

FIRST FULL NATIONAL REPORTS OF THE MINAMATA CONVENTION ON MERCURY 2021



* Questions 4.1, 4.2 and Part E of Article 4 amended by France on 29 August 2022

* Question 3.5 and Part E of Article 11 amended by France on 22 December 2022

DISCLAIMER

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REPORTING PERIOD:

16 August 2017 to 31 December 2020

UNOFFICIAL ENGLISH TRANSLATION

Attachments can be found on the website

▼ INFORMATION ON THE PARTY

1. Information on the party

Name of party

France

Date on which its instrument of ratification, accession, approval or acceptance was deposited

June 15, 2017

Date of entry into force of the Convention for the party

September 13, 2017

2. Information on the national focal point

Full name of the institution

Ministry of Ecological Transition

Title of National Focal Point

Mr.

Name of National Focal Point

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3. Information about the contact officer submitting the reporting format if different from the above

Focal Point is submitting the national report

- ☐ Information is submitted by the national focal point
- ☒ Information is submitted through the national focal point by the contact officer

a3_subsection

Full name of the institution

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▼ ART. 3: MERCURY SUPPLY SOURCES AND TRADE

3.1. Does the party have any primary mercury mines that were operating within its territory at the date of entry into force of the Convention for the party?

- ☐ Yes
- ☒ No

Additional information on this question if needed

{Empty}

3.2. Does the party have any primary mercury mines that are now in operation that were not in operation at the time of entry into force of the Convention for the party?

☐ Yes

☒ No

3.3. Has the party endeavored to identify individual stocks of mercury or mercury compounds exceeding 50 metric tons and sources of mercury supply generating stocks exceeding 10 metric tons per year that are located within its territory?

☒ Yes

☐ No

ba34_subsection

*If the party answered Yes to Question 3 above:

i. Please attach the results of your endeavor or indicate where it is available on the internet, unless unchanged from a previous reporting round.

To implement Regulation (EU) 2017/852 of the European Parliament and of the Council of 17 May 2017 relating to mercury, France had to control all industries using large stocks of mercury. In France, it was mainly the chlorinated alkali industry using mercury catalysts, and they had to switch to a new process. These facilities are all classified as "Seveso" in French regulations and are regularly visited by environmental inspectors. Of the last three facilities using mercury, two changed their process and one closed in 2017. The three plants sent the remaining mercury to Batrec in Switzerland, in 2017, 2018 and 2019. The quantities in 2018 and 2019 were less than 50 tons,

In general, the regulations on installations classified for the protection of the environment (ICPE) in France require manufacturers to apply for authorization to store dangerous substances and to report the quantities present on their production sites, including mercury. And it is within the framework of the implementation of these obligations that the State can have visibility on the existing storage facilities. It is therefore not possible for France to set up a census specific to mercury solely to meet the requirements of the Convention.

i. Please attach the results of your endeavor or indicate where it is available on the internet, unless unchanged from a previous reporting round.

{Empty}

ii. Supplemental: Please provide any related information, for example on the use or disposal of mercury from such stocks and sources.

{Empty}

3.4. Does the party have excess mercury available from the decommissioning of chlor-alkali facilities?

☐ Yes

☒ No

3.5. *Has the party received consent, or relied on a general notification of consent, in accordance with article 3, including any required certification from importing non-parties, for all exports of mercury from the party's territory in the reporting period?

- ☐ Yes, export to parts
- ☐ Yes, exports to non-parties
- ☒ No

ba35_subsection

If yes, a. and the party has submitted copies of the consent forms to the secretariat, then no further information is needed.

has. and the party has submitted copies of the consent forms to the secretariat, then no further information is needed.

{Empty}

Otherwise, please provide other suitable information showing that the relevant requirements of paragraph 6 of article 3 have been met.

Supplemental: please provide information on the use of the exported mercury.

Kindly attach all relevant information

b. If exports were based on a general notification in accordance with article 3, paragraph 7, please indicate, if available, the total amount exported and any relevant terms or conditions in the general notification related to use.

{Empty}

Relevant terms or conditions in the general notification related to use

{Empty}

3.6. Has the party allowed the import of mercury from a non-party?

- ☒ No
- ☐ Yes
- ☐ The importing party has related on paragraph 7 of article 3

Part E – Additional comments on the article in free text if the party chooses to do so

The regulations on installations classified for the protection of the environment (ICPE) in France require manufacturers to apply for authorization to store dangerous substances and to report the quantities present on their production sites, including mercury. And it is within the framework of the implementation of these obligations that the State can have visibility on the existing storage facilities. It is therefore not possible for France to set up a census specific to mercury solely to meet the requirements of the Convention.

Proposed reformulation of the question: "Is there a national regulation which makes it possible to know that no individual stock of mercury or mercury compounds of more than 50 metric tons as well as the sources of supply of mercury producing stocks of more than 10 metric tons per year are not present on national territory? »

▼ ART. 4: MERCURY-ADDED PRODUCTS

4.1. Has the party taken any appropriate measures to not allow the manufacture, import or export of mercury-added products listed in Part I of Annex A of the Convention after the phase-out date specified for those products?

- ☒ Yes
- ☐ No
- ☐ Yes (implementing paragraph 2 of article 4)

4.2. If yes (implementing paragraph 2 of article 4):

Has the party reported to the Conference of the Parties at the first opportunity a description of the measures or strategies implemented, including a quantification of the reductions achieved?

- ☐ Yes
- ☐ No

Has the party implemented measures or strategies to reduce the use of mercury in any products listed in Part I of Annex A for which a de minimis value has not yet been obtained?

- ☐ Yes
- ☐ No

If yes, please provide information on the measures.

{Empty}

Has the party considered additional measures to achieve further reductions?

- ☐ Yes
- ☐ No

If yes, please provide information on the measures.

{Empty}

4.3. Has the party taken two or more measures for the mercury-added products listed in Part II of Annex A in accordance with the provisions set out therein?

☒ Yes

☐ No

If yes, please provide information on the measures.

The National Plan for the elimination of the use of dental amalgam containing mercury in France, pursuant to Article 10 of European Regulation (EU) 2017/852 relating to mercury, provides for the monitoring of the evolution of the dental amalgam market and the methods of eliminating mercury when replacing these amalgams, the training of healthcare professionals and the development of alternatives, ensuring compliance with safety requirements for patients.

European regulations provide that since July 1, 2018 dental amalgams are no longer used in dental treatment on milk teeth, nor in dental treatment for minors under the age of fifteen and pregnant or breastfeeding women (unless decided otherwise by the healthcare professional). Consequently, the sale of dental amalgam capsules containing mercury decreased considerably during the period of this report: if the weight of dental amalgam capsules sold in France in 2018 still represented 1.3 tonnes of mercury (i.e. almost 3 million capsules), in 2019 it was only 510 kilograms of mercury, and in 2020 – 374 kilograms (effects of the COVID pandemic to be considered). Some French manufacturers have indicated that they have stopped manufacturing them.

In France, it is already since 1998 that the procedures for the disposal of dry and liquid waste from dental amalgam have been regulated, and the installation of an amalgam separator in dental surgeries has been made compulsory. The restricted use of dental amalgams in their only encapsulated form has been in place since 2001. France has also opted for numerous actions aimed at improving oral health, both institutional and associative or professional (order of dental surgeons and other health professionals), by multiplying information actions, particularly in educational establishments.

4.4. Has the party taken measures to prevent the incorporation into assembled products of mercury-added products whose manufacture, import and export are not allowed under article 4?

