

## Heavy metal—exploring measures to reduce exposure to mercury

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**Environment analysis: The ratification of the Minamata Convention aims to protect health and the environment worldwide from exposure to mercury, but how effective will it be when two key areas of mercury exposure are not subject to a ban? Estelle Dehon, barrister at Cornerstone Barristers, looks at the provisions of the convention.**

### Original news

EU 'green diplomacy' results in global treaty on protection from mercury, [LNB News 19/05/2017 62](#)

The entry into force of a global treaty initiated by the EU, aimed at reducing exposure to mercury, was triggered on 18 May 2017. The European Commission said the ratification of the Minamata Convention on Mercury, which was negotiated and concluded in 2013, confirms Europe's leading role in protecting citizens' health and the global environment.

### Why is exposure to mercury harmful to health?

Mercury is the only metal that is liquid at ambient temperature and is an indestructible chemical element. Mercury and its compounds, such as methylmercury, are highly toxic substances which, if emitted or released into the air, land or water, pose acute risks to humans, ecosystems, wildlife and marine life. High doses can be fatal to humans, but even relatively low doses can have serious adverse neurodevelopmental impacts, as well as harming the lungs and kidneys and the cardiovascular, immune and reproductive systems. Mercury is a persistent pollutant which remains in the environment and builds up over time. It is also a transboundary pollutant, as emissions can travel for thousands of kilometres through air and water from the place where they occur.

The largest source of mercury exposure for most people in developed countries is inhalation of mercury vapour from dental amalgam. Mercury is also used in industrial processes that produce chlorine (mercury chlor-alkali plants) and is contained in products such as electrical switches, light bulbs, cosmetics, measuring and control equipment and batteries. In developing countries, the largest source of exposure to mercury is through its use in small scale gold mining. Exposure to methylmercury mostly occurs via diet. Methylmercury collects and concentrates in the aquatic food chain, making populations with a high intake of fish and seafood particularly vulnerable. Large numbers among Mediterranean fishing communities show bioindicators of exposure well in excess of internationally accepted safe levels for methylmercury.

### What EU legislation exists relating to exposure to mercury?

The EU's policy on mercury is outlined in the Community Strategy for Mercury (COM(2005) 20, 28 January 2005), which lists 20 actions that aim to reduce mercury emissions, cut supply and demand, manage products in use or in storage, protect against exposure, improve understanding about mercury pollution and promote international actions. This resulted in a number of measures, including:

- [Regulation \(EC\) No 1102/2008](#) (22 October 2008) banning exports of mercury and mixtures containing at least 95% mercury from the EU as of 15 March 2011 the Regulation also requires companies collecting mercury waste from de-commissioned chlor-alkali cells, natural gas cleaning or non-ferrous mining and smelting operations to provide the Commission with information on the quantities sent to storage facilities
- [Council Directive 2011/97/EU](#) (5 December 2011) amending the Landfill [Directive 1999/31/EC](#) by imposing specific criteria for the storage of metallic mercury considered as waste
- the inclusion of provisions on mercury emissions in best available technique—conclusions adopted under the Industrial Emissions [Directive 2010/75/EU](#) (24 November 2010)

### Why is an international Treaty needed to reduce exposure to mercury and what events led up to the ratification of the Treaty?

The drivers behind the Minamata Convention on Mercury (the Convention) were essentially twofold. The first driver was the increasing scientific understanding of mercury as a persistent pollutant which travels long distances (hence the need for an international response). The second was the evidence of large-scale public health crises due to mercury poisoning. Of particular importance in this context were the events in Minamata, Japan, after which the international treaty is named—between 1932 and 1968, the Chisso Corporation’s chemical factory released methylmercury in industrial wastewater, which bio-accumulated in shellfish and fish in Minamata Bay and the Shiranui Sea. The result was wide scale mercury poisoning of the local people, giving rise to ‘Minamata Disease’, a neurological syndrome caused by severe mercury poisoning. As of March 2001, 2,265 victims had been officially recognised as having Minamata Disease, 1,784 of whom had died.

The United Nations Environment Programme (UNEP) led an international negotiation process, beginning with a global assessment of mercury and its compounds that produced evidence of significant global adverse impacts from mercury. The UNEP Global Mercury Partnership was established and five intergovernmental negotiating meetings were held, culminating in the adoption of the text of the Convention on 9 October 2013. There are 128 signatories and 56 ratifications, and the Convention will enter into force on 16 August 2017.

