**Questionnaires for the mercury inventory in Turkey – Level 1**

**Category: Energy fuels, consumption and production**

Source sub-categories covered, with reference to the Toolkit Reference Report sections.

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| **Fuel consumption** | **Category reference** |
| Coal combustion in large power plants  (typically with thermal boiler effect above 300 MW) | 5.1.1 |
| Other coal uses (sum for all other uses) | 5.1.2 |
| Combustion/use of petroleum coke and heavy oil | 5.1.3 |
| Combustion/use of diesel, gasoil, petroleum, kerosene | 5.1.3 |
| Combustion/use of natural gas | 5.1.4 |
| Biomass fired power and heat production (wood, etc.) | 5.1.6 |
| Charcoal combustion | 5.1.6 |
| **Fuel production** |  |
| Oil extraction | 5.1.3 |
| Oil refining | 5.1.3 |
| Extraction and processing of natural gas | 5.1.4 |

**Energy consumption - Coal combustion in large power plants (typically with thermal boiler effect above 300 MW)**

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| **Contact point responsible for this inventory** | |
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| **Energy consumption - Coal combustion in large power plants (typically with thermal boiler effect above 300 MW)** | | |
| **Types of combusted coal** | **Combusted coal, t/y** | **Remarks** (for example if you know the contents of Hg in combusted fuel) |
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**Relevant mercury controls that can be included in this inventory**

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| **Source sub-category** | **Mercury control name in IL1 spreadsheet** | **Explanation** | **Relevant pollution abatement options – ENTER percent of total activity rate per type** |
| Coal combustion in large power plants  /  Coal combustion in coal fired industrial boilers | 0: No filters |  |  |
| 1: Simple particle filters | Electrostatic precipitators (ESP), particle scrubbers (PS), cyclones (CYC) or similar particle filters with low mercury retention |  |
| 2: Fabric filters | Fabric filters (FF; also called bag filters) |  |
| 3: Efficient APC | Particle filters (PM) + spray dryer absorption (SDA) or wet flue gas desulphurisation (wFGD) |  |
| 4: Very efficient APC | Particle filters (PM) plus + flue gas desulphurisation (FGD) + selective catalytic reduction (SCR) |  |
| 5: Mercury specific | Activated carbon injection (ACI) or other mercury specific filters |  |

**Energy consumption - Other coal uses (sum for all other uses)**

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| **Energy consumption - Fuel consumption - Other coal uses (sum for all other uses)** | | |
| **Types of coal used** | **Coal used, t/y** | **Remarks** (for example if you know the contents of Hg in combusted fuel) |
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**Relevant mercury controls that can be included in this inventory**

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| --- | --- | --- | --- |
| **Source sub-category** | **Mercury control name in IL1 spreadsheet** | **Explanation** | **Relevant pollution abatement options – ENTER percent of total activity rate per type** |
| Coal combustion in large power plants  /  Coal combustion in coal fired industrial boilers | 0: No filters |  |  |
| 1: Simple particle filters | Electrostatic precipitators (ESP), particle scrubbers (PS), cyclones (CYC) or similar particle filters with low mercury retention |  |
| 2: Fabric filters | Fabric filters (FF; also called bag filters) |  |
| 3: Efficient APC | Particle filters (PM) + spray dryer absorption (SDA) or wet flue gas desulphurisation (wFGD) |  |
| 4: Very efficient APC | Particle filters (PM) plus + flue gas desulphurisation (FGD) + selective catalytic reduction (SCR) |  |
| 5: Mercury specific | Activated carbon injection (ACI) or other mercury specific filters |  |

**Energy consumption – Combustion/use of petroleum coke and heavy oil**

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| **Energy consumption - Combustion/use of petroleum coke and heavy oil** | | |
| **Types of oil product combusted** | **Oil product combusted, t/y** | **Remarks** (for example if you know the contents of Hg in combusted/used fuel) |
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**Relevant mercury controls that can be included in this inventory**

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| **Source sub-category** | **Mercury control name in IL1 spreadsheet** | **Explanation** | **Relevant pollution abatement options – ENTER percent of total activity rate per type** |
| Combustion/use of petroleum coke and heavy oil  And  Combustion/use of diesel, gasoil, petroleum, kerosene, LPG and other light to medium distillates | ESP or scrubber | Electrostatic precipitators (ESP), particle scrubbers (PS), or other particle filters with similar performance |  |
| cESP and FGD | Cold-side electrostatic precipitators (cESP) + flue gas desulphurisation (FGD), or other advanced filter configuration with similar performance |  |

**Energy consumption – Combustion/use of diesel, gasoil, petroleum, kerosene**

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| **Energy consumption - Combustion/use of diesel, gasoil, petroleum, kerosene** | | |
| **Types of oil product combusted** | **Oil product combusted, t/y** | **Remarks** (for example if you know the contents of Hg in combusted/used fuel) |
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**Relevant mercury controls that can be included in this inventory**

