

2025 FULL REPORTS OF THE MINAMATA CONVENTION ON MERCURY

Report submitted on 8 December 2025



REPORTING PERIOD:

1 January 2021 to 31 December 2024

Attachments can be found on the website

▼ INFORMATION ON THE PARTY

1. Information on the party

Name of party

Slovenia

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

23 June 2017

Date of entry into force of the Convention for the party

21 September 2017

2. Information on the national focal point

Full name of the institution

Chemicals Office of the Republic of Slovenia

Title of Contact Officer

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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

▼ 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 – primary mercury mining with available data
 Yes – primary mercury mining with no available data
 No

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 – primary mercury mining with available data
 Yes – primary mercury mining with no available data
 No

3.3: (A) Has the party endeavoured to identify individual stocks of mercury or mercury compounds exceeding 50 metric tons that are located within its territory?

3.3: (A) Has the party endeavoured to identify individual stocks of mercury or mercury compounds exceeding 50 metric tons that are located within its territory?

- Yes – with new data* (also to be selected by parties reporting for the first time)
 Yes – endeavoured and indicates same stocks as reported in the previous report
 No

3.3: (B) Has the party endeavoured to identify individual sources of mercury-supply-generating stocks exceeding 10 metric tons per year that are located within its territory?

3.3:(B) Has the party endeavoured to identify individual sources of mercury-supply-generating stocks exceeding 10 metric tons per year that are located within its territory?

- Yes – with new data* (also to be selected by parties reporting for the first time)

Yes – endeavoured and indicates same stocks as reported in the previous report

No

3.4: Has the party determined that it has excess mercury available from the decommissioning of chlor-alkali facilities?

Yes

No – has determined it has no excess mercury

No – has not made a determination

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 – exports to parties

Yes – exports to non-parties

No – no export took place

No – consent was not given

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

No

Yes

The importing party has relied on paragraph 7 of article 3

Part E – Additional comments on this article

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▼ 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)

If yes, please provide information on the measures.

National legislation that regulates restrictions on the production, import and export is part of harmonized EU legislation and ensures compliance with Art 4 obligations.

- Regulation (EU) 2017/852 of the European Parliament and of the Council of 17 May 2017 on mercury
- Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals
- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex XVII contains the list of restrictions of certain hazardous substances, mixtures and articles for their marketing and use on the European market.
- Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment
- Regulation (EC) No 1223/2009 of the European Parliament and of the Council of 30 November 2009 on cosmetic products
- Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products
- Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC
- Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC
- Pravilnik o vsebnosti nevarnih snovi v materialih in sestavnih delih motornih vozil (Ur.l. RS, št. 43/06, 32/09, 74/11, 93/13, 87/16, 36/18, 62/20 in 58/23), ki določa prepovedi in omejitve glede vsebnosti določenih nevarnih snovi v materialih in sestavnih delih motornih vozil. (Rules on the content of dangerous substances in the materials and components of motor vehicles)
- Pravilnik o omejevanju uporabe določenih nevarnih snovi v električni in elektronski opremi (Uradni list RS, št. 102/12, 20/14, 57/14, 53/15, 60/16, 41/18, 25/19, 32/19, 75/20, 113/20, 162/21, 58/22, 89/22, 16/23, 76/23, 121/23, 35/24 in 103/24), ki določa omejitve in posebne pogoje uporabe nekaterih nevarnih snovi v električni in elektronski opremi. (Rules on the restriction of the use of certain hazardous substances in electrical and electronic equipment)
- Uredba o ravnanju z baterijami in akumulatorji ter odpadnimi baterijami in akumulatorji (Uradni list RS, št. 3/10, 64/12, 93/12, 103/15, 84/18 – ZIURKOE, 101/20, 44/22 – ZVO-2 in 83/24), this Regulation transposes the Directive 2006/66/EC and has subsequently been aligned with Regulation (EU) 2023/1542 on batteries and waste batteries.

The survey conducted in 2002 showed that in Slovenia Hg is not used in the production of batteries, measuring devices, electrical equipment, optical equipment and lamps. According to recent analysis, those data are still relevant. Control of products on the market is carried out by the inspection services.

If yes, has the party registered for an exemption pursuant to article 6?

Yes

No

4.3: (A) Has the party taken two or more measures listed in subparagraphs (i) to (ix) of part II of annex A for the mercury-added products listed in part II of annex A in accordance with the provisions set out therein?

4.3:(A) Has the party taken two or more measures listed in subparagraphs (i) to (ix) of part II of annex A 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.

National action plan for phasing-out the use of dental amalgam was adopted on 30 August 2024 and sets out the plan for measures listed in subparagraphs (i) to (v).

4.3: (B) If the amendment to annex A adopted in decision MC-4/3 has entered into force for the party, has the party (please check the appropriate box below) taken relevant measures:

4.3:(B) If the amendment to annex A adopted in decision MC-4/3 has entered into force for the party, has the party (please check the appropriate box below) taken relevant measures:

- Yes
 No
 Not applicable

If the party answered yes please select from the bellow checkboxes

- Excluded or not allowed, by taking measures as appropriate, the use of mercury in bulk form by dental practitioners
 Excluded or not allowed, by taking measures as appropriate, or recommended against, the use of dental amalgam for the dental treatment of deciduous teeth of patients under 15 years of age and of pregnant and breastfeeding women, except when such use is considered necessary by the dental practitioner based on the needs of the patient

If the party answered yes to either option above, please provide information on the measures.

According to the Regulation (EU) 2017/852 of the European Parliament and of the Council of 17 May 2017 on mercury, and repealing Regulation (EC) No 1102/2008 from 1 January 2019, dental amalgam is only used in pre-dosed encapsulated form and from 1 July 2018, dental amalgam shall not be used for dental treatment of deciduous teeth, of children under 15 years and of pregnant or breastfeeding women, except when deemed strictly necessary by the dental practitioner based on the specific medical needs of the patient.

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 for it under article 4?

- Yes
 No
 No - not applicable (do not have facilities assembling products using mercury-added products)

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 - no action taken
 No - an assessment of the risks and benefits of the product demonstrates benefits to human health or the environment

If yes, please provide information on the measures.

Regulation (EU) 2017/852 of the European Parliament and of the Council of the 17 May 2017 on mercury

Part E – Additional comments on this article

According to Regulation (EU) 2024/1849 of the European Parliament and of the Council of 13 June 2024 amending Regulation (EU) 2017/852 on mercury as regards dental amalgam and other mercury-added products subject to export, import and manufacturing restrictions, from 1 January 2025, dental amalgam shall not be used for dental treatment, except when deemed strictly necessary by the dental practitioner based on the specific medical needs of the patient. Additionally, from 1 January 2025, the export of dental amalgam shall be prohibited, the import and manufacturing of dental amalgam shall be prohibited from 1 July 2026, the import and manufacturing of dental amalgam shall be allowed for specific medical needs of the patient. In Member States in which dental amalgam is the only publicly reimbursed material at a rate of at least 90 % under national law for patients who are not eligible for other reimbursed materials of dental filling and persons with low income are socioeconomically disproportionately affected by the phase-out date of 1 January 2025, dental amalgam may be used for dental treatment until 30 June 2026.

A National action plan for phasing-out the use of dental amalgam has been prepared in accordance with Regulation (EU) 2024/1849 and was adopted on 30 August 2024. It sets deadlines:

- 1 January 2025: phase-out for children over 15 and young adults up to 26 years old;
- 1 July 2026: phase-out for all insured persons.

▼ 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
 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)

If yes, please provide information on these measures.

The use of Hg was ceased in 1996, since then a membrane technology has been used.

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: Has the party discouraged the development of any facility 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 - no action taken
 No - the party demonstrated to the Conference of the Parties the significant environmental and health benefits of the manufacturing process and that there are no technically and economically feasible mercury-free alternatives available providing such benefits.

Part E – Additional comments on this article

Add 5.5: No such facilities exist in Slovenia.

▼ 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

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

7.5: Supplemental: Has the party cooperated with other countries or relevant intergovernmental organizations or other entities to achieve the objective of this article?

- Yes
 No

Please provide information

{Empty}

Part E – Additional comments on this article

{Empty}

▼ 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 power plants

There are no new sources of mercury or mercury compounds from coal-fired power plants defined in paragraph 2 (c) of article 8 in Slovenia

Coal-fired industrial boilers

Coal-fired industrial boilers

There are no new sources of mercury or mercury compounds from coal-fired industrial boilers defined in paragraph 2 (c) of article 8 in Slovenia

Smelting and roasting processes used in the production of non-ferrous metals

Smelting and roasting processes used in the production of non-ferrous metals

There are no new sources of mercury or mercury compounds from smelting and roasting processes used in the production of non-ferrous metals defined in paragraph 2 (c) of article 8 in Slovenia

Waste incineration facilities

Waste incineration facilities

There are no new sources of mercury or mercury compounds from waste incineration facilities defined in paragraph 2 (c) of article 8 in Slovenia

Cement clinker production facilities

Cement clinker production facilities

There are no new sources of mercury or mercury compounds from cement clinker production facilities defined in paragraph 2 (c) of article 8 in Slovenia

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 (please explain)

No (please explain)

There are no new sources of emissions of mercury or mercury compounds.

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

Measures

Zakon o varstvu okolja (ZVO-2) (Uradni list RS, št. 44/22, 18/23 – ZDU-10, 78/23 – ZUNPEOVE, 23/24 in 21/25 – ZOPVOOV) (Environmental Protection Act)

Uredba o emisiji snovi v zrak iz nepremičnih virov onesnaževanja (Uradni list RS, št. 31/07, 70/08, 61/09, 50/13, 44/22 – ZVO-2 in 48/22) (Regulation on Emissions of Substances into Air from Stationary Sources of Pollution)

Pravilnik o prvih meritvah in obratovalnem monitoringu emisije snovi v zrak iz nepremičnih virov onesnaževanja ter o pogojih za njegovo izvajanje (Uradni list RS, št. 105/08 in 44/22 – ZVO-2) (Rules on initial measurements and operational monitoring of the emission of substances into the atmosphere from stationary pollution sources and on the conditions for their implementation)

Uredba o mejnih vrednostih emisije snovi v zrak iz velikih kurilnih naprav (Uradni list RS, št. 103/15 in 44/22 – ZVO-2) (Decree on limit values for emissions from large combustion plants into the atmosphere); determines emissions limit values, requirements for plant operation, requirements for the operational monitoring of emissions.