The EU signed the Convention in October 2013. There followed a study on EU Implementation of the Convention (March 2015) and a Complementary Assessment of the Mercury Export Ban (June 2015), as well as stakeholder meetings and a public consultation. On 2 February 2016, the Commission adopted a legislative proposal to enable the EU to ratify the Convention—a new Regulation on mercury, repealing and replacing [Regulation \(EC\) 1102/2008](#) and ensuring EU legislation was in line with the Convention. That new Regulation was adopted on 25 April 2017—draft text is available at [COM/2016/039](#). On 11 May 2017, the Council adopted a Decision to conclude the Convention on behalf of the European Union.

## What are the key provisions of the Treaty?

The key provisions of the Convention are aimed at banning, phasing out or controlling various aspects of the use of mercury. The Convention bans primary mining for mercury, so no new mining for mercury can take place and mercury mines already in operation will be banned after 15 years. The Convention also imposes a number of bans on the use of mercury in products, which will take effect in 2020:

- switches and relays containing mercury will be banned
- compact fluorescent bulbs of 30 watts or less will be banned if they exceed five milligrams of mercury
- mercury-containing batteries will be banned (apart from button-cell batteries used in implantable medical devices)
- soaps and cosmetics containing more than one part per million of mercury will be banned (although mascara and other eye-area cosmetics are exempt because of concerns that there are no safe substitutes)
- certain medical and monitoring devices, including barometers, thermometers, hygrometers, manometers and blood pressure monitors, will be banned

Disappointingly, two of the key areas of mercury exposure are not subject to a ban. Dental amalgam is exempt from the 2020 ban. Instead, States are required to ‘phase down’ the use of mercury in dental amalgam by promoting alternatives, creating dental programs to minimise the need for fillings or taking other steps, while there was justified concern that an immediate ban on mercury in dental amalgam would have created significant difficulties, it is unclear why a ban by 2020 (or a later date) would not have been workable.

In relation to the use of mercury in artisanal and small-scale gold mining, the Convention encourages States to reduce or phase out its use, but no targets or dates are included. However, countries where such gold mining takes place must develop and undertake a national action plan (NAP) no later than three years after ratification of the Convention. The NAP is required to cover baseline estimates of mercury use, reductions targets and strategies, and more holistic considerations such as education, health, and professionalising the gold mining sector. Artisanal and small-scale gold mining is a huge rural livelihood provider, employing ten million people worldwide, and the Convention tries to reduce the exposure of vulnerable populations without shutting off an important source of income.

Finally, the Convention requires States to control mercury air emissions from coal-fired power plants, coal-fired industrial boilers, certain non-ferrous metals production operations, waste incineration and cement production. The use of mercury

in manufacturing processes such as chlor-alkali production, vinyl chloride monomer production, and acetaldehyde production must be reduced or phased out.

### What are the next steps?

The Decision to conclude the Convention on behalf of the European Union entered into force on 11 May 2017. The EU is now required to deposit the instrument of ratification with the United Nations—that process will be coordinated through the Maltese Permanent Representation to the United Nations. The new Regulation on mercury will be published in the Official Journal of the European Union and will be applicable from 1 January 2018.

Internationally, the Convention will enter into force on 16 August 2017. The first meeting of the Conference of the Parties to the Minamata Convention (COP1) will take place from 24 to 29 September 2017 in Geneva.

### What impact might Brexit have for the UK?

The UK signed the Convention in its own right on 10 October 2013, but is yet to ratify the Convention in its own right. Given the EU's ratification of the Convention, the UK will also be required to ratify the Convention and follow its own internal procedures to deposit an instrument of ratification with the UN. The new Regulation on mercury will take direct effect in UK law before Brexit, but the government will need to take steps to adopt the new Regulation into UK law, either through the Great Repeal Bill or separately, in order for it to apply after Brexit. The Convention imposes international obligations on the UK which apply regardless of Brexit. It is thus likely that the government will want to adopt measures which closely mirror the new EU Regulation on mercury, particularly as the new Regulation adopts the 'phase-down' approach to dental amalgam, which was promoted by the UK.

*Interviewed by Evelyn Reid.*

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