☒ Yes

☐ No

If yes, please provide information on the measures.

The study on "Collecting information on mercury-added products and their alternatives" resulted in the preparation of fact sheets on

- 1) existing uses of mercury prohibited or restricted under the EU legislation, but not under the Minamata Convention, and
- 2) emerging uses of mercury and mercury compounds in products and processes.

With regard to electrical and electronic equipment, France applies the European directive relating to the restriction of the use of certain hazardous substances in such equipment (RoHS Directive). It provides for the phasing out of the use of mercury in many assembled products (many types of lamps and plasma screens). However, exceptions persist for medical equipment.

4.5. Has the party discouraged the manufacture and the distribution in commerce of mercury-added products not covered by any known use in accordance with article 4, paragraph 6?

☒ Yes

☐ No

If yes, please provide information on the measures.

France applies European regulations on mercury management via the Mercury Regulation (Regulation (EU) 2017/852), which in its Article 8 provides for a general prohibition for economic operators to manufacture and market products containing mercury-added products that were not manufactured before January 1, 2018 (referred to as “new mercury-added products”). A few exceptions exist to this prohibition (military equipment, space equipment and technical improvements to products that were manufactured before January 1, 2018).

As provided for in Article 8 of the Regulation, when an economic operator intends to request a decision under paragraph 6 in order to manufacture or place on the market a new product containing mercury added, or to use to a new manufacturing process which would bring significant environmental or health benefits and would not pose any significant danger to the environment or human health, and for which there is no technically feasible mercury-free alternative offering the same advantages, this economic operator notifies the competent national authorities, and the European Commission studies the notification before adopting decisions determining whether the new mercury-added product or the new manufacturing process is authorized.

In addition, the Commission makes available to the public on the internet a list of manufacturing processes involving mercury or mercury compounds which were used before 1 January 2018 and products containing mercury added manufactured before 1 January 2018, and any relevant marketing restrictions.

Part E – Additional comments on the article in free text if the party chooses to do so

For Question 4.1, as France is part of European Union (EU) and implements Regulation (EU) 2017/852 on mercury. As it is a regulation, it applies directly. According to Article 5 of Regulation (EU) 2017/852 on mercury, the export, import and manufacturing in the EU of the mercury-added products set out in Annex II (implementing Annex A to the Minamata Convention) shall be prohibited as from 31/12/2018 or 31/12/2020. The prohibition shall not apply to any of the following mercury-added products: (a) Products that are essential for civil protection and military uses; (b) Products for research, for calibration of instrumentation, or for use as a reference standard.

▼ ART. 5: MANUFACTURING PROCESSES IN WHICH MERCURY OR MERCURY COMPOUNDS ARE USED

5.1. Are there facilities within the territory of the party that use mercury or mercury compounds for the processes listed in Annex B of the Minamata Convention in accordance with paragraph 5 of article 5 of the Convention?

- ☐ Yes
- ☒ No
- ☐ I do not know

5.2. Are measures in place to not allow the use of mercury or mercury compounds in manufacturing processes listed in Part I of Annex B after the phase-out date specified in that Annex for the individual process?

CHLOR-ALKALI PRODUCTION

- ☐ Yes
- ☐ No
- ☒ Not applicable (do not have these facilities)

ACETALDEHYDE PRODUCTION IN WHICH MERCURY OR MERCURY

COMPOUNDS ARE USED AS A CATALYST

- ☐ Yes
- ☐ No
- ☒ Not applicable (do not have these facilities)

5.3. Are measures in place to restrict the use of mercury or mercury compounds in the processes listed in Part II of Annex B in accordance with the provisions set out therein?

VINYL CHLORIDE MONOMER PRODUCTION

- ☐ Yes
- ☐ No
- ☒ Not applicable (do not have these facilities)

SODIUM OR POTASSIUM METHYLATE OR ETHYLATE

- ☐ Yes
- ☐ No
- ☒ Not applicable (do not have these facilities)

PRODUCTION OF POLYURETHANE USING MERCURY-CONTAINING CATALYSTS

- ☐ Yes
- ☐ No
- ☒ Not applicable (do not have these facilities)

5.4. Is there any use of mercury or mercury compounds in a facility using the manufacturing processes listed in Annex B that did not exist prior to the date of entry into force of the Convention for the party?

- ☐ Yes
- ☒ No

5.5. Is there any facility that has been developed using any other manufacturing process in which mercury or mercury compounds are intentionally used that did not exist prior to the date of entry into force of the Convention?

- ☐ Yes

☒ No

Part E – Additional comments on the article in free text if the party chooses to do so

All activities still existing in France, mentioned in Appendix B, ceased at the latest in the first quarter of 2017.

▼ ART. 7: ARTISANAL AND SMALL-SCALE GOLD MINING

7.1. Have steps been taken to reduce, and where feasible eliminate, the use of mercury and mercury compounds in, and the emissions and releases to the environment of mercury from, artisanal and small-scale gold mining and processing subject to article 7 within your territory?

☒ Yes

☐ No

☐ There is no artisanal and small-scale gold mining and processing subject to article 7 in which mercury amalgamation is used in the territory

If yes, please provide information on the steps.

In France, the Guyana Region is the only territory concerned by gold mining. An order prohibiting the use of mercury was already issued on June 8, 2004, considering the risks of contamination of ecosystems by mercury and its consequences on the health of populations and workers. Consequently, the use of mercury for gold mining in Guyana has been prohibited since January 1, 2006.

However, illegal gold panning persists in Guyanese territory and mercury is frequently used there. The region has set up a specific administrative and judicial police operation, dedicated to the fight against this activity, called "Harpie", since 2008. The main field action of this operation consists of destroying the production tools of illegal gold miners. However, despite the effective articulation of the system via inter-ministerial cooperation and the armed forces, Harpie only makes it possible to reduce the development of new sites, but without eradicating the activity as such.

Faced with this observation, a renewed strategic plan to fight against illegal gold mining was put in place in October 2017, co-piloted by the prefect of Guyana and the public prosecutor, and executed by "EMOPI", a dedicated government entity. The implementation of this plan has made it possible to strengthen the resources committed and increased interministerial coordination. This plan makes it possible to add 3 new components to the already existing repressive component, namely: diplomatic (strengthening of regional cooperation to prevent the influx of gold miners from Brazil and Suriname), economic (development of legal mining activity and eco-tourism) and social (informing the local population about the dangers of illegal gold panning and help with professional integration).

7.2. Has the party determined and notified the secretariat that artisanal and small-scale gold mining and processing within its territory is more than insignificant?

☐ Yes

☒ No

Part E – Additional comments on the article in free text if the party chooses to do so

▼ ART. 8: EMISSIONS

8.1. Identify any Annex D source categories for which there are new sources of emissions of mercury or mercury compounds as defined in paragraph 2 (c) of article 8.

For each of those source categories describe the measures in place, including the effectiveness of such measures, to implement the requirements of paragraph 4 of article 8.

- ☐ Coal-fired power plants
- ☐ Coal-fired industrial boilers
- ☐ Smelting and roasting processes used in the production of non-ferrous metals
- ☒ Waste incineration facilities

Waste incineration facilities

Each source (ie. each incineration facility) is governed by national prescriptions resulting from ministerial decrees on general prescriptions [3][4][5][6] as well as a prefectural decree specific to each site. These regulate the emission limit values to be observed for each site. In order to verify the compliance of facilities with their requirements, these facilities are inspected, at least once a year, by inspectors of facilities classified for the protection of the environment (ICPE).