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| **Source sub-category** | **Mercury control name in IL1 spreadsheet** | **Explanation** | **Relevant pollution abatement options – ENTER percent of total activity rate per type** |
| Combustion/use of petroleum coke and heavy oil  And  Combustion/use of diesel, gasoil, petroleum, kerosene, LPG and other light to medium distillates | ESP or scrubber | Electrostatic precipitators (ESP), particle scrubbers (PS), or other particle filters with similar performance |  |
| cESP and FGD | Cold-side electrostatic precipitators (cESP) + flue gas desulphurisation (FGD), or other advanced filter configuration with similar performance |  |

**Energy consumption – Use of pipeline natural gas (consumer quality)**

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| **Energy consumption - Use of pipeline natural gas (consumer quality)** | | |
| **Types of gas** | **Gas used, Nm3/y** | **Remarks** (for example if you know the contents of Hg in combusted/used fuel) |
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**Energy consumption – Use of raw or pre-cleaned natural gas**

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| **Energy consumption - Use of raw or pre-cleaned natural gas** | | |
| **Types of gas** | **Gas used, Nm3/y** | **Remarks** (for example if you know the contents of Hg in combusted/used fuel) |
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**Energy consumption – Biomass fired power and heat production (wood, etc.)**

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| **Energy consumption – Biomass fired power and heat production (wood, etc.)** | | |
| **Types of biomass combusted** | **Biomass combusted, t (dry weight)/y** | **Remarks** (for example if you know the contents of Hg in combusted/used fuel) |
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**Energy consumption – Charcoal combustion**

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| Contact person |  |
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| --- | --- | --- |
| **Energy consumption – Charcoal combustion** | | |
| **Types of charcoal combusted** | **Charcoal combusted, t (dry weight)/y** | **Remarks** (for example if you know the contents of Hg in combusted/used fuel) |
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**Fuel production – Oil extraction**

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| **Contact point responsible for this inventory** | |
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| --- | --- | --- |
| **Fuel production – Oil extraction** | | |
| **Types of crude oil produced** | **Crude oil produced, t/y** | **Remarks** (for example if you know the contents of Hg in combusted/used fuel) |
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**Fuel production – Oil refining**

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| **Contact point responsible for this inventory** | |
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| --- | --- | --- |
| **Fuel production – Oil refining** | | |
| **Types of crude oil refined** | **Crude oil refined, t/y** | **Remarks** (for example if you know the contents of Hg in combusted/used fuel) |
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**Fuel production – Extraction and processing of natural gas**

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| **Contact point responsible for this inventory** | |
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| **Fuel production – Extraction and processing of natural gas** | | |
| **Types of gas produced** | **Gas produced, Nm3/y** | **Remarks** (for example if you know the contents of Hg in combusted/used fuel) |
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**Relevant mercury controls that can be included in this inventory**

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| **Source sub-category** | **Mercury control name in IL1 spreadsheet** | **Explanation** | **Relevant pollution abatement options – ENTER percent of total activity rate per type** |
| Extraction and processing of natural gas | Without mercury removal |  |  |
| With mercury removal | Cleaning of gas fixed bed filters with mercury absorbants (or similar) |  |

**Category: Domestic production of metals and raw materials**

Source sub-categories covered, with reference to the Toolkit Reference Report sections.

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| **Primary metal production** | **Category reference** |
| Mercury (primary) extraction and initial processing | 5.2.1 |
| Production of zinc from concentrates | 5.2.3 |
| Production of copper from concentrates | 5.2.4 |
| Production of lead from concentrates | 5.2.5 |
| Gold extraction by methods other than mercury amalgamation | 5.2.6 |
| Alumina production from bauxit (aluminium production) | 5.2.7 |
| Primary ferrous metal production (pig iron production) | 5.2.9 |
| **Gold mining with mercury amalgamation** |  |
| Gold extraction with mercury amalgamation - without use of retorts | 5.2.2 |
| Gold extraction with mercury amalgamation - with use of retorts | 5.2.2 |
| **Other high volume materials production with mercury releases** |  |
| Cement production | 5.3.1 |
| Pulp and paper production | 5.3.2 |

**Primary metal production – mercury (primary) extraction and initial processing**

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| **Contact point responsible for this inventory** | |
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| **Primary metal production – mercury (primary) extraction and initial processing** | | |
| **Mercury produced** | **Mercury produced, t/y** | **Remarks** (historic production – if was) |
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**Primary metal production – Production of zinc from concentrates**

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| **Primary metal production – Production of zinc from concentrates** | | |
| **Zinc produced** | **Concentrate used, t/y** | **Remarks** (for example if you know the contents of Hg in concentrate used) |
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**Relevant mercury controls that can be included in this inventory**

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| --- | --- | --- | --- |
| **Source sub-category** | **Mercury control name in IL1 spreadsheet** | **Explanation** | **Relevant pollution abatement options – ENTER percent of total activity rate per type** |
| Production of zinc from concentrates | No filters used or coarse, dry PM retention | No filters or coarse, dry PM retention such as electrostatic precipitators (ESP) and cyclones (CYC) |  |
| Wet gas cleaning | Wet gas cleaning of the off-gas from roasting of concentrate |  |
| Wet gas cleaning and acid plant | Wet gas cleaning of the off-gas from roasting of concentrate + removal of acid gasses (normally sold as by-product) |  |
| Wet gas cleaning, acid plant and Hg specific filter | Wet gas cleaning of the off-gas from roasting of concentrate + removal of acid gasses + dedicated mercury removal (acid is normally sold as by-products, mercury or produced mercury compounds like calomel may be sold or deposited on-site or elsewhere) |  |