Uredba o emisiji snovi v zrak iz srednjih kurilnih naprav, plinskih turbin in nepremičnih motorjev (Uradni list RS, št. 17/18, 59/18, 44/22 – ZVO-2 in 99/22) (Regulation on Emissions of Substances into the Air from Medium Combustion Plants, Gas Turbines, and Stationary Engines)

Uredba o emisiji snovi v zrak iz malih kurilnih naprav (Uradni list RS, št. 46/19 in 44/22 – ZVO-2) (Regulation on the Emission of Substances into the Air from Small Combustion Plants)

Uredba o vrsti dejavnosti in naprav, ki povzročajo industrijske emisije (Uradni list RS, št. 68/22) (Regulation on the Type of Activities and Installations that Cause Industrial Emissions)

IZVEDBENI SKLEP KOMISIJE (EU) 2021/2326 z dne 30. novembra 2021 o določitvi zaključkov o najboljših razpoložljivih tehnikah (BAT) v skladu z Direktivo 2010/75/EU Evropskega parlamenta in Sveta za velike kurilne naprave (The Commission Implementing Decision (EU) 2021/2326 of 30 November 2021 establishes the Best Available Techniques (BAT) conclusions under Directive 2010/75/EU for large combustion plants)

Progress

A decrease in mercury emissions has been observed due to the modernization of technologies, the implementation of improved pollution abatement equipment, and an overall reduced (30%) use of coal as a fuel in the coal-fired power plants.

▼ 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

Measures

Zakon o varstvu okolja (ZVO-2) (Uradni list RS, št. 44/22, 18/23 – ZDU-10, 78/23 – ZUNPEOVE, 23/24 in 21/25 – ZOPVOOV) (Environmental Protection Act)

Uredba o emisiji snovi v zrak iz nepremičnih virov onesnaževanja (Uradni list RS, št. 31/07, 70/08, 61/09, 50/13, 44/22 – ZVO-2 in 48/22) (Regulation on Emissions of Substances into Air from Stationary Sources of Pollution)

Pravilnik o prvih meritvah in obratovalnem monitoringu emisije snovi v zrak iz nepremičnih virov onesnaževanja ter o pogojih za njegovo izvajanje (Uradni list RS, št. 105/08 in 44/22 – ZVO-2) (Rules on initial measurements and operational monitoring of the emission of substances into the atmosphere from stationary pollution sources and on the conditions for their implementation)

Uredba o mejnih vrednostih emisije snovi v zrak iz velikih kurilnih naprav (Uradni list RS, št. 103/15 in 44/22 – ZVO-2) (Decree on limit values for emissions from large combustion plants into the atmosphere)

Uredba o emisiji snovi v zrak iz srednjih kurilnih naprav, plinskih turbin in nepremičnih motorjev (Uradni list RS, št. 17/18, 59/18, 44/22 – ZVO-2 in 99/22) (Regulation on Emissions of Substances into the Air from Medium Combustion Plants, Gas Turbines, and Stationary Engines)

Uredba o vrsti dejavnosti in naprav, ki povzročajo industrijske emisije (Uradni list RS, št. 68/22) (Regulation on the Type of Activities and Installations that Cause Industrial Emissions)

IZVEDBENI SKLEP KOMISIJE (EU) 2021/2326 z dne 30. novembra 2021 o določitvi zaključkov o najboljših razpoložljivih tehnikah (BAT) v skladu z Direktivo 2010/75/EU Evropskega parlamenta in Sveta za velike kurilne naprave (The Commission Implementing Decision (EU) 2021/2326 of 30 November 2021 establishes the Best Available Techniques (BAT) conclusions under Directive 2010/75/EU for large combustion plants)

Progress

The emissions of mercury from the coal-fired industrial boilers in the period between 2021 and 2024 were below limit of quantification of measurement methods and significantly below emissions in the period between 2017 and 2020, mainly as a result of the reduction (90%) of using coal as a fuel in these devices.

▼ 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

Measures

Zakon o varstvu okolja (ZVO-2) (Uradni list RS, št. 44/22, 18/23 – ZDU-10, 78/23 – ZUNPEOVE, 23/24 in 21/25 – ZOPVOOV) (Environmental Protection Act)

Uredba o emisiji snovi v zrak iz nepremičnih virov onesnaževanja (Uradni list RS, št. 31/07, 70/08, 61/09, 50/13, 44/22 – ZVO-2 in 48/22) (Regulation on Emissions of Substances into Air from Stationary Sources of Pollution)

Pravilnik o prvih meritvah in obratovalnem monitoringu emisije snovi v zrak iz nepremičnih virov onesnaževanja ter o pogojih za njegovo izvajanje (Uradni list RS, št. 105/08 in 44/22 – ZVO-2) (Rules on initial measurements and operational monitoring of the emission of substances into the atmosphere from stationary pollution sources and on the conditions for their implementation)

Uredba o emisiji snovi v zrak iz naprav za proizvodnjo aluminija z elektrolitskim postopkom (Uradni list RS, št. 34/07, 81/07, 62/08 in 44/22 – ZVO-2) (Regulation on the Emission of Substances into the Air from Plants Producing Aluminium Using the Electrolytic Process)

Uredba o emisiji snovi v zrak iz livarn aluminija in magnezija (Uradni list RS, št. 34/07 in 44/22 – ZVO-2) (Regulation on Emissions of Substances into the Air from Aluminium and Magnesium Foundries)

Uredba o emisiji snovi v zrak iz naprav za pridobivanje svinca in njegovih zlitin iz sekundarnih surovin (Uradni list RS, št. 34/07 in 44/22 – ZVO-2) (Regulation on Emissions of Substances into the Air from Installations for the Recovery of Lead and Its Alloys from Secondary Raw Materials)

Uredba o vrsti dejavnosti in naprav, ki povzročajo industrijske emisije (Uradni list RS, št. 68/22) (Regulation on the Type of Activities and Installations that Cause Industrial Emissions)

IZVEDBENI SKLEP KOMISIJE (EU) 2016/1032 z dne 13. junija 2016 o določitvi zaključkov o najboljših razpoložljivih tehnikah (BAT) v skladu z Direktivo 2010/75/EU Evropskega parlamenta in Sveta za industrijo neželeznih kovin (The Commission Implementing Decision (EU) 2016/1032 of 13 June 2016 establishes the Best Available Techniques (BAT) conclusions under Directive 2010/75/EU for the non-ferrous metals industries)

Progress

The annual mercury emissions from smelting and roasting processes in the production of non-ferrous metals drop from 6,8 kg in 2021 to 1,4 kg in 2024. The reduction can be attributed to technological modernization, the deployment of advanced emission control systems, and a transition to cleaner fuels.

▼ 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

Measures

Zakon o varstvu okolja (ZVO-2) (Uradni list RS, št. 44/22, 18/23 – ZDU-10, 78/23 – ZUNPEOVE, 23/24 in 21/25 – ZOPVOOV) (Environmental Protection Act)

Uredba o emisiji snovi v zrak iz nepremičnih virov onesnaževanja (Uradni list RS, št. 31/07, 70/08, 61/09, 50/13, 44/22 – ZVO-2 in 48/22) (Regulation on Emissions of Substances into Air from Stationary Sources of Pollution)

Pravilnik o prvih meritvah in obratovalnem monitoringu emisije snovi v zrak iz nepremičnih virov onesnaževanja ter o pogojih za njegovo izvajanje (Uradni list RS, št. 105/08 in 44/22 – ZVO-2) (Rules on initial measurements and operational monitoring of the emission of substances into the atmosphere from stationary pollution sources and on the conditions for their implementation)

Uredba o sežigalnicah odpadkov in napravah za sosežig odpadkov (Uradni list RS, št. 8/16, 116/21 in 44/22 – ZVO-2) (Decree on waste incineration and co-incineration plants)

Uredba o vrsti dejavnosti in naprav, ki povzročajo industrijske emisije (Uradni list RS, št. 68/22) (Regulation on the Type of Activities and Installations that Cause Industrial Emissions)

IZVEDBENI SKLEP KOMISIJE (EU) 2019/2010 z dne 12. novembra 2019 o določitvi zaključkov o najboljših razpoložljivih tehnikah (BAT) za sežiganje odpadkov na podlagi Direktive 2010/75/EU Evropskega parlamenta in Sveta o industrijskih emisijah (The Commission Implementing Decision (EU) 2019/2010 of 12 November 2019 establishes the Best Available Techniques (BAT) conclusions under Directive 2010/75/EU for waste incineration)

Progress

The annual mercury emissions from waste incineration facilities in the period between 2021 and 2024 were between 0,2 kg and 0,6 kg and were similar to the previous period. The emissions are well controlled by modern technologies and improved pollution abatement equipment.

▼ 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

Measures

Zakon o varstvu okolja (ZVO-2) (Uradni list RS, št. 44/22, 18/23 – ZDU-1O, 78/23 – ZUNPEOVE, 23/24 in 21/25 – ZOPVOOV) (Environmental Protection Act)

Uredba o emisiji snovi v zrak iz nepremičnih virov onesnaževanja (Uradni list RS, št. 31/07, 70/08, 61/09, 50/13, 44/22 – ZVO-2 in 48/22) (Regulation on Emissions of Substances into Air from Stationary Sources of Pollution)

Pravilnik o prvih meritvah in obratovalnem monitoringu emisije snovi v zrak iz nepremičnih virov onesnaževanja ter o pogojih za njegovo izvajanje (Uradni list RS, št. 105/08 in 44/22 – ZVO-2) (Rules on initial measurements and operational monitoring of the emission of substances into the atmosphere from stationary pollution sources and on the conditions for their implementation)

Uredba o emisiji snovi v zrak iz naprav za proizvodnjo cementa (Uradni list RS, št. 34/07 in 44/22 – ZVO-2) (Decree on the Emission of Substances into the Air from Cement Production Installations)

Uredba o vrsti dejavnosti in naprav, ki povzročajo industrijske emisije (Uradni list RS, št. 68/22) (Regulation on the Type of Activities and Installations that Cause Industrial Emissions)

IZVEDBENI SKLEP KOMISIJE z dne 26. marca 2013 o določitvi zaključkov o najboljših razpoložljivih tehnologijah (BAT) v skladu z Direktivo 2010/75/EU Evropskega parlamenta in Sveta o industrijskih emisijah za proizvodnjo cementa, apna in magnezijevega oksida (2013/163/EU: Commission Implementing Decision of 26 March 2013 establishing the best available techniques (BAT) conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for the production of cement, lime and magnesium oxide (notified under document C(2013) 1728))

Progress

Annual mercury emissions from the cement clinker production facilities in 2021 were 50 kg/year and they drop to 22 kg/year in 2024, mainly due to the technological modernisation.

