United Nations Institute for Training and Research

UN environment
United Nations Environment Programme

UNECE

gef

# Standardisation in Pollutant Release and Transfer Registers

# Table of Contents

# I. Background

The purpose of the factsheet is to expand on the information in the video module on Standardisation of Pollutant Release and Transfer Registers (PRTRs) available at http://prtr.unitar.org/site/unique/1372.

**In this paper:**

- ✓ The benefits of standardising a PRTR
- ✓ Standardising the list of reportable chemicals
- ✓ Standardising the industry sectors covered
- ✓ Other key elements to prioritize for standardisation

Environmental releases of pollutants, particularly to air and water, can readily migrate across geopolitical borders. And as national economies become more integrated on a global scale, the emphasis on examining environmental performance and sustainability at the global level continues to grow. PRTRs have been recognised as a key resource in global scale environmental analyses. When PRTR programmes gather data that are consistent with other PRTRs, information from multiple countries can be harmonised, creating an information resource for meaningful, data-driven international analyses.

This document presents information on standardising PRTRs. Standardisation refers to the process of designing or modifying elements of the PRTR requirements to be consistent with the requirements of other, established PRTRs. Examples of elements that many PRTRs aim to make consistent include the chemicals listed and the industrial sectors covered. To realise maximum benefits from a PRTR, most countries incorporate both standardised elements and custom elements that address the country's own data needs. This approach produces the most useful data for the PRTR programme, as well as for national, regional, and international analyses.

PRTR standardisation efforts grew from the collaboration of PRTR programmes, multilateral organisations, and participants in the UNECE Kiev Protocol on PRTRs. For example, the Kiev Protocol commits its Parties to establish PRTRs that set minimum requirements regarding: the activities and pollutants that are covered; who must report data to a PRTR; how often reporting occurs; the types of data that are reported; and how data are disseminated. The Kiev Protocol also requires its Parties to strive to achieve convergence among PRTRs.

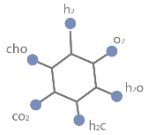
The content of this document summarizes the OECD and UNECE documents cited in the References section of this factsheet and the on-going efforts of PRTRs programme leaders around the world.

**The value of standardising a PRTR is that the data can be easily combined with data from other PRTRs around the world to undertake a range of analyses:**

- Comparing chemical use, production, and efficiency globally to identify opportunities for improving waste management, operational efficiency, and product design;
- Assessing the impacts of pollutants crossing borders to provide a more complete picture of chemical releases and the potential for exposure;
- Analysing the relative contributions and trends in releases of pollutants with global effects, such as, Greenhouse Gas emissions;
- Supporting compliance and progress reporting under international environmental agreements; and
- Gaining insights into progress toward international goals such as the United Nations' Sustainable Development Goals.

Without standardisation, countries lose opportunities to both contribute to and learn from these types global assessments, which depend on integrating PRTR data across programmes.

# II. Standardising Chemicals



## Chemical Coverage

In 2014, OECD's Task Force on PRTRs published a harmonised list of chemicals. This list includes the 126 most toxic or environmentally relevant chemicals in commerce that were commonly subject to reporting under PRTR programmes. As new PRTRs are designed or existing PRTRs are modified to incorporate this harmonised list of chemicals into their own list of reportable chemicals, the comparability of PRTR data globally will continue to increase.

OECD developed the harmonized chemical list by comparing sector coverage among five different PRTR systems – Australia, Canada, European Union, Japan, and the U.S. – and the Kiev Protocol on PRTRs. As part of this harmonisation effort, two chemical lists were prepared:

- **The "Long Chemical List"** includes all 1,086 chemicals covered by any of the PRTRs examined; and
- **The "Short Chemical List"** includes 126 chemicals. The chemicals on the "Short Chemical List" include:

POPs — All Persistent Organic Pollutants included in the PRTRs examined;

GHGs — All greenhouse gases included in the PRTRs examined;

UNECE — All chemicals covered under the Kiev Protocol; and

4+ — Additional chemicals covered by at least four of the following PRTRs: Australia, Canada, European Union, Japan, and the U.S.

To ensure a PRTR's chemical coverage is consistent with other PRTRs, a country should first consider designing a PRTR system to cover all chemicals on the "Short Chemical List". In addition, it is appropriate that the initial list of reportable chemicals and pollutants

taken from the Short Chemical List be expanded to meet national circumstances, needs and objectives.