**Primary metal production – Production of copper from concentrates**

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| **Primary metal production – Production of copper from concentrates** | | |
| **Copper produced** | **Concentrate used, t/y** | **Remarks** (for example if you know the contents of Hg in concentrate used) |
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**Relevant mercury controls that can be included in this inventory**

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| **Source sub-category** | **Mercury control name in IL1 spreadsheet** | **Explanation** | **Relevant pollution abatement options – ENTER percent of total activity rate per type** |
| Production of copper from concentrates | No filters used or coarse, dry PM retention | No filters or coarse, dry PM retention such as electrostatic precipitators (ESP) and cyclones (CYC) |  |
| Wet gas cleaning | Wet gas cleaning of the off-gas from roasting of concentrate |  |
| Wet gas cleaning and acid plant | Wet gas cleaning of the off-gas from roasting of concentrate + removal of acid gasses (normally sold as by-product) |  |
| Wet gas cleaning, acid plant and Hg specific filter | Wet gas cleaning of the off-gas from roasting of concentrate + removal of acid gasses + dedicated mercury removal (acid is normally sold as by-products, mercury or produced mercury compounds like calomel may be sold or deposited on-site or elsewhere) |  |

**Primary metal production – Production of lead from concentrates**

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| **Primary metal production – Production of lead from concentrates** | | |
| **Lead produced** | **Concentrate used, t/y** | **Remarks** (for example if you know the contents of Hg in concentrate used) |
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**Relevant mercury controls that can be included in this inventory**

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| --- | --- | --- | --- |
| **Source sub-category** | **Mercury control name in IL1 spreadsheet** | **Explanation** | **Relevant pollution abatement options – ENTER percent of total activity rate per type** |
| Production of lead from concentrates | No filters used or coarse, dry PM retention | No filters or coarse, dry PM retention such as electrostatic precipitators (ESP) and cyclones (CYC) |  |
| Wet gas cleaning | Wet gas cleaning of the off-gas from roasting of concentrate |  |
| Wet gas cleaning and acid plant | Wet gas cleaning of the off-gas from roasting of concentrate + removal of acid gasses (normally sold as by-product) |  |
| Wet gas cleaning, acid plant and Hg specific filter | Wet gas cleaning of the off-gas from roasting of concentrate + removal of acid gasses + dedicated mercury removal (acid is normally sold as by-products, mercury or produced mercury compounds like calomel may be sold or deposited on-site or elsewhere) |  |

**Primary metal production – Gold extraction by methods other than mercury amalgamation**

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| **Primary metal production – Gold extraction by methods other than mercury amalgamation** | | |
| **Gold produced** | **Gold ore used, t/y** | **Remarks** (for example if you know the contents of Hg in ore used) |
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**Primary metal production – Alumina production from bauxit (aluminium production)**

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| **Primary metal production – Alumina production from bauxit (aluminium production)** | | |
| **Alumina produced** | **Bauxit processed, t/y** | **Remarks** (for example if you know the contents of Hg in raw materials used) |
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**Primary metal production – Primary ferrous metal production (pig iron production)**

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| --- | --- | --- |
| **Primary metal production – Primary ferrous metal production (pig iron production)** | | |
| **Pig iron produced** | **Pig iron produced, t/y** | **Remarks** (for example if you know the contents of Hg in raw material used) |
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**Gold mining with mercury amalgamation – Gold extraction with mercury amalgamation – without use of retort**

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| **Gold mining with mercury amalgamation – Gold extraction with mercury amalgamation – without use of retort** | | |
| **Gold extraction** | **Gold produced, kg/y** | **Remarks** (for example if you know the contents of Hg in concentrate used) |
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**Relevant mercury controls that can be included in this inventory**

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| --- | --- | --- | --- |
| **Source sub-category** | **Mercury control name in IL1 spreadsheet** | **Explanation** | **Relevant pollution abatement options – ENTER percent of total activity rate per type** |
| Gold extraction with mercury amalgamation – from concentrate | No retort used |  |  |
| Use of retorts | Use of retorts or similar devices that prevent the mercury from evaporating when burning the amalgam, and collects it for possible re-use (sometimes after a simple cleaning procedure called “re-activation”) |  |

**Gold mining with mercury amalgamation – Gold extraction with mercury amalgamation – with use of retort**

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| --- | --- | --- |
| **Gold mining with mercury amalgamation – Gold extraction with mercury amalgamation – with use of retort** | | |
| **Gold extraction** | **Gold produced, kg/y** | **Remarks** (for example if you know the contents of Hg in concentrate used) |
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**Relevant mercury controls that can be included in this inventory**

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| --- | --- | --- | --- |
| **Source sub-category** | **Mercury control name in IL1 spreadsheet** | **Explanation** | **Relevant pollution abatement options – ENTER percent of total activity rate per type** |
| Gold extraction with mercury amalgamation – from concentrate | No retort used |  |  |
| Use of retorts | Use of retorts or similar devices that prevent the mercury from evaporating when burning the amalgam, and collects it for possible re-use (sometimes after a simple cleaning procedure called “re-activation”) |  |