All incineration facilities must comply with an emission value of the mercury parameter of 0.05mg/Nm³ during the effective period of operation. This value is verified using at least two measurements per year by an organization approved by the Ministry responsible for the environment.

In addition, incineration plants exceeding the capacity threshold set by the European Industrial Emissions Directive (IED; 2010/75/EU) [1] must comply with the conclusions on the best available techniques for the incineration of waste[2]. They were adopted in November 2019 by the European Commission, and were transposed into French law through the decree of January 12, 2021[5]. They are applicable from December 3, 2023 for incineration facilities existing on December 3, 2019, and immediately applicable for new facilities, i.e. those authorized by the French authorities after December 3, 2019.

Several best techniques relate to mercury emissions :

- In terms of monitoring, these new requirements provide for continuous monitoring of mercury emissions. An exemption from continuous monitoring is however authorized for single waste streams from incineration units whose composition is regularly checked, and if it is demonstrated for 2 consecutive years using this analysis of the incoming waste that they have a low and stable mercury content. In this case, mercury emissions should either be monitored for a sampling period of 2 to 4 weeks, or periodically checked at a minimum frequency of once every 6 months.
- In terms of techniques, each source must apply one or more best techniques (BAT), such as scrubbers, injection of dry absorbent, activated carbon, bromine, etc. These techniques must be able to comply with the emission limit value set.
- In terms of emission limit value, the latter is set at 0.02 mg/Nm³ during normal operation.

- ☐ Cement clinker production facilities

Has the party required the use of best available techniques or best environmental practices (BAT/BEP) to control and where feasible reduce emissions for new sources no later than 5 years after the date of entry into force of the Convention for the party?

- ☒ Yes

☐ No

Attach relevant documentation

FRA-8.1.pdf

8.2. Identify any Annex D source categories for which there are existing sources of emissions of mercury or mercury compounds as defined in paragraph 2 (e) of article 8.

For each of those source categories, select and provide details on the measures implemented under paragraph 5 of article 8 and explain the progress that these applied measures have achieved in reducing emissions over time in your territory:

▼ COAL-FIRED POWER PLANTS

- ☐ A quantified goal for controlling and, where feasible, reducing emissions from relevant sources
- ☒ Emission limit values for controlling and, where feasible, reducing emissions from relevant sources
- ☒ Use of BAT/BEP to control emissions from relevant sources
- ☐ Multi-pollutant control strategy that would deliver co-benefits for control of mercury emissions
- ☐ Alternative measures to reduce emissions from relevant sources

Measurements

French regulations applicable to large combustion plants (order of August 3, 2018 relating to combustion plants with a nominal thermal power greater than or equal to 50 MW subject to authorization under section 3110 which replaced the order of 26 August 2013 which included the same provisions on mercury) imposes an ELV of 0.05 mg/m³ for mercury (article 13) and at least annual monitoring of this parameter (article 28).

BAT 18 to 23 relate to coal-fired combustion plants (energy efficiency, emission limit values for NO_x, SO_x, HCl, HF, dust). BAT 23 on mercury emissions lists the best available techniques for reducing mercury emissions and sets emission limit values for mercury.

Progress

The LCP BREF applicable since August 2021 to existing large combustion plants requires monitoring of mercury emissions for coal-fired combustion plants (monitoring once every 3 months for plants with a power of less than 300 MW, and continuous monitoring for installations with a power greater than 300 MW (BAT 3).

▼ COAL-FIRED INDUSTRIAL BOILERS

- ☐ A quantified goal for controlling and, where feasible, reducing emissions from relevant sources
- ☒ Emission limit values for controlling and, where feasible, reducing emissions from relevant sources
- ☒ Use of BAT/BEP to control emissions from relevant sources
- ☐ Multi-pollutant control strategy that would deliver co-benefits for control of mercury emissions
- ☐ Alternative measures to reduce emissions from relevant sources

Measurements

French regulations applicable to large combustion plants (order of August 3, 2018 relating to combustion plants with a nominal thermal power greater than or equal to 50 MW subject to authorization under section 3110 which replaced the order of 26 August 2013 which included the same provisions on mercury) imposes an ELV of 0.05 mg/m³ for mercury (article 13) and at least annual monitoring of this parameter (article 28).

BAT 18 to 23 relate to coal-fired combustion plants (energy efficiency, emission limit values for NO_x, SO_x, HCl, HF, dust). BAT 23 on mercury emissions lists the best available techniques for reducing mercury emissions and sets emission limit values for mercury.

Progress

The LCP BREF applicable since August 2021 to existing large combustion plants requires monitoring of mercury emissions for coal-fired combustion plants (monitoring once every 3 months for plants with a power of less than 300 MW, and continuous monitoring for installations with a power greater than 300 MW (BAT 3).

▼ SMELTING AND ROASTING PROCESSES USED IN THE PRODUCTION OF NON-FERROUS METALS

- ☒ A quantified goal for controlling and, where feasible, reducing emissions from relevant sources
- ☒ Emission limit values for controlling and, where feasible, reducing emissions from relevant sources
- ☒ Use of BAT/BEP to control emissions from relevant sources
- ☐ Multi-pollutant control strategy that would deliver co-benefits for control of mercury emissions
- ☐ Alternative measures to reduce emissions from relevant sources

Measurements

Each new installation is the subject of an authorization application file which includes an environmental impact study (in accordance with Directive 2011/92/EU). For installations subject to the IED Directive (Industrial Emissions Directive), this impact study includes a comparison of the performance of the techniques selected with the performance of the Best Available Techniques (see art. R. 515-69 of the Environmental Code). Whether they are subject to FDI or not, for all facilities subject to an environmental impact study, applicants must present the measures they plan to implement to avoid, reduce and, if necessary, compensate for the environmental impacts of their facilities. In this context, the reasons for the choice of techniques must be explained. Furthermore, for this activity, all installations subject to authorization (deemed as "relevant sources" within the meaning of Article 8 of the Minamata Convention) are subject to the decree of 2/2/98 which imposes the same emission levels for mercury as the BAT conclusions of the BREF "Non-ferrous metals". The performances of the techniques implemented are therefore deemed to be equivalent to those of BAT for the relevant sources not subject to the IED. decree of 2/2/98 which imposes the same emission levels for mercury as the BAT conclusions of the BREF "Non-ferrous metals". The performances of the techniques implemented are therefore deemed to be equivalent to those of BAT for the relevant sources not subject to the IED. decree of 2/2/98 which imposes the same emission levels for mercury as the BAT conclusions of the BREF "Non-ferrous metals". The performances of the techniques implemented are therefore deemed to be equivalent to those of BAT for the relevant sources not subject to the IED.

Progress

On the total reduction of mercury emissions in France that has been observed since 2017, it is not possible to attribute the progress made to specific measures. Furthermore, excluding

facilities subject to the European E-PRTR register, emissions are not accounted for by industrial sector and it is therefore difficult to assess the progress of the sector following the entry into force of new measures.

▼ WASTE INCINERATION FACILITIES

- ☒ A quantified goal for controlling and, where feasible, reducing emissions from relevant sources
- ☒ Emission limit values for controlling and, where feasible, reducing emissions from relevant sources
- ☒ Use of BAT/BEP to control emissions from relevant sources
- ☐ Multi-pollutant control strategy that would deliver co-benefits for control of mercury emissions
- ☐ Alternative measures to reduce emissions from relevant sources

Measurements

> Each source (ie. each incineration facility) is governed by general national prescriptions, through ministerial decrees [3][4][5][8] as well as a prefectural decree specific to each site. These regulate the emission limit values to be observed for each site. In order to verify the compliance of facilities with their requirements, these facilities are inspected, at least once a year, by inspectors of facilities classified for the protection of the environment (ICPE).