The “Short Chemical List” is included in Section VIII of this factsheet showing the chemical, CAS number, and which PRTRs include the chemical. Another version of this Short Chemical List, available in Global Pollutant Release and Transfer Register, Proposal for a Harmonised List of Pollutants, includes the reporting thresholds associated with each pollutant established under each of the five PRTR systems.

## Chemical Definition

PRTRs can further enhance comparability and facilitate cross-PRTR data integration by using the same numeric coding system to identify each individually-listed chemical. As shown in the table below, most PRTRs use the Chemical Abstracts Services, or CAS registry, which provides a unique identifier for all chemicals described in the scientific literature. In addition, including a chemical name from an internationally recognized nomenclature system or authority (e.g., CAS, IUPAC) will further facilitate harmonisation efforts.

## More on numeric identifiers and names for chemicals

Chemical Abstract Services (CAS) numbers, also referred to as a CAS Registry Number, CASRN, or CAS Number, is a unique numerical identifier assigned by the Chemical Abstracts Service to every chemical substance described in the open scientific literature. The CAS Registry contains more than 137 million unique organic and inorganic chemical substances, such as alloys, compounds, minerals, polymers, and salts.

A CAS Number has no inherent meaning but is assigned in sequential, increasing order when the substance is identified by CAS scientists for inclusion in the CAS Registry database. A CAS Number is separated by hyphens into three parts, the first consisting from two up to seven digits, the second consisting of two digits, and the third consisting of a single check digit. Example CAS Numbers are shown in the table below.

| CAS Number | Chemical Name |
|---|---|
| 71-43-2 | Benzene |
| 36355-01-8 | Hexabromobiphenyl |
| 127-18-4 | Tetrachloroethylene |
| 10024-97-2 | Nitrous oxide |

The International Union of Pure and Applied Chemistry (IUPAC) is a universally-recognized authority on chemical nomenclature to generate systematic names for chemical compounds. The nomenclature used most frequently worldwide is the one created and developed by the International Union of Pure and Applied Chemistry (IUPAC). In addition to providing consistent chemicals names, the IUPAC chemical names also convey information about the structure or chemistry of a compound. For example, the names of the straight chain saturated hydrocarbons, or alkanes, take the suffix “-ane” and are prefixed based on the number of carbon atoms in the chain as shown in the table below for up to an 8-carbon chain.

| Number of Carbons | Chemical Name |
|---|---|
| 1 | Methane |
| 2 | Ethane |
| 3 | Propane |
| 4 | Butane |
| 5 | Pentane |
| 6 | Hexane |
| 7 | Heptane |
| 8 | Octane |

In addition to individually-listed chemicals, PRTRs often include chemical groups or categories. While the definitions of such chemical groups under many existing PRTRs are similar, they are often not identical. The Short Chemical List serves as a useful starting point for defining chemical groups. The chemical groups included on the Short Chemical List were defined following analysis that considered differences between chemical group definitions from multiple PRTRs. If a definition is not available from the Short Chemical List, the Kiev Protocol definition for a chemical group may be of use. For Kiev Protocol chemical group definitions, see UNECE's Guidance on Implementation of the Protocol on Pollutant Release and Transfer Registers.

**Techniques for Defining Chemicals Employed by Existing PRTR Systems**

| PRTR System | Individual Chemical | | | Chemical Groups | | |
|---|---|---|---|---|---|---|
| | Name | CAS Number | Other Identification Number | Name | CAS Number | Other Identification Number |
| Australia NPI | ✓ | ✓ | | ✓ | | |
| Canada NPRI | ✓ | ✓ | | ✓ | | |
| E-PRTR | ✓ | ✓ | ✓ | ✓ | | ✓ |
| Japan PRTR | ✓ | | ✓ | ✓ | | ✓ |
| US TRI | ✓ | ✓ | | ✓ | | ✓ |
| Kiev Protocol | ✓ | ✓ | ✓ | ✓ | | ✓ |

# III. Standardising Industry Sectors

## Sector Coverage

To enhance standardisation, OECD's Task Force on PRTRs also developed a harmonised list of sectors commonly included in the reporting requirements by established PRTRs. By including these sectors, new PRTRs will further enhance global comparability of PRTR data.