**Other high volume materials production with mercury releases – cement production**

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| **Other high volume materials production with mercury releases – cement production** | | |
| **Cement production – type of ore materials** | **Cement produced, t/y** | **Remarks** (for example if you know the contents of Hg in ore material used) |
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**Relevant mercury controls that can be included in this inventory**

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| --- | --- | --- | --- |
| **Source sub-category** | **Mercury control name in IL1 spreadsheet** | **Explanation** | **Relevant pollution abatement options – ENTER percent of total activity rate per type** |
| Cement production   1. WITH WASTE USED as fuel (>3% of energy)   /  Cement production   1. WITH NO/LOW WASTE use as fuel | No filter |  |  |
| Simple particle control (ESP/PS/FF) | Simple particle control with electrostatic precipitators (ESP), particle scrubbers (PS) or fabric filters (FF = bag filters) |  |
| Optimized particle control (FF+SNCR / FF+WS / ESP + FGD / optimized FF) | "Optimized" particle control with fabric filters (FF) + selective non-catalytic reduction (SNCR) OR  Fabric filters (FF)+ wet scrubbers (WS)  OR  Electrostatic precipitator (ESP) + flue gas desulphurisation (FGD)  OR  Optimized fabric filters (FF) |  |
| Efficient air pollution control (FF+DS / ESP+DS / ESP+WS / ESP+SNCR) | Efficient air pollution control with fabric filters (FF) + dry scrubber (DS)  OR  Electrostatic precipitator (ESP) + dry scrubber (DS)  OR  Electrostatic precipitator (ESP) + wet scrubber (WS) OR  Electrostatic precipitator (ESP) + selective non-catalytic reduction (SNCR) |  |
| Very efficient Hg pollution control (wet- FGD+ACI /  FF+scrubber+SNCR) | Very efficient Hg pollution control with wet flue gas de-sulphurisation (wetFGD) + activated carbon injection (ACI)  OR  Fabric filter (FF) + scrubber + selective non-catalytic reduction (SNCR) |  |

**Other high volume materials production with mercury releases – pulp and paper production (with own pulp production)**

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| **Other high volume materials production with mercury releases – pulp and paper production (with own pulp production)** | | |
| **Pulp and paper production** | **Biomass used for production, t/y** | **Remarks** (for example if you know the contents of Hg biomass used) |
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**Relevant mercury controls that can be included in this inventory**

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| **Source sub-category** | **Mercury control name in IL1 spreadsheet** | **Explanation** | **Relevant pollution abatement options – ENTER percent of total activity rate per type** |
| Pulp and paper production | No filters used |  |  |
| PM control with general ESP, or PS | Dust filters such as electrostatic precipitators (ESP), particle scrubbers (PS), or similar |  |

**Category: Domestic production and processing with intentional mercury use**

Source sub-categories covered, with reference to the Toolkit Reference Report sections.

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| **Production of chemicals and polymers** | **Category reference** |
| Chlor-alkali production with mercury-cells | 5.4.1 |
| Vinyl chloride monomer (VCM) production with mercury catalyst | 5.4.2 |
| Acetaldehyde production with mercury catalyst | 5.4.3 |
| **Production of products with mercury content** |  |
| Hg thermometers (medical, air, lab, industrial etc.) | 5.5.1 |
| Electrical switches and relays with mercury | 5.5.2 |
| Light sources with mercury (fluorescent, compact, others) | 5.5.3 |
| Batteries with mercury | 5.5.4 |
| Manometers and gauges with mercury | 5.6.2 |
| Biocides and pesticides with mercury | 5.5.5 |
| Paints with mercury | 5.5.6 |
| Skin lightening creams and soaps with mercury chemicals | 5.5.7 |

**Production of chemicals and polymers – Chlor-alkali production with mercury-cells**

|  |  |
| --- | --- |
| **Contact point responsible for this inventory** | |
| Full name of institution |  |
| Contact person |  |
| E-mail address |  |
| Telephone number |  |
| Fax number |  |
| Website of institution |  |
| Report issuing date |  |

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| --- | --- | --- |
| **Production of chemicals and polymers – Chlor-alkali production with mercury-cells** | | |
| **Chlor-alkali production with mercury-cells** | **Chlorine produced, t/y** | **Remarks** (for example if you know losses of Hg per tonne of produced chlorine) |
|  |  |  |
|  |  |  |

**Production of chemicals and polymers – vinyl chloride monomer (VCM) with mercury catalyst**

|  |  |
| --- | --- |
| **Contact point responsible for this inventory** | |
| Full name of institution |  |
| Contact person |  |
| E-mail address |  |
| Telephone number |  |
| Fax number |  |
| Website of institution |  |
| Report issuing date |  |

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| --- | --- | --- |
| **Production of chemicals and polymers – vinyl chloride monomer (VCM) with mercury catalyst** | | |
| **VCM production with mercury catalyst** | **VCM produced, t/y** | **Remarks** (for example if you know losses of Hg per tonne of produced VCM) |
|  |  |  |
|  |  |  |