> All incineration facilities must comply with an emission value of the mercury parameter of 0.05mg/Nm³ during the effective period of operation. This value is verified using at least two measurements per year by an organization approved by the Ministry responsible for the environment.

> In addition, incineration facilities exceeding the threshold set by the IED Directive[1] must comply with the conclusions on the best available techniques for the incineration of waste[2], transposed into French law through the decree of 12 January 2021[5]. They are applicable from December 3, 2023 for all incineration facilities existing on December 3, 2019, and immediately applicable for new facilities, i.e. those authorized by the French authorities after December 3, 2019.

> Several best techniques relate to mercury emissions:

> In terms of monitoring, these new requirements provide for continuous monitoring of mercury emissions. An exemption from continuous monitoring is however authorized for single waste streams from incineration units whose composition is regularly checked, and if it is demonstrated for 2 consecutive years using this analysis of the incoming waste that they have a low and stable mercury content. In this case, mercury emissions should either be monitored for a sampling period of 2 to 4 weeks, or periodically checked at a minimum frequency of once every 6 months.

> In terms of techniques, each source must apply one or more best techniques (BAT), such as scrubbers, injection of dry absorbent, activated carbon, bromine, etc. These techniques must be able to comply with the emission limit value set.

> In terms of emission limit value, the latter is set at 0.02 mg/Nm³ during normal operation of the installation.

>

> There is no global quantified objective to control specific emissions from incineration plants.

> We can, however, cite the Aarhus protocol[6] adopted in 1998 and amended in 2012 within the framework of the LRTAP (Long-Range Transboundary Air Pollution) convention, under the aegis of the Economic Commission for Europe (UNECE). This protocol targets three heavy metals: cadmium, lead and mercury. Under this protocol, France must limit emissions of these heavy metals to a level below that of 1990, estimated at 25.6 tonnes. This objective includes several industrial sources, such as waste incineration plants but also iron and steel industries, combustion of fuels, non-ferrous industry, etc. France respects this objective, its mercury emissions having decreased since this reference year: since 1990,

- > As regards emissions from incineration facilities, they represented nearly 11 tonnes of mercury emitted in 1990 compared to less than 0.6 tonnes of mercury emitted in 2020[7]
- > The Aarhus protocol, through the amendment of the December 13, 2012, also sets emission limit values for mercury, which are respected by France through the ministerial decrees of general prescriptions [3] and [4].

Progress

Manufacturers are responsive and are implementing these best available techniques for compliance by December 3, 2023.

▼ CEMENT CLINKER PRODUCTION FACILITIES

- ☒ A quantified goal for controlling and, where feasible, reducing emissions from relevant sources
- ☒ Emission limit values for controlling and, where feasible, reducing emissions from relevant sources
- ☒ Use of BAT/BEP to control emissions from relevant sources
- ☐ Multi-pollutant control strategy that would deliver co-benefits for control of mercury emissions
- ☐ Alternative measures to reduce emissions from relevant sources

Measurements

Each new installation is the subject of an authorization application file which includes an environmental impact study (in accordance with Directive 2011/92/EU). For installations subject to the IED Directive, this impact study includes, in accordance with Directive 2010/75/EU, a comparison of the performance of the techniques selected with the performance of the Best Available Techniques (see art. R. 515-69 of the Environmental Code). Whether they are subject to FDI or not, for all facilities subject to an environmental impact study, applicants must present the measures they plan to implement to avoid, reduce and, if necessary, compensate for the environmental impacts of their facilities. In this context, the reasons for the choice of techniques must be explained. All cement clinker production facilities, IED or not, are also subject to the order of 03/05/1993 which imposes emission limit values for mercury in the air, as well as at least annual monitoring of gaseous effluents.

Progress

On the total reduction of mercury emissions in France that has been observed since 2017, it is not possible to attribute the progress made to specific measures. Furthermore, excluding facilities subject to the European E-PRTR register, emissions are not accounted for by industrial sector and it is therefore difficult to assess the progress of the sector following the entry into force of new measures.

Have the measures for existing sources under paragraph 5 of article 8 been implemented no later than 10 years after the date of entry into force of the Convention for the party?

- ☒ Yes
- ☐ No

8.3. Has the party prepared an inventory of emissions from relevant sources within 5 years of entry into force of the Convention for it?

- ☒ Yes
- ☐ No
- ☐ Have not been a party for 5 years

If yes, when was the inventory last updated?

Tue, 12/31/2019 – 00:00

Please indicate where this inventory is available

In France, various industrial emissions, including those of mercury, are declared by the operators of industrial sites themselves on GEREPE, a web application aimed at operators of establishments covered by the annual declaration of polluting emissions and waste (industrial, livestock, urban wastewater treatment plants, mining sites). Declarations are made on the MonAIOT portal, an identification portal for all installations classified for the protection of the environment (ICPE):

<https://monaiot.developpement-durable.gouv.fr/page/connexion-gerepe>; extract on the mercury of the year 2020 attached.

The general public can find the official data of the operators recording the emissions on the Georisks portal, which brings together the ICPE installations exceeding the thresholds determined in the decree relating to GEREPE (for mercury, it is 1 kg/year), by doing a targeted search:

<https://www.georisques.gouv.fr/risques/registre-des-emissions-polluantes/etablissement/donnees#/recherche=polluant&polluant=88&milieu=1>

Attach

- [FRA_8.3.xlsx](#)

8.4. Has the party chosen to establish criteria to identify relevant sources covered within a source category?

- ☐ Yes
- ☒ No

8.5. Has the party chosen to prepare a national plan setting out the measures to be taken to control emissions from relevant sources and its expected targets, goals and outcomes?

- ☐ Yes
- ☒ No

Part E – Additional comments on the article in free text if the party chooses to do so

Coal-fired installations: France has not identified any new coal-fired industrial plants since 2017. However, if a new coal-fired plant were to be established, it would have to apply the best available techniques imposed by the IED directive 2010/75/EU and the LCP BREF (Implementing Decision 2017/1442).

Coal-fired installations: no national plan relating to mercury emissions has been drawn up. However, the Climate Energy Law of November 8, 2019 provides for the shutdown of the last four coal-fired power plants. The Gardanne-Meyreuil and Le Havre power plants have been shut down, the Saint-Avoid power plant will cease its activity in March 2022 and that of Cordemais will cease its activities between 2024 and 2026. As regards the industrial power plants, there is no provisions providing for their cessation.

