and accompanying Extended Impact Assessment (SEC (2005)101). The EU strategy is intended to protect human health and the environment from all releases of mercury and was endorsed by the Council at its meeting on 24 June 2005. The EU strategy proposes 20 actions to reduce emissions and supply and demand, address surpluses and reservoirs, protect against exposure, improve understanding, and support international action.

### **Mercury in measuring devices.**

The EU strategy contains a commitment to restrict the marketing for consumer use and health care of non-electrical or electronic measuring and control equipment containing mercury, as these fall outside the scope of Directive 2002/95/EC which restricts the use of certain hazardous substances in electrical and electronic equipment (RoHS Directive).

It is estimated that 80 – 90% of all mercury used in measuring and control devices in the EU is employed in clinical (fever) thermometers and other thermometers for household use. The quantities of mercury involved remain significant, some 33 tonnes per year in the EU with around 25 – 30 tonnes entering the mercury cycle via thermometers alone. Emissions have reduced as more of this equipment is collected and the mercury recovered, but they may still be significant. It was recently estimated that some 8 tonnes of mercury were emitted to air from 33 tonnes of mercury per year in new measuring and control equipment. In addition, around 27 tonnes enter waste streams from old equipment. Many domestic products will end up in landfill with the potential for slow, but long-term, leaching. These may also be subject to spillages following breakage, with ensuing potential for exposure, especially in the home; liquid (elemental) mercury vaporizes quickly at room temperature and can be absorbed via the lungs.

The European Commission therefore presented proposals for restrictions on the marketing of certain measuring devices containing mercury, under the Marketing and Use Directive (76/769/EEC).

Following discussions between the European Commission, Member States and the European Parliament, a revised draft of the European Commission's proposals was agreed by the European Council and published in the Official Journal on 25 September 2007.

The new restrictions prohibit the placing on the market of mercury in all clinical thermometers and other, new, measuring devices containing mercury (e.g. barometers and thermometers) to the general public. There is a derogation for barometers until 3 October 2009, to allow industry time to adjust, with an outright derogation for all mercury-containing instruments over 50 years old on the 3 October 2007. Specialist medical, scientific and industrial applications are also excluded, but subject to review by 3 October 2009.

### **The export of mercury from the European Union**

Despite declining use, mercury still has several applications, including in the chlor-alkali sector. This industry is a large user of mercury and produces caustic soda and chlorine for, amongst other applications, use in the food industry, textile production, cleaning agents, water treatment and pharmaceuticals, as well as intermediates in manufacturing other substances.

As a consequence of the Integrated Pollution Prevention and Control (IPPC) Directive (2008/1/EC), the industry has to convert to mercury-free technology and this is expected to release 12 – 15 000 tonnes of mercury in coming years. This surplus could be re-sold to the only mercury mine in Europe (in Spain) for placing on the market in lieu of new production. However, as a pro-active contribution to a projected global effort to phase out primary production of mercury and stop surpluses re-entering the market, the Strategy proposed to phase out the export of mercury from the EU by 2011 and, in 2007, the European Commission presented proposals to achieve this.

Following a protracted debate and a second reading agreement with the European Parliament, the European Commission's revised proposals were agreed by the European Council in 2008. The essential elements of the new Regulation (Regulation (EC) No 1102/2008) are:

- From 15 March 2011, the export of metallic mercury, cinnabar ore, mercury (I) chloride, mercury (II) oxide, and mixtures of metallic mercury with other substances, including alloys of mercury, with a mercury concentration of at least 95% weight by weight from the EU will be prohibited;
- Surplus mercury in the EU should then be disposed of in a way that is safe for human health and the environment.

The European Commission is required, by 1 January 2010, to examine:

- a. extending the export ban to other mercury compounds, mixtures with a lower mercury content and products containing mercury, in particular thermometers, barometers and sphygmomanometers;
- b. an import ban of metallic mercury, mercury compounds and products containing mercury;
- c. extending the storage obligation to metallic mercury from other sources;
- d. time limits concerning temporary storage of metallic mercury;
- e. research on safe disposal options.