**Production of chemicals and polymers – Acetaldehyde production with mercury catalyst**

|  |  |
| --- | --- |
| **Contact point responsible for this inventory** | |
| Full name of institution |  |
| Contact person |  |
| E-mail address |  |
| Telephone number |  |
| Fax number |  |
| Website of institution |  |
| Report issuing date |  |

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| --- | --- | --- |
| **Production of chemicals and polymers – Acetaldehyd production with mercury catalyst** | | |
| **Acetaldehyd production with mercury catalyst** | **Acetaldehyde produced, t/y** | **Remarks** (for example if you know losses of Hg per tonne of produced acetaldehyde) |
|  |  |  |
|  |  |  |

**Production of products with mercury content – Hg thermometers (medical, air, lab, industrial)**

|  |  |
| --- | --- |
| **Contact point responsible for this inventory** | |
| Full name of institution |  |
| Contact person |  |
| E-mail address |  |
| Telephone number |  |
| Fax number |  |
| Website of institution |  |
| Report issuing date |  |

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| --- | --- | --- | --- |
| **Production of products with mercury content - Hg thermometers (medical, air, lab, industrial)** | | | |
| **Domestic production** | | **In the case of import** | |
| **Hg thermometers** | **Mercury used for production, kg/y** | **Amounts of imported** | **Content in imported, kg/y** |
| Medical |  |  |  |
| Air measurements |  |  |  |
| Laboratory |  |  |  |
| Industrial |  |  |  |
| Others |  |  |  |

**Production of products with mercury content – Electrical switches and relays with mercury**

|  |  |
| --- | --- |
| **Contact point responsible for this inventory** | |
| Full name of institution |  |
| Contact person |  |
| E-mail address |  |
| Telephone number |  |
| Fax number |  |
| Website of institution |  |
| Report issuing date |  |

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| --- | --- | --- | --- |
| **Production of products with mercury content - Electrical switches and relays with mercury** | | | |
| **Domestic production** | | **In the case of import** | |
| **Electrical switches and relaye** | **Mercury used for production, kg/y** | **Amounts of imported** | **Content in imported, kg/y** |
| Switchers |  |  |  |
| Relays |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Production of products with mercury content – Light sources with mercury (fluorescent, compact, others)**

|  |  |
| --- | --- |
| **Contact point responsible for this inventory** | |
| Full name of institution |  |
| Contact person |  |
| E-mail address |  |
| Telephone number |  |
| Fax number |  |
| Website of institution |  |
| Report issuing date |  |

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| --- | --- | --- | --- |
| **Production of products with mercury content – Light sources with mercury (fluorescent, compact, others)** | | | |
| **Domestic production** | | **In the case of import** | |
| **Light sources** | **Mercury used for production, kg/y** | **Amounts of imported** | **Content in imported, kg/y** |
| Fluorescent |  |  |  |
| Compact |  |  |  |
| Others |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Production of products with mercury content – Batteries with mercury**

|  |  |
| --- | --- |
| **Contact point responsible for this inventory** | |
| Full name of institution |  |
| Contact person |  |
| E-mail address |  |
| Telephone number |  |
| Fax number |  |
| Website of institution |  |
| Report issuing date |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Production of products with mercury content – Batteries with mercury** | | | |
| **Domestic production** | | **In the case of import** | |
| **Types of batteries** | **Mercury used for production, kg/y** | **Amounts of imported** | **Content in imported, kg/y** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Production of products with mercury content – Manometers and gauges with mercury**

|  |  |
| --- | --- |
| **Contact point responsible for this inventory** | |
| Full name of institution |  |
| Contact person |  |
| E-mail address |  |
| Telephone number |  |
| Fax number |  |
| Website of institution |  |
| Report issuing date |  |

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| --- | --- | --- | --- |
| **Production of products with mercury content – Manometers and gauges with mercury** | | | |
| **Domestic production** | | **In the case of import** | |
| **Electrical switches and relaye** | **Mercury used for production, kg/y** | **Amounts of imported** | **Content in imported, kg/y** |
| Manometers |  |  |  |
| Gauges |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Production of products with mercury content – Biocides and pesticides with mercury**

|  |  |
| --- | --- |
| **Contact point responsible for this inventory** | |
| Full name of institution |  |
| Contact person |  |
| E-mail address |  |
| Telephone number |  |
| Fax number |  |
| Website of institution |  |
| Report issuing date |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Production of products with mercury content – Biocides and pesticides with mercury** | | | |
| **Domestic production** | | **In the case of import** | |
| **Biocides and pesticides - name** | **Mercury used for production, kg/y** | **Amounts of imported** | **Content in imported, kg/y** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Production of products with mercury content – Paints with mercury**

|  |  |
| --- | --- |
| **Contact point responsible for this inventory** | |
| Full name of institution |  |
| Contact person |  |
| E-mail address |  |
| Telephone number |  |
| Fax number |  |
| Website of institution |  |
| Report issuing date |  |