> Incinerators references:

- > [1]: Directive no. 2010/75/EU of 11/24/10 relating to industrial emissions (integrated pollution prevention and reduction)
- > [2]: Implementing Decision (EU) 2019/2010 of 12/11/19 establishing the best available techniques (BAT) for the incineration of waste, under Directive 2010/75/EU of the European Parliament and of the Council (notified under number C(2019) 7987)
- > [3]: Order of 20 September 2002 relating to installations for the incineration and co-incineration of non-hazardous waste and installations incinerating waste from healthcare activities at infectious risks
- > [4]: Order of 20 September 2002 relating to installations for the incineration and co-incineration of hazardous waste
- > [5]: Order of 12 January 2021 relating to the best available techniques (BAT) applicable to waste incineration and co-incineration facilities subject to the authorization scheme under section 3520 and to certain treatment facilities of waste covered by the authorization system under headings 3510, 3531 or 3532 of the nomenclature of installations classified for the protection of the environment
- > [6]: Decree no. 2005-1110 of 05/09/05 publishing of the protocol to the 1979 convention on long-range transboundary air pollution relating to heavy metals (set of seven annexes), done at Aarhus on 24 June 1998
- > [7]: Citepa data, April 2021 – SECTEN format
- [8]: Order of 23 May 2016 relating to installations for the production of heat and/or electricity from non-hazardous waste prepared in the form of solid recovered fuels in installations provided for this purpose, whether or not associated with another fuel and falling under heading 2971 of the nomenclature of installations classified for the protection of the environment

▼ ART. 9: RELEASES

9.1. Are there, within the party's territory, relevant sources of releases as defined in paragraph 2 (b) of article 9?

- ☐ Yes
- ☒ No
- ☐ I do not know

9.2. Has the party established an inventory of releases from relevant sources within 5 years of entry into force of the convention for it?

- ☒ Yes
- ☐ Relevant sources do not exist in the territory
- ☐ Have not been a party for 5 years
- ☐ No

When was the inventory last updated?

2019-12-31

Please indicate where this inventory is available

In France, various industrial discharges, including those of mercury, are declared by the operators of the industrial sites themselves on GEREP, a web application intended for the operators of establishments covered by the annual declaration of polluting emissions and waste (industry, livestock, urban wastewater treatment plants, mining sites). Declarations are made on the MonAIOT portal, an identification portal for all installations classified for the protection of the environment (ICPE):

<https://monaiot.developpement-durable.gouv.fr/page/connexion-gerep>; extract on the mercury of the year 2020 attached.

The general public can find official data from operators recording releases on the Georisks portal, which lists ICPE installations exceeding the thresholds determined in the decree relating to GERE (for mercury, this is 1 kg/year), by doing a targeted search:

<https://www.georisques.gouv.fr/risques/registre-des-emissions-polluantes/etablissement/donnees#/recherche=polluant&polluant=88&milieu=1>

Part E – Additional comments on the article in free text if the party chooses to do so

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▼ ART. 10: ENVIRONMENTALLY SOUND INTERIM STORAGE OF MERCURY, OTHER THAN WASTE MERCURY

10.1. Has the party taken measures to ensure that the interim storage of non-waste mercury and mercury compounds intended for a use allowed to a party under the Convention is undertaken in an environmentally sound manner?

- ☐ Yes
- ☒ No
- ☐ I do not know

Part E – Additional comments on the article in free text if the party chooses to do so

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▼ ART. 11: MERCURY WASTES

11.1. Have measures outlined in article 11, paragraph 3, been implemented for the party's mercury waste?

- ☐ Yes
- ☒ No

11.2. Are there facilities for final disposal of waste consisting of mercury or mercury compounds in the party's territory?

- ☐ Yes
- ☒ No
- ☐ I do not know

Part E – Additional comments on the article in free text if the party chooses to do so

- regarding transboundary movements of waste (article 11.3.c), France is subject to the EU regulation (CE) N° 1013/2006 which implements the Basel Convention and applies directly in our country;
- regarding paras a and b of article 11.3, we didn't answer because we understand that there is no provision yet in the Convention as we need to adopt an Annex that defines the specific requirements for mercury waste management.

▼ ART. 12: CONTAMINATED SITES

12.1. Has the party endeavored to develop strategies for identifying and assessing sites contaminated by mercury or mercury compounds in its territory?

☒ Yes

☐ No

Please elaborate

The publicly available BASOL database lists old and active industrial sites that are polluted or potentially polluted, requiring preventive or curative actions. The database is fed by the regional inspection services and is accessible to the public online with information on the pollutants identified or suspected and the measures taken. BASOL also includes current and former industrial sites contaminated or potentially contaminated by mercury and its compounds. The main reasons for a registration in BASOL are the suspicion or knowledge of pollution mainly for active sites (for example caused by an incident or an accident) or a total or partial cessation of activities.

France has reported 240 sites contaminated with mercury (compounds) where the pollution is managed and compatible with the use of the land (for example via restrictions on use), 202 potentially contaminated sites where more in-depth investigations are necessary or in progress, 39 contaminated sites presenting a risk and where remediation is necessary or in progress, and 66 remediated sites without any other restriction of use. A national methodology for the management of polluted or potentially polluted sites and soils has been established, covering all pollution and soil pollutants, including mercury.

This methodology defines the tools for assessing the risk to human health and the environment, including a conceptual diagram, and an interpretation of the state of the environment with a quantitative assessment of the health risk. In this context, a case-by-case risk management approach is implemented, the objective of which is to return the site to a state suitable for its future use, while favoring the elimination of sources of pollution. In this respect, French methodology and legislation do not set any limit values for soil pollutants or mercury.

Part E – Additional comments on the article in free text if the party chooses to do so

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▼ ART. 13: FINANCIAL RESOURCES AND MECHANISM

13.1. Has the party undertaken to provide, within its capabilities, resources in respect of those national activities that are intended to implement the Convention in accordance with its national policies, priorities, plans and programmes?

☒ Yes

☐ No

Please specify

In France, there is no centralized management of mercury as a substance and its pollution. Each aspect of the presence of this substance in various products and environments is managed by a different organization: there is no national action plan on mercury, and therefore no centralized budget. Competences are divided between the Ministry of Ecological Transition, Ministry of Health, Ministry of the Economy, Customs, etc. Regional issues in French Guiana are mainly managed by the Prefecture and the French Guiana Regional Health Agency. It is therefore impossible to provide an estimate of the financial resources dedicated specifically to the fight against mercury pollution and the abandonment of its use.

Please provide comments, if any.

13.2. Supplemental: Has the party, within its capabilities, contributed to the mechanism referred to in paragraph 5 of article 13?

☒ Yes

☐ No

Please specify

French contributions to the GEF on behalf of the Minamata Convention, in Millions USD

2017 1.125

2018 3.000

2019 1.500

2020 8.250

2021 4.500

Contribution to the SIP: 100,000 euros (113,000 USD) in 2019.

Please provide comments, if any.

{Empty}

13.3. Supplemental: Has the party provided financial resources to assist developing-country parties and/or parties with economies in transition in the implementation of the Convention through other bilateral, regional and multilateral sources or channels?

☒ Yes

☐ No

Please specify

The "Mercury abandonment in the Guianas" project includes Suriname, French Guiana, Venezuelan Guiana and Brazilian Guiana) is being implemented (2019–2023) via the French Global Environment Facility (FFEM) which supports the NGO WWF France in its project to eliminate mercury in the gold sector in the Guianas by 2025. This project is structured around three components: 1) Strengthening and ensuring the regional coordination of national framework policies the gold sector; 2) Build a mercury-free gold mining model reconciling social acceptability and technical and economic viability, with the creation of a certification; 3) Create a Regional Mercury Observatory.

The first amount paid for this project has just been made in December 2021 in the amount of 350,000 EUR (393,000 USD), for a total of 1.04 million EUR (1.17 million USD) over the entire period .

The WEEECAM project "Building an exemplary waste electrical and electronic equipment treatment system for Africa" on the management of WEEE in Cameroon is being implemented (it spans 5 years between 2017 and 2022) . This project includes the implementation of technology transfers adapted to

the Cameroonian context to improve productivity and maximize recycling at the local level. A payment to two associations ("Solidarité Technologique" and the "Guilde européen du raid") took place in March 2018 for an amount of 500,000 EUR (563,000 USD) from the French Fund for the Global Environment (FFEM) and a second payment took place in July 2019 for an amount of 500,000 EUR (563,000 USD). In addition to these projects, the "fair trade gold" sector program and reduction of the use of mercury in gold panning in West Africa" was implemented between 2012 and 2015 in Burkina Faso with FFEM funding of around 900,000 EUR (1.014 million USD).