### **Review of continued mercury use in products and applications**

In its continued implementation of the EU mercury strategy, the Commission recently commissioned a study 'Options for reducing mercury use in products and applications and the fate of mercury already circulating in society'.

The main conclusions of the report were that there is a sound basis for concluding that dental amalgam and thermometers should be seriously considered for further restrictions, while measures to reduce the mercury input due to sphygmomanometers, barometers and PU elastomers may be put forward as soon as possible without major impacts on manufacturers and users.

With respect to dental amalgams, obligatory installation of high efficiency filters in dental clinics is a very cost-effective measure for reducing mercury releases to the waste water systems and may be put forward as soon as possible.

The Commission is currently considering whether to bring out concrete proposals from the report's recommendations. The final report is available at: <http://ec.europa.eu/environment/chemicals/mercury/>

### 3. UNEP action on mercury

On 20 February 2009, a global initiative on mercury was agreed by environment ministers at the end of the UN Environment Programme's (UNEP) Governing Council. The landmark decision was taken by over 140 countries. Governments unanimously decided to launch negotiations on an international mercury treaty to deal with worldwide emissions and discharges of mercury. They also agreed that the risk to human health and the environment was so significant that accelerated action under a voluntary Global Mercury Partnership is needed whilst the treaty is being finalised. The treaty will be a free-standing convention by 2013.

### 4. General ban on mercury in products in Sweden, Denmark and Norway

Over the last couple of years, Norway (1 January 2008), Sweden (1 January 2009) and Denmark have introduced a general ban on use of mercury in products. In Norway the ban includes use of new amalgam. There are exemptions for special patient groups until end of 2010. However, in Sweden derogation may be granted until 31 December 2011 in the exceptional case and only in hospitals and for adults.

### 5. Mercury discharges, emissions and losses and environmental concentrations

Recent OSPAR assessments indicate that, in 2005, air emissions of mercury in the OSPAR area were still significant (around 40 tonnes) and have remained relatively constant in recent years.<sup>1</sup> Riverine input loads have significantly decreased since 1990 with reductions in inputs of mercury from Rhine and Meuse reaching 70%.<sup>2</sup> Trends for marine concentrations of mercury are generally consistent with the downward trends seen in waterborne inputs.<sup>3</sup> However, much of the reduction in environmental concentrations occurred before 2000, since when changes have been relatively small as concentrations approach, but do not reach, background levels. There are large parts of the OSPAR Convention area where concentrations of mercury in marine sediments, fish and shellfish do not

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<sup>1</sup> Trends in atmospheric concentrations and deposition of nitrogen and selected hazardous substances to the OSPAR maritime area in 1990 – 2006. OSPAR Commission, London, 2009. Publication 447/2009.

<sup>2</sup> Trends in waterborne inputs. Assessment of riverine inputs and direct discharges of nutrients and selected hazardous substances to the OSPAR maritime area in 1990 – 2006. OSPAR Commission, London, 2009. Publication 448/2009.

<sup>3</sup> Trends and concentrations in marine sediments. Coordinated Environmental Monitoring Programme: 2008/2009 Assessment of trends and concentrations of selected hazardous substances in sediments and biota. OSPAR Commission, London, 2009. Publication 390/2009.

present a risk, being near or just above background, but in some coastal areas concentrations pose a risk of pollution effects.

## 6. Contribution to the aims and recommendations of the OSPAR Background Document on mercury

OSPAR sent a letter to the European Commission in 2001 recognising that the European Commission was best-placed to take forward some of the recommendations in the Background Document on the control and regulation of mercury. The activities mentioned above show that this request has been honoured through the EU mercury strategy.

The proposals to prohibit the placing on the market of mercury in all clinical thermometers and other, new, measuring devices containing mercury to the general public, and the prohibition from 15 March 2011 of metallic mercury and various salts and alloys and the study on ‘Options for reducing mercury use in products and applications and the fate of mercury already circulating in society’ all contribute to the aims and recommendations in the Background Document and will contribute to OSPAR’s endeavour to make every effort towards the cessation of discharges, emissions and losses of hazardous substances by 2020.