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| --- | --- | --- | --- |
| **Production of products with mercury content - Paints with mercury** | | | |
| **Domestic production** | | **In the case of import** | |
| **Paints - type** | **Mercury used for production, kg/y** | **Amounts of imported** | **Content in imported, kg/y** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Production of products with mercury content – Skin lightening creams and soaps with mercury content**

|  |  |
| --- | --- |
| **Contact point responsible for this inventory** | |
| Full name of institution |  |
| Contact person |  |
| E-mail address |  |
| Telephone number |  |
| Fax number |  |
| Website of institution |  |
| Report issuing date |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Production of products with mercury content – Skin lightening creams and soap with mercury** | | | |
| **Domestic production** | | **In the case of import** | |
| **Skin lightening creams and soaps** | **Mercury used for production, kg/y** | **Amounts of imported** | **Content in imported, kg/y** |
| Cream… |  |  |  |
| Soap |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Category: Waste treatment and recycling**

Source sub-categories covered, with reference to the Toolkit Reference Report sections.

|  |  |
| --- | --- |
| **Recycling of metals** | **Category reference** |
| Production of recycled mercury ("secondary production”) | 5.7.1 |
| Production of recycled ferrous metals (iron and steel) | 5.7.2 |
| **Waste incineration** |  |
| Incineration of municipal/general waste | 5.8.1 |
| Incineration of hazardous waste | 5.8.2 |
| Incineration of medical waste | 5.8.3 |
| Sewage sludge incineration | 5.8.4 |
| Open fire waste burning (on landfills and informally) | 5.8.5 |
| **Waste deposition/landfilling** |  |
| Controlled landfills/deposits | 5.9.1 |
| Informal dumping of general waste | 5.9.4 |
| **Waste water treatment** | 5.9.5 |

**Recycling of metals – Production of recycled mercury (secondary production)**

|  |  |
| --- | --- |
| **Contact point responsible for this inventory** | |
| Full name of institution |  |
| Contact person |  |
| E-mail address |  |
| Telephone number |  |
| Fax number |  |
| Website of institution |  |
| Report issuing date |  |

|  |  |  |
| --- | --- | --- |
| **Recycling of metals - Production of recycled mercury (secondary production)** | | |
| **Secondary production of mercury** | **Mercury produced, kg/y** | **Remarks** |
|  |  |  |
|  |  |  |

**Recycling of metals – Production of recycled ferrous metals (iron and steel)**

|  |  |
| --- | --- |
| **Contact point responsible for this inventory** | |
| Full name of institution |  |
| Contact person |  |
| E-mail address |  |
| Telephone number |  |
| Fax number |  |
| Website of institution |  |
| Report issuing date |  |

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| --- | --- | --- |
| **Recycling of metals - Production of recycled ferrous metals (iron and steel)** | | |
| **Production of recycled ferrous metals** | **Number of vehicles recycled/y** | **Remarks** |
|  |  |  |
|  |  |  |

**Waste incineration – Incineration of municipal/general waste**

|  |  |
| --- | --- |
| **Contact point responsible for this inventory** | |
| Full name of institution |  |
| Contact person |  |
| E-mail address |  |
| Telephone number |  |
| Fax number |  |
| Website of institution |  |
| Report issuing date |  |

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| --- | --- | --- |
| **Waste incineration – Incineration of municipal/general waste** | | |
| **Incineration of municipal/general waste** | **Waste incinerad, t/y** | **Remarks** (if you know content of Hg in combusted waste) |
|  |  |  |
|  |  |  |

**Relevant mercury controls that can be included in this inventory**

|  |  |  |  |
| --- | --- | --- | --- |
| **Source sub-category** | **Mercury control name in IL1 spreadsheet** | **Explanation** | **Relevant pollution abatement options – ENTER percent of total activity rate per type** |
| Incineration of municipal/general waste | No emission reduction devices |  |  |
| PM reduction; simple ESP, or similar | Particle filters such as simple electrostatic precipitators (ESP) or others |  |
| Acid gas control + high efficiency FF or ESP PM retention | Acid gas filters (usually wet, dry or semi-dry scrubbers) + high efficiency fabric filters (FF; also called bag fil- ters) or electrostatic precipitators (ESP) |  |
| Mercury specific absorbents + FF | Activated carbon injection (or fixed beds) + fabric fil- ters (FF) |  |

**Waste incineration – Incineration of hazardous waste**

|  |  |
| --- | --- |
| **Contact point responsible for this inventory** | |
| Full name of institution |  |
| Contact person |  |
| E-mail address |  |
| Telephone number |  |
| Fax number |  |
| Website of institution |  |
| Report issuing date |  |

|  |  |  |
| --- | --- | --- |
| **Waste incineration – Incineration of hazardous waste** | | |
| **Incineration of hazardous waste** | **Waste incinerad, t/y** | **Remarks** (if you know content of Hg in combusted waste) |
|  |  |  |
|  |  |  |

**Relevant mercury controls that can be included in this inventory**

|  |  |  |  |
| --- | --- | --- | --- |
| **Source sub-category** | **Mercury control name in IL1 spreadsheet** | **Explanation** | **Relevant pollution abatement options – ENTER percent of total activity rate per type** |
| Incineration of hazardous waste | No emission reduction devices |  |  |
| PM reduction; simple ESP, or similar | Particle filters such as simple electrostatic precipitators (ESP) or others |  |
| Acid gas control + high efficiency FF or ESP PM retention | Acid gas filters (usually wet, dry or semi-dry scrubbers) + high efficiency fabric filters (FF; also called bag fil- ters) or electrostatic precipitators (ESP) |  |
| Mercury specific absorbents + FF | Activated carbon injection (or fixed beds) + fabric fil- ters (FF) |  |