Please provide comments, if any.

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Part E – Additional comments on the article in free text if the party chooses to do so

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▼ ART. 14: CAPACITY-BUILDING, TECHNICAL ASSISTANCE AND TECHNOLOGY TRANSFER

14.1. Has the party cooperated to provide capacity-building or technical assistance, pursuant to article 14, to another party to the Convention?

☒ Yes

☐ No

Please specify

Franco-Surinamese cooperation in the fight against illegal gold panning: Illegal gold panning occupies an essential place in the Franco-Surinamese dialogue and constitutes a major concern for the authorities of French Guiana. According to the "Suriname Minamata initial assessment" of 2020, in Suriname approximately 40,000 people are directly or indirectly linked to gold panning within small structures using mercury, knowing that there are also mines operated industrially. However, for several years no official import request has been filed with the competent authority, the Ministry of Trade and Industry. Mercury is therefore introduced into Suriname irregularly. The development of the national strategy against the use of mercury in artisanal mines in Suriname is progressing very slowly. This situation directly affects French Guyana: many gold barges installed along the Maroni seriously contaminate the river and the mercury and the equipment necessary for illegal gold panning in Guyana is frequently supplied by merchants, often of Chinese origin, installed on the banks of the river. France encourages the Surinamese authorities to establish a legal basis to better regulate these activities and in particular better control the circulation of materials used for illegal gold panning (eg pumps, mercury, etc.). At the request of the authorities of Suriname as part of the process of reviewing the mining legal framework, France transmitted to Suriname the regulations in force in Guyana. Regarding the repression of illegal gold panning, police cooperation between France and Suriname has developed since the agreement concluded in 2006, particularly in terms of exchange and information aimed at controlling illegal cross-border flows. French (army-supported Gendarmerie) and Surinamese (national police) law enforcement also carried out joint patrols on the Maroni River until 2018, and have resumed since November 2020.

Military and police cooperation with Brazil: the Brazilian and French armed forces periodically coordinate to conduct synchronous operations on both sides of the border, following the example of Operation Horus in February 2021, carried out in Brazilian initiative. Intelligence sharing and mutual understanding of issues related to illegal gold mining are continuously improved. In addition, France is training Amerindian adults to join the Gendarmerie in Guyana and work on operations to combat illegal gold panning, thus enabling individuals from the most exposed

communities to become actively involved in the defense of their territory and way of life. The Gendarmerie also strives to establish a close dialogue with indigenous communities where the Gendarmerie reports on the efforts made in terms of repression and explains the constraints of the rule of law.

In the economic field, an activity and employment cooperative has been developed to promote economic development by offering professional opportunities to newly trained young people to divert young adults from the sirens of clandestine gold panning.

14.2. Supplemental: Has the party received capacity-building or technical assistance pursuant to article 14?

☐ Yes

☒ No

Please specify

France is in a position to provide development aid, not to receive it.

Please provide comments, if any.

{Empty}

14.3. Has the party promoted and facilitated the development, transfer and diffusion of and access to, up-to-date environmentally sound alternative technologies?

☒ Yes

☐ No

☐ other

Please specify

One of the components of the “Abandoning mercury in the Guianas” project aims to make mercury-free gold mining techniques accessible, applicable, replicable, profitable and to develop the interest of artisanal gold miners in adopting these technologies.

The WEECAM Project aims to demonstrate the feasibility and sustainability of an activity for the recovery of Waste Electrical and Electronic Equipment in Cameroon. One of its components is the implementation of a large-scale WEEE treatment system.

Part E – Additional comments on the article in free text if the party chooses to do so

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▼ ART. 16: HEALTH ASPECTS

16.1. Have measures been taken to provide information to the public on exposure to mercury in accordance with paragraph 1 of article 16?

☒ Yes

☐ No

Supplemental: If yes, describe the measures that have been taken.

1) Actions preceding the reporting period

Long before the ratification of the Minamata Convention, France carried out numerous actions in the territory most affected by mercury pollution – French Guiana. For example, it was already in 2006 that the French Red Cross was mandated to implement a health program aimed at reducing mercury impregnation. In the same period, the strategy for preventing health risks related to mercury consisted between 2006 and 2011 (in part) of advising the Amerindian population against the consumption of seven species of fish, and the non-consumption of these species made it possible to considerably reduce the dose of mercury ingested, falling below the tolerable weekly toxicological reference value. Dietary recommendations for sensitive populations have been issued by the National Agency for Food, Environmental and Occupational Health and Safety (ANSES) to limit the consumption of fish that may be contaminated with methylmercury: [https:// www.anses.fr/fr/system/files/ANSES-Ft-RecosPoissons.pdf](https://www.anses.fr/fr/system/files/ANSES-Ft-RecosPoissons.pdf) For pregnant and breastfeeding women and young children (under 30 months), the Agency recommends taking special precautions: 1) as a precaution, avoid consuming the most contaminated fish: sharks, lampreys, swordfish, marlin (similar to swordfish) and sikis (a variety of shark); 2) limit the consumption of fish likely to

2) Esteban study

Health study on the environment, biomonitoring, physical activity and nutrition (ESTEBAN; <https://www.santepubliquefrance.fr/docs/impregnation-de-la-population-francaise-par-le-mercure.-programme-national-de-biomonitoring-esteban-2014-2016>), published on July 1, 2021, made it possible to describe exposure to 27 metals, including mercury, and to measure their presence in the body of adults, and for the first time nationwide in children. This new photograph of the impregnations underlines that the entire population is concerned. This study proves the need to maintain biomonitoring studies to monitor changes in exposure to metals and to pursue measures aimed at reducing them, by acting in particular on the sources of exposure, Concerning mercury specifically, ESTEBAN made it possible to measure for the first time urinary mercury in the general population in France, whose exposure factors were found to be the presence of gray dental amalgams, in accordance with the literature, both in children and in adults. and to a lesser extent the consumption of oily fish, crustaceans, shellfish and molluscs. These levels of impregnation are higher in the French population than those observed in certain European countries and in North American countries. The study also provided a new estimate of the levels of capillary mercury impregnation of the mainland French population aged 6 to 74, which are very comparable to those observed 10 years earlier. The search for the determinants of Previously, mercury was also measured in the perinatal component in a representative sample of women who gave birth in 2011 (Impregnancy of pregnant women by environmental pollutants in France in 2011: Perinatal component of the national biomonitoring program implemented within of the Elfe cohort – Volume 2: metals and metalloids ([santepubliquefrance.fr](https://www.santepubliquefrance.fr)))

3) PNSE3 2015–2019

The 3rd National Environmental Health Plan (2015–2019) provided for actions specifically targeting mercury (https://solidarites-sante.gouv.fr/IMG/pdf/pnse3_v_finale.pdf) Action 19 concerned the setting up of a system for estimating the frequency (incidence, prevalence) of neurodegenerative diseases from medico-administrative databases, their geographical distribution and the linking with exposures of interest. Furthermore, among the actions already undertaken, and in addition to the actions already carried out within the framework of the PNSE2, a food consumption study was carried out from 2015 in Guyana, which will make it possible to estimate the consumption of the most contaminated species in the areas.