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?

11 February 2025

Please indicate where this inventory is available

Slovenian air pollutant emissions inventory has been prepared under the Convention on Long-range Transboundary Air Pollution (CLRTAP). As part of the CLRTAP reporting obligations, mercury emissions are also included.

The latest report provides information on national mercury emission inventories for the period from 1990 to 2023.

Annual inventories are available on the Eionet Central Data Repository, managed by the European Environment Agency.

<https://cdr.eionet.europa.eu/si/un/clrtap/inventories/>

<https://cdr.eionet.europa.eu/si/un/clrtap/iir/envacr6uq/>

Attach

- [SVN_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 this article

Additional comment to Question 8.2.

The Environmental Agency of the Republic of Slovenia is responsible for collecting the data from the operational monitoring of air pollutant emissions from industrial sources, including mercury emissions. The Agency maintains an emission register. The registered mercury emissions into the air from industrial sources in Republic of Slovenia were 58 kg in 2021, 39 kg in 2022, 23 kg in 2023 and 31 kg in 2024. The reduction of mercury emissions is mainly due to reduction of using the coal as a fuel and implementation of modern technologies and improved pollution abatement equipment in industrial facilities.

▼ 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
 Do not know (please explain)

Please indicate the measures taken to address releases from relevant sources and the effectiveness of those measures.

The control is carried out by the Environmental Agency of the Republic of Slovenia. Criteria for the reporting are set out in:

– Uredba o emisiji snovi in toplote pri odvajanju odpadnih voda v vode in javno kanalizacijo (Uradni list RS, št. 64/12, 64/14, 98/15, 44/22 – ZVO–2, 75/22 in 157/22) (Decree on the emission of substances and heat when discharging waste water into waters and the public sewage system); it contains:

release limit values, listed in Annex 2, evaluation of emissions of substances and heat, measures to prevent emissions from waste water disposal, measures to reduce emissions from waste water disposal, obligations of investors and plant managers related to obtaining an environmental permit

– Pravilnik o prvih meritvah in obratovalnem monitoringu odpadnih voda (Uradni list RS, št. 94/14, 98/15 in 44/22 – ZVO–2 (Rules on initial measurements and operational monitoring of wastewater);

determines the types of parameters in the first measurements and operational monitorings, sampling methodology and measuring parameters and quantities of wastewater, specifies the technical conditions for the implementation of operational monitoring.

The frequency of measurements depends on the amount of wastewater in the calendar year. Releases from municipal and industrial wastewater treatment plants are reported at the beginning of each year (data for previous year) as part of annual reporting.

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 (please explain)

When was the inventory last updated?

15 January 2025

Please indicate where this inventory is available.

[SVN_9.2.xls](#)

Please explain

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Part E – Additional comments on this article

Data is available at Environmental Agency of the Republic of Slovenia website:

<http://hmljn.arso.gov.si/varstvo%20okolja/onesna%c5%beevanje%20voda/>

– for industrial installations (uploaded above)

http://hmljn.arso.gov.si/varstvo%20okolja/onesna%c5%beevanje%20voda/Podatki_ind_za_splet_2024.xls

– for municipal sewage installations

http://hmljn.arso.gov.si/varstvo%20okolja/onesna%c5%beevanje%20voda/Podatki_cistilne_za_splet_2024.xls

▼ 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 (please explain)
 Do not know (please explain)

If no, please explain

In Slovenia there is no interim storage of mercury.

Part E – Additional comments on this article

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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
 Yes – the party has taken measures so that mercury waste is managed in an environmentally sound manner

Please describe measure and effectiveness of measures

The measures are implemented with the Decree on waste landfill (Uredba o odlagališčih odpadkov (Uradni list RS, št. 10/14, 54/15, 36/16, 37/18, 13/21 in 44/22- ZVO-2)).

Article 46 of the decree provides for operational monitoring of the landfill. The operator of the landfill must ensure that operational monitoring is implemented:

- measurements of meteorological parameters,
- measurements of landfill gas emissions,
- measurements of the emission of leachate, discharge of contaminated rainwater from landfill surfaces and waste water from vehicle washing facilities and other equipment in the landfill area,
- measurements of chemical status parameters, general physico-chemical parameters and specific pollutants in surface waters, if they are present in the landfill area or if leachate, contaminated rainwater and waste water from vehicle washing facilities and other equipment in the landfill area are discharged directly into surface waters;
- measurements of the operating monitoring parameters of groundwater status.

The operational monitoring shall be carried out to the extent and in the manner set out in Annex 8 of The Decree on waste landfill. The operator of the landfill shall submit to the Ministry a report on the implementation of the operational monitoring for the previous year by 31 March of the current year at the latest.

The annual reports are reviewed by the Ministry and the competent inspectorate is informed with the results.

Yes – the party has taken measures so that mercury waste is recovered, recycled, reclaimed or directly re-used for a use allowed to a party under the Convention or for environmentally sound disposal pursuant to paragraph 3 (a)

Yes – the party has taken measures so that mercury waste is not transported across international boundaries except for the purpose of environmentally sound disposal

If the party answered yes to any measures above, please describe the measures implemented pursuant to paragraph 3, and please also describe the effectiveness of those measures.

The measures are implemented with the Decree on waste landfill (Uredba o odlagališčih odpadkov (Uradni list RS, št. 10/14, 54/15, 36/16, 37/18, 13/21 in 44/22- ZVO-2)).

Article 46 of the decree provides for operational monitoring of the landfill. The operator of the landfill must ensure that operational monitoring is implemented:

- measurements of meteorological parameters,
- measurements of landfill gas emissions,
- measurements of the emission of leachate, discharge of contaminated rainwater from landfill surfaces and waste water from vehicle washing facilities and other equipment in the landfill area,
- measurements of chemical status parameters, general physico-chemical parameters and specific pollutants in surface waters, if they are present in the landfill area or if leachate, contaminated rainwater and waste water from vehicle washing facilities and other equipment in the landfill area are discharged directly into surface waters;
- measurements of the operating monitoring parameters of groundwater status.

The operational monitoring shall be carried out to the extent and in the manner set out in Annex 8 of The Decree on waste landfill. The operator of the landfill shall submit to the Ministry a report on the implementation of the operational monitoring for the previous year by 31 March of the current year at the latest.

The annual reports are reviewed by the Ministry and the competent inspectorate is informed with the results.

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

Yes

No

Do not know (please explain)

Part E – Additional comments on this article

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▼ ART. 12: CONTAMINATED SITES

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

Yes

No

Please elaborate

Contaminated sites with significantly higher concentration of Hg compared to the nature hinterland are well documented. The most important is the historic area of the Idrija Mercury Mine with the freshwater system that leads to the bay of Trieste. Since the Hg production stopped in 1995 several measures have been put in place. The monitoring project of the consequences of 500-years of mining in the area was prepared in 2006, with its implementation starting in 2010. According to the project, the activities are carried out on the basis of an annual work programme. After the liquidation of the Idrija Mercury Mine in 2017, the Idrija Mercury Heritage Management Centre is in charge of the maintenance of the unflooded part of the mine as well as for regular monitoring in the area of the influence of the mine. Hg concentrations are measured monthly in the air of Idrija and every three months in the Idrijca River. Hg in soil in the Idrija area is also measured occasionally. The Ministry of the Economy, Tourism and Sport is financing these works under the Idrija Mercury Heritage Management Centre work programme.

Relevant national legislation:

Zakon o rudarstvu (Uradni list RS, št. 14/14 – uradno prečiščeno besedilo, 61/17 – GZ, 54/22, 78/23 – ZUNPEOVE in 81/24) (Mining Act)

Zakon o preprečevanju posledic rudarjenja v rudniku živega srebra Idrija (Uradni list RS, št. 26/05) (Prevention of Effects of Mining in the Idrija Mercury Mine Act)

Odločba Ministrstva za infrastrukturo št. 361-30/2011-DE-36 z dne 28. 11. 2014 o prenehanju rudarskih pravic RŽS Idrija ter prenos vzdrževanja nezalitega dela jame in monitoringa vplivnega območja rudnika s pripadajočimi objekti na površini na CUDHg Idrija (skladno s 150 c. členom Zakona o rudarstvu, ZRud-1-UPB3, UL RS, št. 14/14, z dne 21. 2. 2014);

Rudarski projekt »Opazovanje (monitoring) vplivnega območja Rudnika živega srebra Idrija po končanih delih« (št. projekta: 01/06, september 2006); dovoljenje za izvajanje del je izdalo Ministrstvo za gospodarstvo, št. 361-39/2008-11, januar 2009 (Authorisation for taking up a monitoring project, issued by the Ministry of Economic Development and Technology) .

Part E – Additional comments on this article

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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

A network of institutions with clearly defined competencies has been established in Slovenia covering knowledge as well as all necessary research and support infrastructure to implement commitments under the Conventions.

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

- Yes
 No

Please provide comments, if any.

Slovenia has contributed to GEF5, GEF6, GEF7, and GEF8. The total for the period 2021–2024 was 6.439.500 EUR.

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

We have no data on this.

Please provide comments, if any.

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Part E – Additional comments on this article

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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

The Jožef Stefan Institute (IJS) provided targeted training and technical assistance as follows:

International Workshop on the Harmonization of Protocols and Quality Concepts for Monitoring Mercury and Mercury Compounds in Marine Ecosystems

• When/where: 11–15 November 2024, Ljubljana/remote hybrid.

• Participants: 24 participants from 12 Member States.

• Focus: Harmonized field and lab protocols for marine Hg (water, biota, sediments), QA/QC concepts for total Hg and MeHg, data quality objectives for trend detection, and comparability across monitoring programs.

• Outputs/assistance delivered:

o Draft harmonized protocol set (sampling, preservation, storage, analytical steps).

o Consensus on minimum QC package (field blanks, CRMs, spikes) and performance criteria.

o Plan for a 2025–2026 intercomparison/round-robin to support marine monitoring networks.

• Article 14 alignment: Technical assistance and technology transfer (standard methods, QC tools) to strengthen national and regional capacity to monitor emissions/releases and environmental levels (Arts. 8, 9, 19).

Across the events, IJS disseminated:

• Harmonized SOPs and QA/QC toolkits that reduce contamination risk and analytical waste, and improve data comparability.

• Practical guidance on selecting mercury-free or low-mercury analytical workflows where feasible, and on minimizing reagent volumes and waste streams.