**Waste incineration – Incineration of medical waste**

|  |  |
| --- | --- |
| **Contact point responsible for this inventory** | |
| Full name of institution |  |
| Contact person |  |
| E-mail address |  |
| Telephone number |  |
| Fax number |  |
| Website of institution |  |
| Report issuing date |  |

|  |  |  |
| --- | --- | --- |
| **Waste incineration – Incineration of medical waste** | | |
| **Incineration of medical waste** | **Waste incinerad, t/y** | **Remarks** (if you know content of Hg in combusted waste) |
|  |  |  |
|  |  |  |

**Relevant mercury controls that can be included in this inventory**

|  |  |  |  |
| --- | --- | --- | --- |
| **Source sub-category** | **Mercury control name in IL1 spreadsheet** | **Explanation** | **Relevant pollution abatement options – ENTER percent of total activity rate per type** |
| Incineration and open burning of medical waste | No emission reduction devices |  |  |
| PM reduction; simple ESP, or similar | Particle filters such as simple electrostatic precipitators (ESP) or others |  |
| Acid gas control + high efficiency FF or ESP PM retention | Acid gas filters (usually wet, dry or semi-dry scrubbers) + high efficiency fabric filters (FF; also called bag fil- ters) or electrostatic precipitators (ESP) |  |
| Mercury specific absorbents + FF | Activated carbon injection (or fixed beds) + fabric fil- ters (FF) |  |

**Waste incineration – Sewage sludge incineration**

|  |  |
| --- | --- |
| **Contact point responsible for this inventory** | |
| Full name of institution |  |
| Contact person |  |
| E-mail address |  |
| Telephone number |  |
| Fax number |  |
| Website of institution |  |
| Report issuing date |  |

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| --- | --- | --- |
| **Waste incineration – Sewage sludge incineration** | | |
| **Incineration of sewage sludges** | **Waste incinerad, t/y** | **Remarks** (if you know content of Hg in combusted waste) |
|  |  |  |
|  |  |  |

**Waste incineration – Open fire waste burning (on landfills and informally)**

|  |  |
| --- | --- |
| **Contact point responsible for this inventory** | |
| Full name of institution |  |
| Contact person |  |
| E-mail address |  |
| Telephone number |  |
| Fax number |  |
| Website of institution |  |
| Report issuing date |  |

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| --- | --- | --- |
| **Waste incineration – Open fire waste burning (on landfills and informally)** | | |
| **Open waste burning** | **Waste burned, t/y** | **Remarks** (if you know content of Hg in combusted waste) |
| Landfills |  |  |
| Forest fires |  |  |

**Waste deposition/landfilling – Controlled landfills/deposits**

|  |  |
| --- | --- |
| **Contact point responsible for this inventory** | |
| Full name of institution |  |
| Contact person |  |
| E-mail address |  |
| Telephone number |  |
| Fax number |  |
| Website of institution |  |
| Report issuing date |  |

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| --- | --- | --- |
| **Waste deposition/landfilling – Controlled landfills/deposits** | | |
| **Controlled landfills/deposits** | **Waste landfilled, t/y** | **Remarks** (if you know content of Hg in landfilled waste) |
|  |  |  |
|  |  |  |

**Waste deposition/landfilling – Informal dumping of general waste**

|  |  |
| --- | --- |
| **Contact point responsible for this inventory** | |
| Full name of institution |  |
| Contact person |  |
| E-mail address |  |
| Telephone number |  |
| Fax number |  |
| Website of institution |  |
| Report issuing date |  |

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| --- | --- | --- |
| **Waste deposition/landfilling – Informal dumping of general waste** | | |
| **Informal dumping sites** | **Waste dumped, t/y** | **Remarks** (if you know content of Hg in dumped waste) |
|  |  |  |
|  |  |  |

**Waste water treatment**

|  |  |
| --- | --- |
| **Contact point responsible for this inventory** | |
| Full name of institution |  |
| Contact person |  |
| E-mail address |  |
| Telephone number |  |
| Fax number |  |
| Website of institution |  |
| Report issuing date |  |

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| --- | --- | --- |
| **Waste water treatment** | | |
| **Waste water treatment** | **Waste water, m3/y** | **Remarks** (if you know content of Hg in waste waters;) |
|  |  |  |
|  |  |  |

**Relevant mercury controls that can be included in this inventory**

|  |  |  |  |
| --- | --- | --- | --- |
| **Source sub-category** | **Mercury control name in IL1 spreadsheet** | **Explanation** | **Relevant pollution abatement options – ENTER percent of total activity rate per type** |
|  | No treatment |  |  |
| Mechanical treatment only | Mechanical treatment (filtering of solid materials) only |  |
| Mechanical and biological treatment; no land application of sludge | Mechanical treatment (filtering of solid materials) + biological treatment (reduction of organic substances with biological digestion in the waste water) |  |
| Mechanical and biological treatment; with >40% of sludge used for land application | Mechanical treatment (filtering of solid materials) + biological treatment (reduction of organic substances with biological digestion in the waste water), where a substantial part (above 40%) of the waste water sludge is applied (as fertiliser) on land. |  |