4) Policy to reduce the use of dental amalgams

In France, from the end of the 1990s, the public authorities took regulatory measures and formulated recommendations relating to dental amalgams concerning their marketing, their use and their treatment of waste (<https://solidarites-sante.gouv.fr/care-and-diseases/other-health-products/medical-devices/article/policy-to-reduce-use-of-dental-amalgams>). At the same time, the National Agency for the Safety of Medicines and Health Products, ANSM, updated and published a report in 2014 on the safety of using dental amalgams. It is recommended to avoid the removal of dental amalgam in pregnant and breastfeeding women. In children, the use of dental amalgams for temporary teeth (milk teeth) should only be considered as a last resort. In addition, dental bleaching is strongly discouraged on teeth filled with dental amalgam. Similarly, numerous preventive actions in oral health

and improvement of access to care are part of the national plan for the elimination of dental amalgam containing mercury.

16.2. Have any other measures been taken to protect human health in accordance with article 16?

☒ Yes

☐ No

Supplemental: If yes, describe the measures that have been taken.

1) Measures on dental amalgams (vulnerable people: pregnant and breastfeeding women, children) (see answers 16.1. and 4.3.)

2) Dietary recommendations on fish consumption (sensitive populations)

3) The National Environmental Health Plan / PNSE : actions of the PNSE 3 (20, 21, 23 and 24) https://solidarites-sante.gouv.fr/IMG/pdf/pnse3_v_finale.pdf (see more elements in 18.1.)

4) Sheets prepared by the Ministry Labor, Employment and Integration on the risks for all professionals confronted with the daily use of mercury: <https://travail-emploi.gouv.fr/sante-au-travail/prevention-des-risques-pour-la-sante-au-travail/autres-dangers-et-risques/article/mercure>

5) The French clinical toxicology society (STC) in its recommendations for good practice of November 2017, has established recommendations for health professionals concerning the care of pregnant women and their child(ren).) to be born, exposed to mercury due to their environment. Depending on the exposure, it recommends medical monitoring for pregnant women as well as for newborns with a capillary mercury concentration greater than 2.5 µg g⁻¹ of hair. The STC also recommends retaining 11 µg g⁻¹ as the maternal capillary concentration value, from which a critical effect is likely to occur in the child. It recommends exposure reduction measures for women of childbearing age with a capillary mercury concentration greater than or equal to 2.5 µg g⁻¹ as well as for children with a capillary concentration greater than or equal to 1.5 µg g⁻¹ of hair. See: https://www.has-sante.fr/jcms/c_2819700/fr/label-de-la-has-exposition-au-mercure-organique-et-grossesse-prise-en-charge-de-la-femme-enceinte-et-de-l-enfant-a-naitre

Part E – Additional comments on the article in free text if the party chooses to do so

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▼ ART. 17: INFORMATION EXCHANGE

17.1. Has the party facilitated the exchange of information referred to in article 17, paragraph 1?

☒ Yes

☐ No

Please provide more information, if any

Several French researchers (laboratories located in Grenoble, Toulouse, Pau, La Rochelle and Marseille...) have been participating in the Global Mercury Monitoring System (GOS4M) since 2020 and attended the kick-off meeting in October 2020. French researcher Aurélien DOMMERGUE (Univ. Grenoble-Alpes) is the GOS4M Focal Point for EuroGEO (the European part of the Group for Earth Observations (GOS), a partnership of more than 100 national governments, 100 participating organizations and the European Commission) for the observation backgrounds. Several other French researchers – David AMOUROUX (IPREM), Paco BUSTAMANTE (LINKS) and Lars-Eric HEIMBURGER-BOAVIDA (MIO), Joel KNOERY (IFREMER), Jeroen SONKE (GET) participate in the GOS4M organizing committee.

Part E – Additional comments on the article in free text if the party chooses to do so

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▼ ART. 18: PUBLIC INFORMATION, AWARENESS AND EDUCATION

18.1. Have measures been taken to promote and facilitate the provision to the public of the kinds of information listed in article 18, paragraph 1?

☒ Yes

☐ No

If yes, please indicate the measures that have been taken and the effectiveness of those measures

1) The national nutritional recommendations drawn up by Santé Publique France (<https://www.santepubliquefrance.fr/determinants-de-sante/nutrition-et-activite-physique/documents/brochure/50-petites-astuces-pour-manger-mieux-et-bouger-plus>) include a warning about the need to vary fish species in order to reduce levels of mercury uptake via diet.

2) The National Agency for Food, Environmental and Occupational Health and Safety (ANSES) has made available to the public a great deal of information explaining the link between fish consumption and exposure to methylmercury. Since 2002, the Agency has issued 3 opinions to assess the health risk associated with this consumption. Therefore, she recommends eating fish twice a week, diversifying the species consumed, and taking special precautions for pregnant and breastfeeding women and children under 30 months. See: <https://www.anses.fr/fr/content/consommation-de-poissons-et-exposition-au-m%C3%A9thylmercure>

3) The heavy metal strategy (StraMeLo)

It is to combat heavy metal poisoning that the ARS, together with the Prefecture of French Guiana, launched a participatory and committed strategy in 2021, the Heavy Metals Strategy (StraMeLo), whose work should extend to in 2025. StraMeLo is a logical follow-up to the "Mercury" cluster created by the Prefecture in 2003, which led to the ban on the use of mercury in the context of gold mining. Eight working groups have been set up: Lead shot, Food supply, Environmental exposure, Agriculture and diversification, Environmental monitoring and management, Identification of poisonings, Management of poisonings, Raising awareness among professionals. See: <https://www.guyane.ars.sante.fr/metaux-lourds>

4) Implementation of mercury-related risk prevention actions, Santé Publique France, 2017:

In French Guiana, prevention messages and dietary recommendations from 2012 were established by a working group including the Regional Health Agency (public health, communication) and its partners on the issue of mercury. It was also in 2012 that a display was set up in campoes, delocalized prevention and care centers and medical offices to indicate the species of fish to avoid during pregnancy and breastfeeding. Fish names are provided in the languages spoken in the watershed (Wayana, Nenge, Creole, Saramaka, Wayampi). The Guyana Amazonian Park (PAG), whose field agents come from local communities, was also asked to participate in the dissemination of these messages and documents and thus contribute to prevention. In addition,

Already in 2012–2013 a specific prevention program was carried out to promote a reduction in dietary exposure to methyl-mercury in women of childbearing age, particularly before any pregnancy project: "Correct mercury impregnation in mothers at immediate risk of toxicity to their unborn and/or breastfed child". This program was gradually improved and continued in subsequent years.

Between 2015 and 2017, a new program has planned to extend screening to children under the age of seven identified by the doctor as being at risk of heavy impregnation, within the limit of a number of analyzes set annually.