OECD developed the sector list by comparing sector coverage among five different PRTR systems – Australia, Canada, European Union, Japan, and the U.S. – and the Kiev Protocol on PRTRs. As with the harmonised chemical list, OECD developed two reporting versions of the harmonised sector lists:

- **The "Long Reporting Sector List"** includes all 419 sectors covered by any of the PRTRs examined. The compiled list uses the 4-digit International Standard Industrial Classification of All Economic Activities (ISIC) codes to define sectors; and
- **The "Short Reporting Sector List"** includes 154 ISIC sectors covered by four or more of the PRTRs examined.

Within the Short Reporting Sector List, there are six sectors to note that are not only covered in all PRTRs examined, but that also scored as "high reporting" sectors. A "high reporting" sector is a sector that was in the top decile based on at least one of the following metrics: number of reporting facilities; average releases per facility; average transfers per facility; average disposal per facility; or average waste managed per facility. Although economic activity clearly varies by country, these high reporting sectors may be of value in designing a PRTR to maximize the capture of release information. The six harmonised sectors with high reporting are:

- Manufacture of basic chemicals
- Manufacture of fertilizers and nitrogen compounds
- Manufacture of basic iron and steel
- Sewerage[1]
- Treatment and disposal of non-hazardous waste and
- Treatment and disposal of hazardous waste

[1] Covered by four of the five PRTRs examined but with high reporting under all four of those PRTRs.

To ensure a PRTR's sector coverage is consistent with other PRTRs, a country should consider covering all sectors on the "Short Reporting Sector List" in the initial scope or design. These sectors are consistently covered by most existing PRTRs due to their prevalence in many economies and their use and release of pollutants of concern. PRTRs may also consider covering the additional sectors on OECD's "Long Reporting Sector List." Although less consistently covered than Short List sectors, reporting by these sectors is typically required by two or more PRTRs and releases may be significant in a particular economy. The "Short Reporting Sector List" is included in Section IX of this factsheet showing the sector name, ISIC code, which existing PRTRs cover the sector, and a reporting score (high, medium, or low) for each existing PRTR.

To ensure a PRTR meets the needs of a country, the country may also consider covering industrial sectors of unique concern to the country. Such candidate sectors might include those that are the significant consumers of chemicals in a country, new and emerging sectors, or sectors associated with environmental and human health risks (OECD, 2014a).

## Sector Definitions

PRTRs can further enhance comparability by using the same numeric coding system to identify each covered sector. Most PRTRs identify sectors using the 4-digit International Standard Industrial Classification of All Economic Activities (ISIC) code. ISIC is the international reference classification developed and updated by the United Nations Statistics Division based on a set of internationally agreed upon classification rules.

A country should consider using one of the following techniques to define which sectors will be covered by a PRTR.

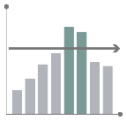
- **Developing a list of high chemical use or high pollutant release sectors** from an established industry classification system, such as the International Standard Industrial Classification (ISIC). If a facility's primary operations fall within one of the listed industrial sectors, it would be required to report to the PRTR. This technique is used by PRTRs in Australia and the US.
- **Developing a list of industrial activities with high chemical use or pollutant releases.** If a facility performs one or more of these activities, it would be required to report. This technique is used for E-PRTR, Japan's PRTR, and the Kiev Protocol, as shown in the table below.

| Techniques for Defining Sectors Employed by Existing PRTR Systems | | | | | | |
|---|---|---|---|---|---|---|
| Technique | Australia NPI | Canada NPRI | E-PRTR | Japan PRTR | US TRI | Kiev Protocol |
| Industry classification system | ✓ | | | | ✓ | |
| List of industrial activities | | | ✓ | ✓ | | ✓ |
| All sectors, except a list of excluded industrial sectors | | ✓ | | | | |

Either method is suitable for a PRTR. Cross-programme harmonisation and data integration across PRTRs will be supported, provided:

- Sectors on the Short List are covered by the PRTR;
- Industry classification information is collected for each facility;
- Industry classification information can be cross-walked to ISIC (OECD, 2014a).

# IV. Standardising Activity Thresholds



Activity thresholds are used to limit PRTRs to facilities whose activities typically involve significant amounts of one or more listed chemicals or pollutants. While activity thresholds vary among PRTRs, for global standardisation, the Kiev Protocol reporting thresholds can serve as a useful starting point. These thresholds are in wide use among PRTRs, so data collected using these thresholds would be readily harmonisable with numerous other PRTRs. Thresholds also serve to minimize the burden involved with complying with PRTR regulations in that facilities that do not exceed a threshold are not required to report.