• Templates for interlaboratory comparisons and QC charting to sustain performance after training.

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

- Yes
 No

Please specify

Slovenia has not received capacity-building or technical assistance.

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

See 2021 report

Part E – Additional comments on this article

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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.

The results of the analysis of Hg in soil, air and water in Idrija area are publicly available. Residents are encouraged to bring soil samples from their gardens and drinking water to analyze mercury content at the Idrija Mercury Heritage Management Centre (CUDHg Idrija). CUDHg Idrija periodically raises awareness of residents about mercury in their living environment through the workshops, lectures, news and social media. People, pregnant women and children in particular, are advised not to consume vegetables grown in the area around the former mining smelting plants, as well as to not eat fish from the river due to their contamination with Hg. CUDHg Idrija provides workshops and lectures on the effects of mercury on the living environment for schools and professional groups. CUDHg Idrija set up in 2017 in the former Idrija Hg Smelting Plant, educational permanent exhibition on the harmfulness and toxicity of mercury. The exhibition is open to the public.

National Institute of Public Health of the Republic of Slovenia posts several articles, leaflets on its web page :

- Mercury in lamps (what to do if a lamp breaks, <https://nijz.si/moje-okolje/zivo-srebro-v-varcnih-sijalkah/>)
- Fish in a diet (benefits and risks, https://nijz.si/wp-content/uploads/2018/04/ribe_v_prehrani_slovenecv_zlozenka.pdf)

16.2: Have any measures been taken to protect human health in accordance with article 16 beyond the provision of information to the public on exposure to mercury (referred to in question 16.1)?

- Yes
 No

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

The Human Biomonitoring Program (HBM) has been established in Slovenia, which also includes assessment of exposure to mercury in the living environment and diet within the general population of children and adults. It provides monitoring of temporal and spatial changes in exposure to mercury. A National Hub for HBM has been set up to bring together experts of different professions, institutions and sectors. The first phase took place between 2008 and 2014, the second phase started in 2018 and will run until the end of 2025.

In addition to the national priorities the Hub takes care of harmonization of HBM protocols and actively links with the European HBM program (HBM4EU), which has been running since 2017, and the project PARC running from 2024. This initiatives/projects contribute directly to the improvement of health and well-being for all citizens, by investigating how exposure to chemicals affects the health of different vulnerable groups, such as children and pregnant women, as well as of highly exposed groups like workers. Furthermore, a Human biomonitoring Guidance Values, which will supplement the comprehensive health risk assessment of population exposure to Hg, are being prepared within the HBM4EU and were/will be used in our final conclusions in the national HBM program.

Part E – Additional comments on this article

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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

If yes, the Party may wish to indicate in the space provided below the exchange of information it has facilitated, such as:

- Scientific, technical, economic and legal information concerning mercury and mercury compounds, including toxicological, ecotoxicological and safety information

Scientific, technical, economic and legal information concerning mercury and mercury compounds, including toxicological, ecotoxicological and safety information

The Jožef Stefan Institute (IJS) actively disseminates scientific and technical information on mercury and its compounds through international research networks, scientific publications, and policy engagement.

Key contributions include:

- Generation and exchange of data on mercury speciation, cycling, and bioavailability in environmental and biological matrices under projects such as GMOS-Train, ENVESOME, and EIRENE.
- Development of analytical and metrological methods to improve mercury measurement reliability in air, water, sediments, and biological samples.
- Dissemination of toxicological and ecotoxicological findings through open-access scientific journals and at conferences including the International Conference on Mercury as a Global Pollutant (ICMGP) and Minamata Convention Open-Ended Scientific Group (OESG) meetings.
- Provision of expert input to national authorities on the safe management of mercury and the implementation of the Convention, including contributions to guidance materials and training.

- Information on the reduction or elimination of the production, use, trade, emissions and releases of mercury and mercury compounds

Information on the reduction or elimination of the production, use, trade, emissions and releases of mercury and mercury compounds

IJS supports national and international activities aimed at reducing mercury emissions and releases.

- Research findings from IJS contribute to understanding mercury sources, atmospheric transport, and deposition, informing emission reduction policies.
- The Institute contributes scientific evidence for the phase-out of mercury use in analytical and industrial processes (especially cement production sector and waste incineration), promoting mercury-free instrumentation and methods.
- IJS also collaborates with the Idrija Mercury Heritage Management Centre to raise awareness of legacy mercury contamination and successful remediation efforts, thereby supporting knowledge transfer on sustainable environmental management of former mining areas.

- Information on technically and economically viable alternatives to:

- Epidemiological information concerning health impacts associated with exposure to mercury and mercury compounds, in close cooperation with the World Health Organization and other relevant organizations, as appropriate. (Art. 17.1 (a)-(d))

Epidemiological information concerning health impacts associated with exposure to mercury and mercury compounds, in close cooperation with the World Health Organization and other relevant organizations, as appropriate. (Art. 17.1 (a)-(d))

In line with Article 22 of the Minamata Convention, IJS conducted a national study to evaluate the effectiveness of mercury reduction measures in Slovenia, particularly concerning children's exposure to mercury from dental amalgam.

- The study assessed time trends in urinary mercury concentrations as a biomarker of exposure, based on Human Biomonitoring (HBM) data collected in 2015-2016 and 2020-2023.
- Results showed a 50% reduction in median urinary mercury concentrations, from 0.32 µg/L (2015-2016) to 0.16 µg/L (2020-2023).
- The most pronounced decrease occurred in children under 12 years, consistent with the phase-out of dental amalgam use in this age group.
- These findings demonstrate the positive public health impact of national measures and contribute to the global evaluation of the Convention's effectiveness under Article 22.
- A synthesis paper presenting these results is currently under review in Environmental Health.

This work highlights the Institute's role in linking scientific research, human biomonitoring, and policy evaluation to support evidence-based decision-making under the Minamata Convention.

Part E – Additional comments on this article

IJS promotes mercury-free technologies through:

- Research and validation of mercury-free analytical techniques (e.g., cold vapor-free spectrometry and solid-phase microextraction approaches).
- Participation in international collaborations (GMOS-Train, PARC, EIRENE) aimed at advancing environmentally sustainable monitoring and production processes.
- Dissemination of data on the economic and environmental benefits of mercury-free methods in both scientific and policy contexts.
- Support for transition guidance to industries and laboratories seeking practical alternatives to mercury-based technologies, ensuring compliance with Convention goals.

▼ 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, the party may wish to indicate in the space provided below, the measures it has taken to promote and facilitate information to the public, such as:

(a) Provision to the public of available information on:

- The effects of mercury and mercury compounds on human health and the environment

The effects of mercury and mercury compounds on human health and the environment

IJS (Jožef Stefan Institute) has organized several scientific and public outreach events explaining the sources, transport, and effects of mercury on human health and ecosystems. These include presentations and discussions within the framework of the Environmental Science Days, European Researchers' Night, and other public awareness events. The Institute's Department of Environmental Sciences also disseminates research findings through media releases, lectures, and collaborations with schools and NGOs to improve understanding of mercury exposure and health impacts.

- Alternatives to mercury and mercury compounds

Alternatives to mercury and mercury compounds

Through its research and collaboration with international networks (e.g., GMOS-Train, PARC, and EIRENE), IJS promotes the use of mercury-free analytical techniques and supports the development and validation of environmentally safe methods for mercury monitoring and control.

- The topics identified in paragraph 1 of article 17

- The results of its research, development and monitoring activities under article 19

The results of its research, development and monitoring activities under article 19

IJS leads national and international research on mercury cycling, human biomonitoring, and the development of measurement standards in support of the Minamata Convention. Results are regularly published in open-access scientific journals and disseminated through international projects such as GMOS-Train, MINKE, and ENVESOME, as well as via the Convention's Open-Ended Scientific Group (OESG). The Institute actively contributes to global monitoring and assessment of mercury under the Minamata Convention.

- Activities to meet its obligations under the Convention

Activities to meet its obligations under the Convention

IJS participates in the national reporting and coordination process for the Minamata Convention. The Institute contributes scientific expertise for the development of policy briefs, guidance materials, and capacity-building activities to strengthen the implementation of the Convention in Slovenia and internationally.

(b) Education, training and public awareness related to the effects of exposure to mercury and mercury compounds on human health and the environment in collaboration with relevant intergovernmental and non-governmental organizations and vulnerable populations, as appropriate.

Activities to meet its obligations under the Convention

The Minamata Convention Secretariat is developing tangible pathways for stronger youth engagement within the Minamata Convention on Mercury framework, including promoting youth initiatives that are part of the solution to tackle toxic mercury. CUDHg Idrija has been cooperating with Idrija High School since 2022 to train selected students to participate in the YOUTH DIALOG. The Youth Dialogue (YD) is an initiative of the Ministry of the Environment, Japan (MOEJ). The programme started in 2022 to encourage a dialogue among youths from Minamata and other youths around the world to share their message and lessons learned about their experience with mercury and to learn from each other. The Youth Dialogue was also designed to focus on mercury management and showcase independent projects that are led and undertaken by the youth sector with a focus on Minamata Convention issues, and other cross-cutting issues including the Sustainable Development Goals (SDGs). Youths from Japan, Slovenia, Indonesia, Philippines and Kenya have participated so far in the Youth Dialogues. The Youth Dialogue is designed to continue on an annual basis. The event is being held by videoconference.
<https://minamataconvention.org/en/youth-engagement>

Annual workshops for schools and general public are organized in Idrija by the Idrija Mercury Heritage Management Centre. Centre set up in 2017 in the former Idrija Hg Smelting Plant, educational permanent exhibition on the harmfulness and toxicity of mercury. The exhibition is opened to the public.

Moreover, IJS supports education and training through the Jožef Stefan International Postgraduate School (MPŠ), which includes dedicated courses on environmental chemistry, toxicology, and global mercury policy. Training is provided to young researchers, including those from developing countries, in cooperation with international programmes (e.g., the Minamata Convention's Partnership Programme, GMOS-Train).

In addition, IJS collaborates with the Idrija Mercury Heritage Management Centre to promote awareness among students and the general public about mercury toxicity, legacy contamination, and environmental restoration in Idrija, a UNESCO World Heritage Site.