**Category: General consumption of mercury in products, as metal mercury and as mercury containing substances**

**Cnsumption = production + import – export** (in the same year)

Source sub-categories covered, with reference to the Toolkit Reference Report sections.

|  |  |
| --- | --- |
| **Use and disposal of products with mercury content** | **Category reference** |
| *Dental amalgam fillings ("silver" fillings)* | 5.6.1 |
| Preparations of fillings at dentist clinics |  |
| Use - from fillings already in the mouth |  |
| Disposal (lost and extracted teeth) |  |
|  |  |
| *Thermometers:* | 5.5.1 |
| Medical Hg thermometers |  |
| Other glass Hg thermometers (air, laboratory, dairy, etc.) |  |
| Engine control Hg thermometers and other large industrial/speciality Hg thermometers |  |
|  |  |
| Electrical switches and relays with mercury | 5.5.2 |
|  |  |
| *Light sources with mercury:* | 5.5.3 |
| Fluorescent tubes (double end) |  |
| Compact fluorescent lamp (CFL single end) |  |
| Other Hg containing light sources |  |
|  |  |
| *Batteries with mercury:* | 5.5.4 |
| Mercury oxide (button cells and other sizes); also called mercury- zinc cells |  |
| Other button cells (zinc-air, alkaline button cells, silver-oxide) |  |
| Other batteries with mercury (plain cylindrical alkaline, permanganate, etc.) |  |
|  |  |
| Polyurethane (PU, PUR) produced with mercury catalyst | 5.5.5. |
|  |  |
| Paints with mercury preservatives | 5.5.7 |
|  |  |
| Skin lightening creams and soaps with mercury chemicals | 5.5.9 |
|  |  |
| Medical blood pressure gauges (mercury sphygmomanometers) | 5.6.2 |
|  |  |
| Other manometers and gauges with mercury | 5.6.2 |
|  |  |
| Laboratory chemicals | 5.6.3 |
|  |  |
| Other laboratory and medical equipment with mercury (porosimetry, pycnometry, hanging drop electrodes = polarimetry, etc.) | 5.6.3, 5.6.5 |

**Data collection**

|  |  |
| --- | --- |
| **Contact point responsible for this inventory** | |
| Full name of institution |  |
| Contact person |  |
| E-mail address |  |
| Telephone number |  |
| Fax number |  |
| Website of institution |  |
| Report issuing date |  |

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| --- | --- | --- | --- |
| **Use and disposal of products with mercury content** | | | |
| **Domestic production** | | **In the case of import** | |
| **Source sub-category** | **Input data** | **Amounts of imported** | **Input data** |
| ***Dental amalgam fillings ("silver" fillings)*** | Number o inhibitants |  |  |
| Preparations of fillings at dentist clinics |  |  |
| Use - from fillings already in the mouth |  |  |
| Disposal (lost and extracted teeth) |  |  |
|  |  |  |  |
| ***Thermometers:*** |  |  |  |
| Medical Hg thermometers | Items sold/y |  |  |
| Other glass Hg thermometers (air, laboratory, dairy, etc.) | Items sold/y |  |  |
| Engine control Hg thermometers and other large industrial/speciality Hg thermometers | Items sold/y |  |  |
|  |  |  |  |
| Electrical switches and relays with mercury | Number of inhibitants |  |  |
|  |  |  |  |
| ***Light sources with mercury:*** |  |  |  |
| Fluorescent tubes (double end) | Items sold/y |  |  |
| Compact fluorescent lamp (CFL single end) | Items sold/y |  |  |
| Other Hg containing light sources | Items sold/y |  |  |
|  |  |  |  |
| ***Batteries with mercury:*** |  |  |  |
| Mercury oxide (button cells and other sizes); also called mercury- zinc cells | Batteries sold/y |  |  |
| Other button cells (zinc-air, alkaline button cells, silver-oxide) | Batteries sold/y |  |  |
| Other batteries with mercury (plain cylindrical alkaline, permanganate, etc.) | Batteries sold/y |  |  |
|  |  |  |  |
| Polyurethane (PU, PUR) produced with mercury catalyst | Number of inhibitants |  |  |
|  |  |  |  |
| Paints with mercury preservatives | Paint sold, t/y |  |  |
|  |  |  |  |
| Skin lightening creams and soaps with mercury chemicals | Cream or soap sold, t/y |  |  |
|  |  |  |  |
| Medical blood pressure gauges (mercury sphygmomanometers) | Items sold/y |  |  |
|  |  |  |  |
| Other manometers and gauges with mercury | Number of inhibitants |  |  |
|  |  |  |  |
| Laboratory chemicals | Number of inhibitants |  |  |
|  |  |  |  |
| Other laboratory and medical equipment with mercury (porosimetry, pycnometry, hanging drop electrodes = polarimetry, etc.) | Number of inhibitants |  |  |