Typical activity thresholds as listed in the OECD's Guidance Document on Elements of a PRTR: Part I include:

- **Manufacture, processing and use thresholds**: A facility must report on a chemical to a PRTR if the facility manufactures, processes, or uses the chemical in quantities above the threshold amount. These thresholds are useful for identifying facilities: where human health risks from chemicals handled at the facility may be expected; where there are expected releases of the chemical to the environment; or where the facility generates or processes significant quantities of the chemical that undergo waste management, such as, burned for energy recovery, recycled, or treated for destruction.
- **Release quantity thresholds:** A facility must report a chemical to a PRTR if the facility releases the chemical in quantities that exceed the release threshold amount. These thresholds are useful for limiting reporting to facilities that have larger releases. Release thresholds would not require reporting from facilities with low releases and transfers even if they handle large quantities of the chemical.
- **Employee Thresholds:** A facility must report a chemical to a PRTR if the employees of the facility exceed a threshold amount such as the total number of employees or the working hours. Such employment thresholds can be used to exclude reporting by smaller businesses.
- **Thresholds for specific activities:** A facility must report a chemical to a PRTR if the facility performs an activity using quantities that exceed a threshold amount. For example, a facility might be required to report for combustion by-products if it burns a quantity of fuel above a threshold. Activity thresholds may have the advantage of lowering the cost of data collection; it is typically easier for a facility to measure specified activities than to quantify manufacturing, processing, use, or release of chemicals.

Each PRTR may use a combination of these activity thresholds. For details on how these activity thresholds are defined by existing PRTRs and the Kiev Protocol, see the table on the next page from OECD's Guidance Document on Elements of a PRTR: Part I.

| Summary of Activity Thresholds for Existing PRTR Systems | | | |
|---|---|---|---|
| PRTR | Employee Threshold | Activity Thresholds* | Sector-Specific Thresholds |
| Australia NPI | No employee threshold | • Chemical usage (5 to 25 000 kg/yr)<br>• Annual fuel combustion (400 000 to 2 000 000 kg/yr)<br>• Hourly fuel combustion (1 000 kg/hour)<br>• Energy use (60 MWh)<br>• Power rating (20 MW)<br>• Emissions/transfers (3 000 to 15 000 kg) | • Employee threshold applies to certain sectors |
| Canada NPRI | 20,000 employee hours | • Manufacture, process, or otherwise use (5 to 10 000 kg/yr)<br>• Release, disposal, or transfer for recycling (50 kg/yr)<br>• Activity<br>• Air releases (300 to 20 000 kg/yr) | • Facilities in certain sector must report regardless of employee threshold.<br>• Facilities in certain sectors are exempt from reporting if annual production falls below a threshold. |
| EU E-PRTR | No employee threshold | • Air releases (0.0001 – 100 000 000 kg/yr)<br>• Water releases (0.0001 – 2 000 000 kg/yr)<br>• Land releases (0.0001 – 2 000 000 kg/yr)<br>• Offsite transfer of waste | • Facilities in certain sectors are exempt from reporting if production capacity falls below a threshold.<br>• Facilities in certain sectors are exempt from reporting if annual production falls below a threshold. |
| Japan PRTR | 21 regular employees for the company | • Amount handled (1 ton/yr or 0.5 ton/yr) | • Facilities in certain sectors must report regardless of annual amount handled.<br>• Additional capacity and activity thresholds apply to facilities in certain sectors. |
| US TRI | 10 full-time employee equivalents | • Manufacture (0.1 g to 25 000 lb)<br>• Process (0.1 g to 25 000 lb)<br>• Otherwise use (0.1 g to 10 000 lb) | |
| Kiev Protocol | No employee threshold or 10 full-time employee equivalents | • Air releases (0.001 – 100 000 000 kg/yr)<br>• Water releases (0.001 – 2 000 000 kg/yr)<br>• Land releases (0.001 – 2 000 000 kg/yr)<br>• Offsite transfer of waste<br>or<br>• Manufacture, process, or otherwise use (0.0001 - 10 000 kg/yr) | • Facilities in certain sectors are exempt from reporting if production capacity falls below a threshold.<br>• Facilities in certain sectors are exempt from reporting if annual production falls below a threshold. |

* For details on and exceptions to these thresholds, see the detailed version of this table in OECD's Guidance Document on Elements of a PRTR: Part I.