(Art. 18 (1) (a) and (b))

Part E – Additional comments on this article

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▼ 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, the party may wish to indicate in the space provided below, the research, development and monitoring it has undertaken, such as:

- Inventories of use, consumption, anthropogenic emissions to air and releases to water and land of mercury and mercury compounds

Inventories of use, consumption, anthropogenic emissions to air and releases to water and land of mercury and mercury compounds

Within the »Project of monitoring the consequences of shutdown of the Idrija Mercury Mine after its closure«, the Idrija Mercury Heritage Management Centre provides periodically measurements of mercury in the air in the town of Idrija, in river Idrijca and in soil in Idrija. The Center occasionally and in cooperation with the Jožef Stefan Institute in Ljubljana also performs analyzes of mercury in vegetables in Idrija.

Mercury monitoring in Slovenia is carried out within the framework of national monitoring of the state of the environment which includes soil, water and air. Monitoring takes place in the following environmental media:

- Hg in air
- Hg in surface water (Hg is measured in water and in bioata–fish)
- Hg in groundwater
- Hg in soil

Modelling and geographically representative monitoring of levels of mercury and mercury compounds in vulnerable populations and in environmental media, including biotic media such as fish, marine mammals, sea turtles and birds, as well as collaboration in the collection and exchange of relevant and appropriate samples

Assessments of the impact of mercury and mercury compounds on human health and the environment, in addition to social, economic and cultural impacts, particularly in respect of vulnerable populations

Harmonized methodologies for the activities undertaken under subparagraphs (a), (b) and (c) of paragraph 1 of article 19

Information on the environmental cycle, transport (including long–range transport and deposition), transformation and fate of mercury and mercury compounds in a range of ecosystems, taking appropriate account of the distinction between anthropogenic and natural emissions and releases of mercury and of remobilization of mercury from historic deposition

Information on the environmental cycle, transport (including long–range transport and deposition), transformation and fate of mercury and mercury compounds in a range of ecosystems, taking appropriate account of the distinction between anthropogenic and natural emissions and releases of mercury and of remobilization of mercury from historic deposition

1. BOŽIČ, Dominik, SHLYAPNIKOV, Yaroslav, JAGODIČ HUĐOBIVNIK, Marta, KOTNIK, Jože, DIZDAREVIČ, Tatjana, ŠTOK, Marko, HORVAT, Milena. Mercury isotopes in soils and ores at the site of a former mercury mine. V: Reducing mercury emissions to achieve a greener world : 15th International Conference on Mercury as a Global Pollutant (ICMGP), 24th – 29th July 2022, virtual event. [S. l.]: ILM Exhibitions. 2022, [1] str.

<https://app.swapcard.com/widget/event/icmcp-2022/planning/UGxhbm5pbmdfOTU2NzQw>. [COBISS.SI-ID 118933507]

2. BOŽIČ, Dominik, KOTNIK, Jože, JAGODIČ HUĐOBIVNIK, Marta, ŽIVKOVIČ, Igor, DIZDAREVIČ, Tatjana, WAQAR ALI, Saeed, ŠTOK, Marko, HORVAT, Milena.

Mercury tracking via isotopic signature at Idrija contaminated site. V: NOVAK, Rok (ur.), et al. 14. študentska konferenca Mednarodne podiplomske šole Jožefa Stefana = 14th Jožef Stefan International Postgraduate School Students' Conference : knjiga povzetkov = book of abstracts : 1. – 3. junij 2022, Kamnik, Slovenia = 1st – 3rd June, 2022, Kamnik, Slovenia. 14. študentska konferenca Mednarodne podiplomske šole Jožefa Stefana, 1. – 3. junij 2022, Kamnik, Slovenia = 14th Jožef Stefan International Postgraduate School Students' Conference, 1st – 3rd June, 2022, Kamnik, Slovenia. Ljubljana: Jožef Stefan Institute: Jožef Stefan International Postgraduate School, 2022. Str. 30. http://ipssc.mps.si/Book_of_Abstracts.pdf. [COBISS.SI-ID 118779651]

3. BOŽIČ, Dominik, ŽIVKOVIČ, Igor, DIZDAREVIČ, Tatjana, PELJHAN, Martina, ŠTOK, Marko, HORVAT, Milena. Insights into the heterogeneity of the mercury isotopic fingerprint of the Idrija mine (Slovenia). Minerals. [Online ed.]. 2023, vol. 13, no. 9, str. 1–11, ilustr. ISSN 2075–163X. <https://www.mdpi.com/2075-163X/13/9/1227>, DOI: doi.org/10.3390/min13091227. [COBISS.SI-ID 164904963]

2021

1. GAČNIK, Jan, ŽIVKOVIČ, Igor, RIBEIRO GUEVARA, Sergio, JAČIMOVIČ, Radojko, KOTNIK, Jože, DE FEO, Gianmarco, DEXTER, Matthew A., CORNS, Warren T., HORVAT, Milena. Behavior of KCl sorbent traps and KCl trapping solutions used for atmospheric mercury speciation : stability and specificity. Atmospheric measurement techniques. 2021, vol. 14, str. 6619–6631. ISSN 1867–8548. DOI: 10.5194/amt-14-6619-2021. [COBISS.SI-ID 80415235]

2. KROM DE, Iris, ŽIVKOVIČ, Igor, GAČNIK, Jan, FAJON, Vesna, KOTNIK, Jože, HORVAT, Milena, et al. Comparability of calibration strategies for measuring mercury concentrations in gas emission sources and the atmosphere. Atmospheric measurement techniques. 2021, vol. 14, no. 3, str. 2317–2326. ISSN 1867–1381. DOI: 10.5194/amt-14-2317-2021. [COBISS.SI-ID 51471619]

3. MAAIRE GYENGNE, Francis. Gaseous elemental mercury (GEM) in air of the former mercury mine and the vicinity of the cement production facility : master thesis = Plinasto elementarno živo srebro (GEM) v zraku v bližini nekdanjega rudnika živega srebra in v okolici cementarne : magistrsko delo. Ljubljana: [M. G. Francis], 2021. XIX, 56 str., ilustr. [COBISS.SI-ID 83864835]

4. KLEINDIENST, Alina, LAPANJE, Aleš, KOČMAN, David, DEEV, Dmitrii, RYBKIN, Iaroslav, ŽIVKOVIČ, Igor, GAČNIK, Jan, KOTNIK, Jože, JAGODIČ HUĐOBIVNIK, Marta, HORVAT, Milena, JAČIMOVIČ, Radojko, WAQAR ALI, Saeed, VIJAYAKUMARAN NAIR, Sreekanth, ANDRON, Teodor Daniel, et al., HORVAT, Milena (urednik). GMOS–Train Mid–Term Check Meeting, October 6th–8th, 2021 : poster booklet. Ljubljana: Institut Jožef Stefan, 2021. IJS delovno poročilo, 13645, Grant agreement number, 860497. [COBISS.SI-ID 82494979]

5. ŽIVKOVIČ, Igor, KOTNIK, Jože, GAČNIK, Jan, HORVAT, Milena, et al. Good practice guide for Hg sample preparation and interspecies conversion correction : MercOx Deliverable D5. [S. l.]: EMPIR, 2021. 67 str. Hg–ox, 16ENV01. [COBISS.SI-ID 58685699]

6. BOŽIČ, Dominik, ŽIVKOVIČ, Igor, JAGODIČ HUĐOBIVNIK, Marta, POTOČNIK, Doris, KRAJNC, Bor, KOTNIK, Jože, MAZEJ, Darja, OGRINC, Nives, ŠTOK, Marko, HORVAT, Milena. Lichen biomonitoring in Western Slovenia : results of multi–elemental concentration and isotopic composition analysis. 2021. IJS delovno poročilo, 13610. [COBISS.SI-ID 77532163]

7. TULASI, Delali, FAJON, Vesna, KOTNIK, Jože, SHLYAPNIKOV, Yaroslav, ADOTEY, Dennis, SERFOR–ARMAH, Yaw, HORVAT, Milena. Mercury methylation in cyanide influenced river sediments : a comparative study in Southwestern Ghana. Environmental monitoring and assessment. 2021, vol.193, no. 4, str. 180–1–180–18. ISSN 0167–6369. DOI: 10.1007/s10661–021–08920–7. [COBISS.SI-ID 58190083]

8. MAAIRE GYENGNE, Francis, BERISHA, Sabina, KOTNIK, Jože, HORVAT, Milena. Monitoring of total mercury in air of the former mercury mine and in the vicinity of the cement production facility. V: ŽAGAR, Klara (ur.), et al. Throughout knowledge towards a green new world : 13. študentska konferenca Mednarodne podiplomske šole Jožefa Stefana in 15. dan mladih raziskovalcev (Konferenca KMBO), 27–28 maj 2021, Ljubljana, Slovenija : knjiga povzetkov = 13th Jožef Stefan International Postgraduate School Students' Conference and 15th Young Researchers' Day of Chemistry, material science, biochemistry and environment, (CMBE day), 27th–28th May 2021, online : book of abstracts. 13. študentska konferenca Mednarodne podiplomske šole Jožefa Stefana in 15. dan mladih raziskovalcev (Konferenca KMBO), 27–28 maj 2021, Ljubljana, Slovenija = 13th Jožef Stefan International Postgraduate School Students' Conference and 15th Young Researchers' Day, 27th–28th May 2021. Ljubljana: Mednarodna podiplomska šola Jožefa Stefana: = Jožef Stefan International Postgraduate School: Inštitut Jožef Stefan: = Jožef Stefan Institute, 2021. Str. 32. http://ipssc.mps.si/bookOfAbstracts/Book_of_abstracts_v04.pdf. [COBISS.SI-ID 65257219]

9. BIRIKORANG, Bright. Natural recovery of the environment polluted by past mercury mining by studying the fractionation of mercury in river water : master thesis = Naravno okrevanje okolja, onesnaženega zaradi preteklega rudarjenja živega srebra s preučevanjem frakcionacije živega srebra v rečni vodi : magistrsko delo. Ljubljana: [B. Birikorang], 2021. XX, 72 str., ilustr. [COBISS.SI-ID 83436547]

10. GAČNIK, Jan, ŽIVKOVIČ, Igor, RIBEIRO GUEVARA, Sergio, JAČIMOVIČ, Radojko, KOTNIK, Jože, HORVAT, Milena. Validating an evaporative calibrator for gaseous oxidized mercury. Sensors. 2021, vol. 21, no. 7, str. 2501–1–2501–18. ISSN 1424–8220. DOI: 10.3390/s21072501. [COBISS.SI-ID 58275587]