5) NESP 3

The 3rd National Environmental Health Plan (2015–2019) provided for concrete actions aimed at mercury (https://solidarites-sante.gouv.fr/IMG/pdf/pnse3_v_finale.pdf). Action 20 of the National Environmental Health Plan 3 (2015–2019) planned to assess the interest of extending screening for mercury impregnation, currently carried out among pregnant women in certain at-risk areas to women of childbearing age, procreation, even among children under 7 years of age in all high-risk areas in French Guiana, in Haut Maroni. As part of this action, the Society for Clinical Toxicology (STC) was called upon in 2014 to draw up recommendations for good practice relating to the screening, monitoring and treatment of pregnant women and of their children. These recommendations were released in December 2017. They have been developed in consultation with a large number of experts from the various disciplines concerned, health professionals and associations. They relate in particular to:

- the choice of the critical effect to retain (neurotoxic effects resulting from prenatal exposure to MeHg, responsible for impaired cognitive functions on the offspring) and the choice of the value of the maternal capillary concentration of mercury associated with this effect (mercurial concentration of 11 µg/g of hair);
- the definition of priorities for population monitoring, which should focus on populations of women of childbearing age and children aged under 7, living in isolated towns or consuming more than 2 portions of fish per week;
- the procedures for setting up biological monitoring and medical follow-up for women of childbearing age, pregnant women, and their children when the mercury impregnations are greater than 2.5 µg/g of hair for women and 1.5 µg/g for children;
- the methods of reducing exposure to MeHg by modifying food intake and, if the impregnations are significant (greater than 25 µg/g of hair in children and greater than 50 µg/g or even 25 µg/g of hair in pregnant women in the third trimester of pregnancy) and after consultation between toxicologists and gynecologists, by use of chelators;
- the procedures for informing couples about the potential neurological risks of unborn children (from mercury concentrations of 11 µg/g of hair) and for supporting couples when severe and incurable neurological damage is possible (beyond 50 µg/g of hair), in particular by directing them to approved multidisciplinary prenatal diagnosis centres.

Action 21 of the Plan concerned the development of good practices for the medical care of people heavily impregnated with mercury.

Part E – Additional comments on the article in free text if the party chooses to do so

According to feedback from the field in Guyana, the prevention messages aimed at reducing the consumption of the most contaminated fish seem today to be rather well known to the target populations. However, the change in eating habits seems to come up against several obstacles:

- The importance of meat eating (fish and game) in Native American traditions and the loss of traditional reference points concerning food.
- A supposed low availability of protein food resources currently recommended to replace fish at the end of the trophic chain (fish low in mercury, game, etc.).

The information most often conveyed is that herbivorous fish have become more rare compared to piscivorous fish, just like game, and that populations therefore have no choice but to consume fish contaminated with mercury. In addition to the availability of substitute resources, it is necessary to point out a context of weariness of the populations faced with the messages of the ARS aimed at reducing the consumption of these fish and their reluctance to modify their eating habits to respond to what they consider to be a consequence of gold panning, this problem being probably reinforced by the action of the media and associations in this direction.

The limits set out above led the ARS to organize a working group on food alternatives to contaminated

fish. This group has been led by the DAAF Guyana since 2015. It aims to develop projects to bring new food alternatives to contaminated fish as well as facilitating the acceptance and understanding of prevention messages by the target populations, in the framework of a participatory approach with the populations concerned.

▼ ART. 19: RESEARCH, DEVELOPMENT AND MONITORING

19.1. Has the party undertaken any research, development and monitoring in accordance with paragraph 1 of article 19?

☒ Yes

☐ No

If yes, please describe these actions

1) The National Agency for Food, Environmental and Occupational Health and Safety (ANSES) has regularly carried out work since 2010 where mercury is one of the substances measured in the human body. For example, in September 2021, ANSES took on the issue of "Characterization of the hazards and selection of the most relevant toxicological reference values (TRVs) for chemical risk assessments in food" where mercury is part of the substances measured, and will work there until 2023.

2) Concerning the monitoring of mercury in the marine environment, it is in particular within the framework of the Observation Network for CHemical Contamination of the Coastline (ROCCH), operating in connection with the European Strategy Framework Directive for the Marine Environment (DCSMM), actions are taken. Mercury is among the elements that can be detected in mussels and oysters, fish, marine mammals, and since 2019 birds are also included in the samples that are tested. In mainland France, surveillance covers all marine areas (the Channel, the Atlantic coast and the Mediterranean).

3) Concerning the monitoring of mercury in continental waters, the observation of the environments is carried out in a systemic way, with a network of 1200 measuring stations allowing the reporting required by the European Water Framework Directive (WFD) to be carried out. . In addition to this solid observation network, France has launched, since 2022, a national action for research and reduction of discharges of hazardous substances into waters (RSDE) to know the inventory of pollutants at the entrance and at the outlet of urban wastewater treatment plants. The 3rd campaign took place between 2017 and 2020, and mercury was identified as a pollutant of concern at the station entrance, but not at the station exit.

4) Various ongoing or recently completed research programs exist, such as:

- Multistress: a research program on gulls in metropolitan France (New Aquitaine), by measuring the presence of mercury and persistent organic pollutants from blood samples. The first results surprisingly show very high mercury contamination, particularly in sea gulls, whose levels sometimes exceed those observed in polar areas and in French Guiana. <https://www.cebc.cnrs.fr/programmes/multistress/>

- SENTINEL: this multidisciplinary project aims to establish the inventory of contaminants (mercury, POPs, poly- and perfluorinated compounds) present in seabirds in French Guiana, to interpret the levels observed via trophic ecology and to estimate the effects on physiology, immunity and reproduction. These toxicological data are essential to monitor, via these sentinels, the overall state of health of the Guyanese coast. <https://www.cebc.cnrs.fr/programmes/sentinel/>

- ANR CONTAMPUMP: The project aims to understand the biological mechanisms of metallic and organic chemical contamination at the base of marine food webs in pelagic and benthic plankton and planktonophages, and mercury and methylmercury were among the substances that were measured there. Monthly CONTAMPUMP sampling resumed in June 2020 and will continue until November 2021 in the bay of Marseille: <https://anr.fr/Project-ANR-19-CE34-0001>

–MERTOX: The objective of the MERTOX project (2018–2021) is to complete the limited knowledge on the accumulation of marine MeHg in pelagic fish. The team is made up of researchers from the laboratories of Brest (LEMAR), Toulouse (GET) and Marseille (MIO). The researchers have just published the first high-resolution mapping of the spatial distribution of Hg concentrations for 3 tuna species across the South West Pacific. They also developed a statistical model to characterize the spatial distribution of Hg concentrations for 2 tuna species. They succeeded in estimating the Hg isotopic composition of seawater (Mediterranean) thanks to the analytical method developed within the framework of the project for the first time in the world. <https://anr.fr/Projet-ANR-17-CE34-0010>

–ILETOP: impact of historical and emerging pollutants on Arctic marine top predators. ILETOP compared two Arctic regions between 2016 and 2018: Greenland (very high mercury concentrations) and Svalbard, which are two of the main breeding areas for seabirds. (<https://anr.fr/Projet-ANR-16-CE34-0005>):

– Mercury biomonitoring in caimans in French Guiana: Jérémy Lemaire presented a thesis which aimed to understand the effects of anthropogenic activities emitting mercury on the ecosystems of Guyana, through the use of caimans as indicator species. The study demonstrated the physiological impacts that mercury contamination has on this species. <https://www.cebc.cnrs.fr/ecophy/jeremy-lemaire/?lang=en>

Part E – Additional comments on the article in free text if the party chooses to do so

{Empty}

▼ COMMENTS

Part C: Comments regarding possible challenges in meeting the objectives of the Convention (Art. 21, para. 1)

{Empty}

▼ SUPPLEMENTAL – ADDITIONAL COMMENTS

Supplemental: Part D: Comments regarding the reporting format and possible improvements, if any

The form is consistent with the spirit of the Agreement, which is intended to be exhaustive, detailed and encompassing.

However, the answers to the questions are inevitably repetitive, because it is sometimes difficult to distinguish fundamental differences from one question to another.

Completing the questionnaire requires a great deal of coordination work, taking into account the diversity of institutions and organizations involved in the management and elimination of mercury.

More detailed reviews are provided in the relevant parts.