11. GAČNIK, Jan, SAXHOLM, Sari, ŽIVKOVIČ, Andrej, RIBEIRO GUEVARA, Sergio, JAČIMOVIČ, Radojko, RAJAMAKI, Timo, KOTNIK, Jože, HORVAT, Milena. Validation of an evaporative calibrator for gaseous oxidized mercury. V: Abstracts : 20th International Metrology Congress, CIM 2021, 07–09 Sept. Lyon, France. Str. 100. <https://www.cim2021.com/files/programmes/CIM2021–PapersAbstract–V1.pdf>. [COBISS.SI-ID 112369411]

2022

12. GAČNIK, Jan, ŽIVKOVIČ, Igor, RIBEIRO GUEVARA, Sergio, KOTNIK, Jože, BERISHA, Sabina, VIJAYAKUMARAN NAIR, Sreekanth, JUROV, Andrea, CVELBAR, Uroš, HORVAT, Milena. Calibration approach for gaseous oxidized mercury based on nonthermal plasma oxidation of elemental mercury. Analytical chemistry. [Print ed.]. 2022, vol. 94, iss. 23, str. 8234–8240, ilustr. ISSN 0003–2700. DOI: 10.1021/acs.analchem.2c00260. [COBISS.SI-ID 110172419]

13. GAČNIK, Jan, ŽIVKOVIČ, Igor, KOTNIK, Jože, BOŽIČ, Dominik, MAAIRE GYENGNE, Francis, BERISHA, Sabina, TASSONE, Antonella, NACCARATO, Attilio, PIRRONI, Nicola, SPROVIERI, Francesca, HORVAT, Milena. Comparison of yearly atmospheric mercury monitoring with passive sampling, biomonitoring and active measurements. V: Reducing mercury emissions to achieve a greener world : 15th International Conference on Mercury as a Global Pollutant (ICMGP), 24th – 29th July 2022, virtual event. [S. l.]: ILM Exhibitions. 2022, [1] str. <https://app.swapcard.com/widget/event/icmcp-2022/planning/UGxhbm5pbmdfOTUxNjIw>. [COBISS.SI-ID 118933579]

14. GAČNIK, Jan, ŽIVKOVIČ, Igor, RIBEIRO GUEVARA, Sergio, KOTNIK, Jože, VIJAYAKUMARAN NAIR, Sreekanth, JUROV, Andrea, CVELBAR, Uroš, ANDRON, Teodor Daniel, HORVAT, Milena. Development of a traceable calibration for gaseous oxidized mercury species based on non–thermal plasma approach. V: Reducing mercury emissions to achieve a greener world : 15th International Conference on Mercury as a Global Pollutant (ICMGP), 24th – 29th July 2022, virtual event. [S. l.]: ILM Exhibitions. 2022, [1] str. <https://app.swapcard.com/event/icmcp-2022/planning/UGxhbm5pbmdfOTU2MTgx>. [COBISS.SI-ID 121960451]

15. VIJAYAKUMARAN NAIR, Sreekanth, KOTNIK, Jože, GAČNIK, Jan, ŽIVKOVIČ, Igor, KOENIG, Alkuin Maximilian, LJUBIČ-MLAKAR, Tanja, HORVAT, Milena. Dispersion of airborne mercury species emitted from the cement plant. Environmental pollution. [Print ed.]. 2022, vol. 312, str. 120057-1-120057-9. ISSN 0269-7491. DOI: 10.1016/j.envpol.2022.120057. [COBISS.SI-ID 120785411]
16. KOTNIK, Jože, ŽAGAR, Dušan, NOVAK, Gorazd, LIČER, Matjaž, HORVAT, Milena. Dissolved gaseous mercury (DGM) in the gulf of Trieste, Northern Adriatic Sea. Journal of marine science and engineering. 2022, vol. 10, no. 5, str. 587-1-587-18, ilustr. ISSN 2077-1312. DOI: 10.3390/jmse10050587. [COBISS.SI-ID 106093315]
17. GAČNIK, Jan, ŽIVKOVIČ, Igor, VIJAYAKUMARAN NAIR, Sreekanth, ANDRON, Teodor Daniel, KOTNIK, Jože, HORVAT, Milena. Do you trust your measurement? Atmospheric mercury (Hg) case study. V: NOVAK, Rok (ur.), et al. 14. študentska konferenca Mednarodne podiplomske šole Jožefa Stefana = 14th Jožef Stefan International Postgraduate School Students' Conference : knjiga povzetkov = book of abstracts : 1. - 3. junij 2022, Kamnik, Slovenia = 1st - 3rd June, 2022, Kamnik, Slovenia. 14. študentska konferenca Mednarodne podiplomske šole Jožefa Stefana, 1. - 3. junij 2022, Kamnik, Slovenia = 14th Jožef Stefan International Postgraduate School Students' Conference, 1st - 3rd June, 2022, Kamnik, Slovenia. Ljubljana: Jožef Stefan Institute: Jožef Stefan International Postgraduate School, 2022. Str. 21, ilustr. http://ipssc.mps.si/Book_of_Abstracts.pdf. [COBISS.SI-ID 139720451]
18. ŽIVKOVIČ, Igor, BRATKIČ, Arne, KOTNIK, Jože, BEGU, Ermira, FAJON, Vesna, HORVAT, Milena, et al. Enhanced mercury reduction in the South Atlantic Ocean during carbon remineralization. Marine pollution bulletin. 2022, vol. 178, str. 1-113644-10-113664. ISSN 0025-326X. DOI: 10.1016/j.marpolbul.2022.113644. [COBISS.SI-ID 104473091]
19. BOŽIČ, Dominik, ŽIVKOVIČ, Igor, JAGODIČ HUĐOBIVNIK, Marta, KOTNIK, Jože, AMOUROUX, David, ŠTOK, Marko, HORVAT, Milena. Fractionation of mercury stable isotopes in lichens. Chemosphere. [Online ed.]. 2022, vol. 309, part 1, str. 136592-1-136592-9. ISSN 1879-1298. DOI: 10.1016/j.chemosphere.2022.136592. [COBISS.SI-ID 124115459]
20. BOŽIČ, Dominik, ŽIVKOVIČ, Igor, KOTNIK, Jože, JAGODIČ HUĐOBIVNIK, Marta, MAZEJ, Darja, ŠTOK, Marko, HORVAT, Milena. Fractionation of mercury stable isotopes in lichens over a period of one year. V: EGU General Assembly 2022 : Vienna, Austria & Online : 23-27 May 2022. [S. I.]: European Geosciences Union, 2022. 1 spletni vir. <https://meetingorganizer.copernicus.org/EGU22/EGU22-1108.html>, DOI: 10.5194/egusphere-egu22-1108. [COBISS.SI-ID 108833795]
21. GAČNIK, Jan, ŽIVKOVIČ, Igor, VIJAYAKUMARAN NAIR, Sreekanth, KOTNIK, Jože, JUROV, Andrea, HORVAT, Milena. Gaseous oxidized mercury calibration by non-thermal plasma. V: 14th CEM 2022, Emission Monitoring, 2nd-4th March 2022 : virtual meeting. <https://www.ilmexhibitions.com/cem/abstract/Gaseous+oxidized+mercury+calibration+by+non-thermal+plasma/1275/>. [COBISS.SI-ID 112374019]
22. VIJAYAKUMARAN NAIR, Sreekanth, GAČNIK, Jan, ŽIVKOVIČ, Igor, KOTNIK, Jože, KOENIG, Alkuin Maximilian, LJUBIČ-MLAKAR, Tanja, HORVAT, Milena. GMOS-train global mercury observation training network in support of the Minamata convention. "ESRs reports from the ICMGP outreach training and activities" : Deliverable D7.5. [S. I.]: European Union's Horizon 2020, 2022. 28 str., ilustr. ESRs reports from the ICMGP outreach training and activities, deliverable D7.5, Innovative training networks (ITN) H2020 MSCA ITN 2019, Grant agreement No: 860497. [COBISS.SI-ID 129683971]
23. ANDRON, Teodor Daniel, KOTNIK, Jože, HORVAT, Milena. How important is calibration? An example from atmospheric mercury measurements. V: NOVAK, Rok (ur.), et al. 14. študentska konferenca Mednarodne podiplomske šole Jožefa Stefana = 14th Jožef Stefan International Postgraduate School Students' Conference : knjiga povzetkov = book of abstracts : 1. - 3. junij 2022, Kamnik, Slovenia = 1st - 3rd June, 2022, Kamnik, Slovenia. 14. študentska konferenca Mednarodne podiplomske šole Jožefa Stefana, 1. - 3. junij 2022, Kamnik, Slovenia = 14th Jožef Stefan International Postgraduate School Students' Conference, 1st - 3rd June, 2022, Kamnik, Slovenia. Ljubljana: Jožef Stefan Institute: Jožef Stefan International Postgraduate School, 2022. Str. 27. http://ipssc.mps.si/Book_of_Abstracts.pdf. [COBISS.SI-ID 139718403]
24. VIJAYAKUMARAN NAIR, Sreekanth, GAČNIK, Jan, ŽIVKOVIČ, Igor, KOTNIK, Jože, KOENIG, Alkuin Maximilian, LJUBIČ-MLAKAR, Tanja, HORVAT, Milena. Mercury emission and speciation in the vicinity of Saloniit Anhovo Cement Plant in Western Slovenia. V: Reducing mercury emissions to achieve a greener world : 15th International Conference on Mercury as a Global Pollutant (ICMGP), 24th - 29th July 2022, virtual event. [S. I.]: ILM Exhibitions. 2022, [1] str. <https://app.swapcard.com/event/icmgp-2022/planning/UGxhbm5pbmfdOTUxNTcz>. [COBISS.SI-ID 121961219]
25. VIJAYAKUMARAN NAIR, Sreekanth, KOTNIK, Jože, GAČNIK, Jan, ŽIVKOVIČ, Igor, KOENIG, Alkuin Maximilian, LJUBIČ-MLAKAR, Tanja, HORVAT, Milena. Mercury emission and speciation in the vicinity of Saloniit Anhovo Cement Plant in Western Slovenia. V: NOVAK, Rok (ur.), et al. 14. študentska konferenca Mednarodne podiplomske šole Jožefa Stefana = 14th Jožef Stefan International Postgraduate School Students' Conference : knjiga povzetkov = book of abstracts : 1. - 3. junij 2022, Kamnik, Slovenia = 1st - 3rd June, 2022, Kamnik, Slovenia. 14. študentska konferenca Mednarodne podiplomske šole Jožefa Stefana, 1. - 3. junij 2022, Kamnik, Slovenia = 14th Jožef Stefan International Postgraduate School Students' Conference, 1st - 3rd June, 2022, Kamnik, Slovenia. Ljubljana: Jožef Stefan Institute: Jožef Stefan International Postgraduate School, 2022. Str. 29. http://ipssc.mps.si/Book_of_Abstracts.pdf. [COBISS.SI-ID 139715075]
26. ŽIVKOVIČ, Igor, KOTNIK, Jože, BEGU, Ermira, FAJON, Vesna, HORVAT, Milena, et al. Mercury reduction in the South Atlantic Ocean during carbon remineralization. V: FAGANELI, Jadran (ur.), OGRINC, Nives (ur.). 15th International Symposium on the Interactions Between Sediments and Water : Piran, Slovenia, June 12-15, 2022 : book of abstracts. Piran: National Institute of Biology, Marine Biological Station, Ljubljana: Jožef Stefan Institute, 2022. Str. 41. ISBN 978-961-7144-16-1. [COBISS.SI-ID 116484099]
27. GAČNIK, Jan. Metrology of mercury measurements in the air = Metrologija določanja živega srebra v zraku : doktorska disertacija. Ljubljana: [J. Gačnik], 2022. XVII, 133, ilustr. [COBISS.SI-ID 127680003]
28. BOŽIČ, Dominik, JAGODIČ HUĐOBIVNIK, Marta, KOTNIK, Jože, MAZEJ, Darja, HORVAT, Milena. Multi-elemental analysis of soils at Pokljuka reference location, Anhovo cement plant and Idrija mining area. 2022. IJS delovno poročilo, 13767. [COBISS.SI-ID 99199747]
29. ŽIVKOVIČ, Igor, GAČNIK, Jan, JOZIČ, Slaven, KOTNIK, Jože, ŠOLIČ, Mladen, HORVAT, Milena. Normalized wet deposition of total mercury reflects concentration gradient in surface seawater. V: Goldschmidt 2022 : Honolulu, Hawai'i, USA and online, 10-15 July 2022. Honolulu: [s. n.]. <https://conf.goldschmidt.info/goldschmidt/2022/meetingapp.cgi/Paper/11806>. [COBISS.SI-ID 115537923]
30. GAČNIK, Jan, ŽIVKOVIČ, Igor, KOTNIK, Jože, BERISHA, Sabina, VIJAYAKUMARAN NAIR, Sreekanth, JUROV, Andrea, CVELBAR, Uroš, HORVAT, Milena. Nov pristop za kalibracijo metod določanja oksidiranih spojin živega srebra v atmosferskem zraku. Novice IJS. [Tiskana izd.]. dec. 2022, št. 203, str. 12-14, ilustr. ISSN 1581-2707. [COBISS.SI-ID 139983619]
31. KOTNIK, Jože. Požari na Krasu. Novice IJS. [Tiskana izd.]. dec. 2022, št. 203, str. 23-24, fotogr. ISSN 1581-2707. [COBISS.SI-ID 134714371]
32. ŽIVKOVIČ, Igor, GAČNIK, Jan, JOZIČ, Slaven, KOTNIK, Jože, ŠOLIČ, Mladen, HORVAT, Milena. A simplified approach to modeling the dispersion of mercury from precipitation to surface waters—The Bay of Kaštela case study. Journal of marine science and engineering. 2022, vol. 10, no. 4, str. 539-1-539-13. ISSN 2077-1312. DOI: 10.3390/jmse10040539. [COBISS.SI-ID 105017859]
33. BERISHA, Sabina, ŽIVKOVIČ, Igor, KOTNIK, Jože, LJUBIČ-MLAKAR, Tanja, HORVAT, Milena. Temperature fractionation of mercury in the cement production process using quadrupole mass spectrometry. Cement and concrete research. [Print ed.]. 2022, vol. 162, str. 106970-1-106970-8. ISSN 0008-8846. DOI: 10.1016/j.cemconres.2022.106970. [COBISS.SI-ID 121797635]
34. GAČNIK, Jan, ŽIVKOVIČ, Igor, KOTNIK, Jože, VIJAYAKUMARAN NAIR, Sreekanth, CVELBAR, Uroš, HORVAT, Milena. Validation of sampling methods for gaseous oxidized mercury using traceable calibration procedure. V: Reducing mercury emissions to achieve a greener world : 15th International Conference on Mercury as a Global Pollutant (ICMGP), 24th - 29th July 2022, virtual event. [S. I.]: ILM Exhibitions. 2022, [1] str. <https://app.swapcard.com/event/icmgp-2022/planning/UGxhbm5pbmfdOTUxNTcz>. [COBISS.SI-ID 121960707]
- 2023
35. VIJAYAKUMARAN NAIR, Sreekanth, GAČNIK, Jan, ŽIVKOVIČ, Igor, ANDRON, Teodor Daniel, WAQAR ALI, Saeed, KOTNIK, Jože, HORVAT, Milena. Application of traceable calibration for gaseous oxidized mercury in air : Atmospheric Mercury Workshop, October 11-13, 2023, Reno. [COBISS.SI-ID 168839427]
36. ŽIVKOVIČ, Igor, GAČNIK, Jan, KOTNIK, Jože, VIJAYAKUMARAN NAIR, Sreekanth, JAČIMOVIČ, Radojko, RIBEIRO GUEVARA, Sergio, JUROV, Andrea, CVELBAR, Uroš, HORVAT, Milena. Applications of radioactive ¹⁹⁷Hg as a highly specific tracer for atmospheric mercury sampling and calibration studies. V: RAP 23, International Conference on Radiation Applications in Physics, Chemistry, Biology, Medical Sciences, Engineering and Environmental Sciences, May 29 - June 2, 2023, Hellenic Centre of Marine Research | Anavyssos, Attica, Greece : book of abstracts. Str. 66. https://www.rap-conference.org/23/RAP_2023_Book_of_Abstracts.pdf. [COBISS.SI-ID 158600707]
37. ŽIVKOVIČ, Igor, VIJAYAKUMARAN NAIR, Sreekanth, KOTNIK, Jože, GAČNIK, Jan, LJUBIČ-MLAKAR, Tanja, HORVAT, Milena. Emission, dispersion, and speciation of airborne mercury species in the vicinity of the cement plant. V: CEM : emissions monitoring : 20th-22nd September 2023, Barcelona, Spain. [S. I.]: s. n. 2023, 1 spletni vir. <https://www.ilmexhibitions.com/cem/abstract/Emission%2C+dispersion%2C+and+speciation+of+airborne+mercury+species+in+the+vicinity+of+the+cement+> [COBISS.SI-ID 165675011]
38. ŽIVKOVIČ, Igor, ANDRON, Teodor Daniel, KOTNIK, Jože, WAQAR ALI, Saeed, VIJAYAKUMARAN NAIR, Sreekanth, HORVAT, Milena, et al. Intercalibration campaign in Rende, Italy: traceable and continuous calibration methods for gaseous elemental mercury (GEM) in air and water : Atmospheric Mercury Workshop, October 11-13, 2023, Reno. [COBISS.SI-ID 168830467]
39. ŽIVKOVIČ, Igor, WAQAR ALI, Saeed, KOTNIK, Jože, ANDRON, Teodor Daniel, KLEMENČIČ, Polona, BEGU, Ermira, HORVAT, Milena. Mercury speciation along the Idrija-Soča river system. V: IEBS 2023, XVI International Estuarine Biogeochemistry Symposium, 23-26 May 2023, Šibenik Croatia : book of abstracts. Šibenik: Ruđer Bošković Institute, 2023. Str. 18. <https://sites.google.com/view/iebs2023/home>. [COBISS.SI-ID 154365187]
40. JUROV, Andrea, GAČNIK, Jan, ŽIVKOVIČ, Igor, RIBEIRO GUEVARA, Sergio, KOTNIK, Jože, BERISHA, Sabina, VIJAYAKUMARAN NAIR, Sreekanth, CVELBAR, Uroš, HORVAT, Milena. 244th ECS Meeting October 8 - 12, 2023 Gothenburg, Sweden. Non-equilibrium plasma oxidation of elemental Hg. Meeting

abstracts. 2023, vol. ma2023-02, no. 18, 1 spletni vir. ISSN 2151-2043. <https://iopscience.iop.org/article/10.1149/MA2023-02181202mtgabs>, DOI: 10.1149/MA2023-02181202mtgabs. [COBISS.SI-ID 185910019]

41. GAČNIK, Jan, ŽIVKOVIĆ, Igor, JAČIMOVIĆ, Radojko, KOTNIK, Jože, HORVAT, Milena, et al. Stability and specificity of KCl sorbent traps and KCl trapping solutions used for atmospheric mercury speciation : Atmospheric Mercury Workshop, October 11-13, 2023, Reno. [COBISS.SI-ID 168832259]

42. BERISHA, Sabina. Temperature fractionation of mercury in the cement production process : doctoral dissertation = Temperaturna frakcionacija živega srebra v procesu proizvodnje cementa : doktorska disertacija. Ljubljana: [S. Berisha], 2023. XXVII, 95 str., ilustr. [COBISS.SI-ID 180590851]

43. VIJAYAKUMARAN NAIR, Sreekanth, GAČNIK, Jan, ŽIVKOVIĆ, Igor, ANDRON, Teodor Daniel, WAQAR ALI, Saeed, KOTNIK, Jože, HORVAT, Milena. Traceable calibration for ambient air GOM measurements using non-thermal plasma oxidation of elemental mercury. V: Goldschmidt2023 : Lyon, 9-14 July 2023. [S. l.: s. n., 2023, 1 spletni vir. <https://conf.goldschmidt.info/goldschmidt/2023/meetingapp.cgi/Paper/17709>. [COBISS.SI-ID 221382659]

2024

44. ŽAGAR, Dušan, NOVAK, Gorazd, ČETINA, Matjaž, LEBAR, Klauđija, BEZAK, Nejc, ATANASOVA, Nataša, ŠKERJANEC, Mateja, KOTNIK, Jože, HORVAT, Milena. Application of multi-box models in mercury contaminated sites. V: QUISS – symposium – part 1 – an international part held online in English (3.12.2024) : biogeochemical controls on mercury dynamics in contaminated river systems. Koblenz: Federal Institute of hydrology, 2024. Str. 15. Events, 3.12.2024. https://doi.org/10.5675/BfG_Veranst_2024.3, DOI: 10.5675/BfG_Veranst_2024.3. [COBISS.SI-ID 219452163]

projekt: J1-3033 Inovativne izotopske tehnike za identifikacijo virov in biogeokemijskega kroženja živega srebra na kontaminiranih območjih – IsoCont; financer: ARIS

projekt: P2-0180 Vodarstvo in geotehnika: orodja in metode za analize in simulacije procesov ter razvoj tehnologij; financer: ARIS

45. VIJAYAKUMARAN NAIR, Sreekanth, GAČNIK, Jan, ŽIVKOVIĆ, Igor, ANDRON, Teodor Daniel, WAQAR ALI, Saeed, KOTNIK, Jože, HORVAT, Milena. Application of traceable calibration for gaseous oxidized mercury in air. *Analytica chimica acta*. [Online ed.]. Feb. 2024, vol. 1288, [article no.] 342168, str. 1-8, ilustr. ISSN 1873-4324. <https://www.sciencedirect.com/science/article/pii/S0003267023013892>, DOI: 10.1016/j.aca.2023.342168. [COBISS.SI-ID 178048003]

46. ŽAGAR, Dušan, NOVAK, Gorazd, ČETINA, Matjaž, LEBAR, Klauđija, BEZAK, Nejc, ATANASOVA, Nataša, ŠKERJANEC, Mateja, KOTNIK, Jože, HORVAT, Milena. Assessment and modelling of the impact of climate change on Hg concentrations in contaminated sites – the Idrija and Isonzo (Soča) rivers and the Gulf of Trieste. V: ICMGP 2024 : abstract & poster book : Cape Town, South Africa, 21 – 26 July. [S. l.: s. n., 2024]. Str. 222. <https://www.mercurycapetown.com/wp-content/uploads/2024/10/Abstract-Book-Poster-and-Oral-Presentations.pdf>. [COBISS.SI-ID 210489091]

47. URANJEK, Gregor. Assessment of dimethyl sulphide odorous emissions released during the underground coal extraction in coal mine Velenje : doctoral dissertation = Ocena emisij vonjav na osnovi sproščanja dimetil sulfida pri procesu podzemnega odkopavanja premoga v premogovniku Velenje : doktorska disertacija. Ljubljana: [G. Uranjek], 2024. XXX, 189 str., ilustr. [COBISS.SI-ID 199896067]

48. VIJAYAKUMARAN NAIR, Sreekanth, KOTNIK, Jože, GAČNIK, Jan, ŽIVKOVIĆ, Igor, KOENIG, Alkuin Maximilian, LJUBIČ-MLAKAR, Tanja, HORVAT, Milena. Beyond the stack : emission and dispersion of mercury species in the vicinity of cement plant. *Envirotech online*. 21. feb. 2024, 1 spletni vir, ilustr. <https://www.envirotech-online.com/news/cems/158/department-of-environmental-sciences-at-jozef-stefan-institute/beyond-the-stack-emission-and-dispersion-of-mercury-species-in-the-vicinity-of-cement-plant/62119>. [COBISS.SI-ID 186581763]

49. DE KROM, Iris, MCGHEE, Elizabeth A., BROWN, Richard J. C., ŽIVKOVIĆ, Igor, GAČNIK, Jan, FAJON, Vesna, KOTNIK, Jože, HORVAT, Milena, ENT, Hugo. Comparability of calibration strategies for measuring mercury concentrations in gas emission sources and the atmosphere. V: ICMGP 2024 : abstract & poster book : Cape Town, South Africa, 21 – 26 July. [S. l.: s. n., 2024]. Str. 160. <https://www.mercurycapetown.com/wp-content/uploads/2024/10/Abstract-Book-Poster-and-Oral-Presentations.pdf>. [COBISS.SI-ID 210262275]

50. GAČNIK, Jan, ŽIVKOVIĆ, Igor, KOTNIK, Jože, BOŽIČ, Dominik, TASSONE, Antonella, NACCARATO, Attilio, PIRRONI, Nicola, SPROVIERI, Francesca, STEFFEN, Alexandra, HORVAT, Milena. Comparison of active measurements, lichen biomonitoring, and passive sampling for atmospheric mercury monitoring. *Environmental science and pollution research*. May 2024, vol. 31, iss. 24, str. 35800-35810, ilustr. ISSN 1614-7499. <https://link.springer.com/article/10.1007/s11356-024-33582-6>, DOI: 10.1007/s11356-024-33582-6. [COBISS.SI-ID 195369219]

51. KERŠEVAN, Tamara, DEEV, Dmitrii, RIJAVEC, Tomaž, ŽIVKOVIĆ, Igor, KOTNIK, Jože, HORVAT, Milena, LAPANJE, Aleš. An insight into the distribution and abundance of bacterial species along different size fractions of the suspended particulate matter and their correlation with mercury levels. V: DIMKIĆ, Ivica (ur.). *From Biotechnology to Human and Planetary Health : XIII Congress of Microbiologists of Serbia – Mikromed regio 5 : Mona Plaza Hotel Belgrade, Serbia – 4th-6th of April, 2024 : book of abstracts*. Belgrade: Serbian Society for Microbiology, 2024. Str. 86. https://ums.rs/abstract_books/Congress_UMS_24_series_2024.pdf. [COBISS.SI-ID 211013379]

52. KERŠEVAN, Tamara, RIJAVEC, Tomaž, ŽIVKOVIĆ, Igor, KOTNIK, Jože, HORVAT, Milena, LAPANJE, Aleš. An insight into the distribution and abundance of bacterial species along different size fractions of the suspended particulate matter and their correlation with mercury levels. V: ICMGP 2024 : abstract & poster book : Cape Town, South Africa, 21 – 26 July. [S. l.: s. n., 2024]. Str. 368. <https://www.mercurycapetown.com/wp-content/uploads/2024/10/Abstract-Book-Poster-and-Oral-Presentations.pdf>. [COBISS.SI-ID 210483459]

53. KOTNIK, Jože, ŽIVKOVIĆ, Igor, BEGU, Ermira, KLEMENČIČ, Polona, WAQAR ALI, Saeed, KERŠEVAN, Tamara, HORVAT, Milena. Mercury dynamics in heavily polluted Idrija and Soča Rivers. V: ICMGP 2024 : abstract & poster book : Cape Town, South Africa, 21 – 26 July. [S. l.: s. n., 2024]. Str. 209. <https://www.mercurycapetown.com/wp-content/uploads/2024/10/Abstract-Book-Poster-and-Oral-Presentations.pdf>. [COBISS.SI-ID 210286083]

54. KOTNIK, Jože, ŽIVKOVIĆ, Igor, GAČNIK, Jan, VIJAYAKUMARAN NAIR, Sreekanth, LJUBIČ-MLAKAR, Tanja, HORVAT, Milena. Mercury speciation in cement plant emissions and impact on ambient air quality and Hg distribution. V: ICMGP 2024 : abstract & poster book : Cape Town, South Africa, 21 – 26 July. [S. l.: s. n., 2024]. Str. 214. <https://www.mercurycapetown.com/wp-content/uploads/2024/10/Abstract-Book-Poster-and-Oral-Presentations.pdf>. [COBISS.SI-ID 210476291]

55. BOŽIČ, Dominik, ŽIVKOVIĆ, Igor, KOTNIK, Jože, PUHAR, Gregor, JAGODIČ HUDOBIVNIK, Marta, ŠTROK, Marko, OGRINC, Nives, HORVAT, Milena. Origin of mercury in soils in the vicinity of emission sources using stable isotope approach. V: ICMGP 2024 : abstract & poster book : Cape Town, South Africa, 21 – 26 July. [S. l.: s. n., 2024]. Str. 166. <https://www.mercurycapetown.com/wp-content/uploads/2024/10/Abstract-Book-Poster-and-Oral-Presentations.pdf>. [COBISS.SI-ID 210078979]

56. MEYER, Lorraine, PFENDLER, Stéphane, DEEV, Dmitrii, ŽIVKOVIĆ, Igor, KOTNIK, Jože, RIJAVEC, Tomaž, LAPANJE, Aleš, CHALOT, Michel, et al. Role of rhizospheric microorganisms at a mercury-Information on the environmental cycle, transport (including long-range transport and deposition), transformation and fate of mercury and mercury compounds in a range of ecosystems, taking appropriate account of the distinction between anthropogenic and natural emissions and releases of mercury and of remobilization of mercury from historic deposition

57. ŽAGAR, Dušan, NOVAK, Gorazd, ČETINA, Matjaž, LEBAR, Klauđija, BEZAK, Nejc, ATANASOVA, Nataša, ŠKERJANEC, Mateja, KOTNIK, Jože, HORVAT, Milena. Vpliv klimatskih sprememb na okoljske parametre in koncentracije živega srebra v porečju Idrija – Soča in Tržaškem zalivu (Projekt IsoCONT) : predavanje, 40. Goljevščkov spominski dan, Ljubljana, Hajdrihova 28, 11. april 2024. [COBISS.SI-ID 193072387]

Information on commerce and trade in mercury and mercury compounds and mercury-added products

Information and research on the technical and economic availability of mercury-free products and processes and on best available techniques and best environmental practices to reduce and monitor emissions and releases of mercury and mercury compounds

(Art. 19 (1) (a)-(g))

Part E – Additional comments on this article

Ongoing research 2023-2025

- Presence of mercury in drinking water in the area of the Municipality of Idrija, Targeted research program, V1-2319, Sept. 2023 – Sept. 2025, head dr. Jože Kotnik; The research project on the presence of mercury (Hg) in drinking water in the area of Idrija is designed as a comprehensive study that focuses on obtaining important data on the concentration of Hg in drinking water and assessing the risk for residents in the area. It consists of six work packages, which include various methods and programs to achieve the set goals. The entire project is designed to contribute to a better understanding and management of the risks associated with the content of Hg in drinking water in the Idrija area. The results of the project will be important for local authorities, drinking water managers and residents, as they will contribute to safer and healthier drinking water. At the same time, the project will contribute to the development of guidelines and recommendations that can also be used in other areas where the presence of Hg in drinking water is problematic.

- Innovative isotopic techniques for identifying sources and biogeochemical cycling of mercury in contaminated areas – IsoCont, prof. dr. Milena Horvat – BE MERMAid – Methylation of bioavailable mercury in the Adriatic Sea, prof.dr.Milena Horvat

▼ COMMENTS REGARDING POSSIBLE CHALLENGES IN MEETING THE OBJECTIVES OF THE CONVENTION

Part C: Comments regarding possible challenges in meeting the objectives of the Convention

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▼ COMMENTS REGARDING THE REPORTING FORMAT AND POSSIBLE IMPROVEMENTS, IF ANY

Comments regarding the reporting format and possible improvements, if any

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