# V. Standardising Other Elements

## Data Elements

To ensure key information is available for international analyses, a country may consider designing a PRTR to collect, at a minimum, the basic data elements for facility identification and releases by environmental medium, including separate data elements for the quantity released to air, water, or land, and transferred off-site. The table below from OECD's Guidance Document on Elements of a PRTR: Part I shows the status of reporting of these data elements for five PRTRs and as included in the Kiev Protocol.

| Facility and Release Information Collected by Existing PRTR Systems | | | | | | |
|---|---|---|---|---|---|---|
| | Australia NPI | Canada NPRI | E-PRTR | Japan PRTR | US TRI | Kiev Protocol |
| Facility Identification | | | | | | |
| Identification Number | ✓ | ✓ | ✓ | | ✓ | ✓ |
| Facility Name | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Facility Address | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Releases to Environmental Media | | | | | | |
| Air Releases | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Water Releases | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Land Releases | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Transfers | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

## Reporting Period

Standardising the reporting period further facilitates global analyses. Most PRTRs collect data annually based on the previously completed calendar year, as shown in the table below from OECD's Guidance Document on Elements of a PRTR: Part I. If a country's other environmental programs require reporting for a different time period, the country may elect to collect PRTR data for the same period. For example, Japan's PRTR collects data for its fiscal year which runs from April 1st to March 31st.

| Reporting Period for Existing PRTR Systems | | |
|---|---|---|
| | Frequency of Reporting | Reporting Period |
| Australia NPI | Annual | July 1st to June 30th |
| Canada NPRI | Annual | January 1st to December 31st |
| E-PRTR | Annual | January 1st to December 31st |
| Japan PRTR | Annual | April 1st to March 31st |
| US TRI | Annual | January 1st to December 31st |
| Kiev Protocol | Annual | January 1st to December 31st |

# VI. Conclusion

This factsheet provides information on standardising PRTRs for national governments that are designing new PRTRs or are considering revising an existing PRTR. Standardising key elements of a PRTR to be consistent with other PRTRs facilitates the ability to conduct comparisons and analyses of data from multiple PRTR systems around the world.

**While standardisation is essential for conducting robust global analyses, variation among PRTRs is also necessary to ensure PRTRs meet their countries' needs. Every PRTR has unique elements, while also collecting key data that are standard across PRTRs.**

As the interest in and need for global sustainability analyses continues to grow, PRTRs play a critical role in providing reliable and consistent environmental data for these assessments. When PRTRs are harmonised, the ease of integrating data and value of these analyses increases by capturing a more complete picture of international chemical releases.

# VII. Chemical Short List

The list is shown on the following pages is from OECD's Global Pollutant Release and Transfer Register, Proposal for a Harmonised List of Pollutants. The list includes the pollutant name, its Chemical Abstract Service (CAS) number, and an indicator showing which of the five PRTRs listed or the Kiev Protocol include the pollutant. Colour coding indicates:

| Pollutant | | Covered by PRTR? | | | | | |
|---|---|---|---|---|---|---|---|
| CAS Number | Pollutant Name | Australia NPI | Canada NPRI | EU E-PRTR | Kiev Protocol | Japan PRTR | US TRI |
| **Persistent Organic Pollutants (POPs)** | | | | | | | |
| 309-00-2 | Aldrin | | | x | x | | X |
| 57-74-9 | Chlordane | | | x | x | | X |
| 50-29-3 | DDT / 1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane | | | x | x | | |
| 60-57-1 | Dieldrin | | | x | x | | |
| 72-20-8 | Endrin | | | x | x | | |
| 76-44-8 | Heptachlor | | | x | x | | x |
| 2385-85-5 | Mirex | | | x | x | | |
| 8001-35-2 | Toxaphene | | | x | x | | x |
| 319-84-6 | alpha-hexachlorocyclohexane | | | | | | x |
| 319-85-7 | beta-hexachlorocyclohexane | | | | | | |
| 58-89-9 | Lindane / gamma-hexachlorocyclohexane | | | x | x | | x |
| 143-50-0 | Chlordecone | | | x | x | | |
| 608-93-5 | Pentachlorobenzene | | | x | x | | x |
| 118-74-1 | Hexachlorobenzene (HCB) | x | x | x | x | | x |
| 1336-36-3 | Polychlorinated biphenyls (PCBs) | x | | x | x | x | x |
| 36355-01-8 | Hexabromobiphenyl | | | x | | | |
| 68631-49-2 | 2,2',4,4',5,5'-hexabromodiphenyl ether (BDE-153) | | | | | | |
| 207122-15-4 | 2,2',4,4',5,6'-hexabromodiphenyl ether (BDE-154) | | | | | | |
| 446255-22-7 | 2,2',3,3',4,5',6-heptabromodiphenyl ether (BDE-175) | | | | | | |
| 207122-16-5 | 2,2',3,4,4',5',6-heptabromodiphenyl ether (BDE-183) | | | | | | |
| 5436-43-1 | Tetrabromodiphenyl ether | | | | | | |
| 60348-60-9 | Pentabromodiphenyl ether | | | | | | |
| LCL-1 | Perfluorooctane sulfonic acid (PFOS), its salts and perfluorooctane sulfonyl fluoride (PFOS-F) / Jpn: perfluoro(octane-1-sulfonic acid) | | | | | x | |
| LCL-2 | Polychlorinated dioxins and furans (as TEF) | x | * | x | x | | x |
| **Metals** | | | | | | | |
| LCL-5 | Antimony and compounds (as Sb) | x | x | | | x | x |
| LCL-7 | Arsenic and compounds (as As) | x | x | x | x | x | x |
| LCL-10 | Cadmium and compounds (as Cd) | x | x | x | x | x | x |
| LCL-14 | Chromium and chromium(III) compounds (as Cr) | x | x | * | * | x | * |
| LCL-15 | Chromium(VI) compounds (as Cr) | x | x | * | * | x | * |
| LCL-17 | Cobalt and compounds (as Co) | x | x | | | x | x |
| LCL-19 | Copper and compounds (as Cu) | x | x | x | x | x | x |
| LCL-21 | Lead and compounds as (Pb) | x | x | x | x | x | x |
| LCL-24 | Manganese and compounds (as Mn) | x | x | | | x | x |
| LCL-26 | Mercury and compounds (as Hg) | x | x | x | x | x | x |
| LCL-28 | Nickel and compounds (as Ni) | x | x | x | x | x | x |
| LCL-30 | Selenium and compounds (as Se) | x | x | | | x | x |
| LCL-32 | Zinc and compounds (as Zn) | x | x | x | x | x | x |
| **Inorganic substances** | | | | | | | |
| 1332-21-4 | Asbestos (friable) | | x | x | x | x | x |
| LCL-42 | Cyanide (inorganic) compounds (as CN) | x | x | x | x | x | x |
| 74-90-8 | Hydrogen cyanide | | x | x | x | | x |
| LCL-43 | Fluorides (as total F) | x | * | x | x | x | * |
| LCL-45 | Phosphorus (total) | x | | x | x | | |
| LCL-50 | PM10 - Particulate matter | x | x | x | x | | |
| LCL-52 | Chlorides (as total Cl) | | | x | X | | |
| LCL-53 | Total nitrogen | x | | x | x | | |
| **Chlorinated and brominated organic substances** | | | | | | | |

| Pollutant | | Covered by PRTR? | | | | | |
|---|---|---|---|---|---|---|---|
| CAS Number | Pollutant Name | Australia NPI | Canada NPRI | EU E-PRTR | Kiev Protocol | Japan PRTR | US TRI |
| 107-06-2 | 1,2-Dichloroethane | x | x | x | x | x | x |
| 79-00-5 | 1,1,2-Trichloroethane | x | x | | | x | x |
| 71-55-6 | 1,1,1-trichloroethane | | | x | x | x | x |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | x | x | x | x | | x |
| 75-01-4 | Vinyl chloride (Chloroethylene) | x | x | x | x | x | x |
| 79-01-6 | Trichloroethylene | x | x | x | x | x | x |
| 127-18-4 | Tetrachloroethylene | x | x | x | x | x | x |
| 75-09-2 | Dichloromethane / methylene dichloride | x | x | x | x | x | x |
| 67-66-3 | Trichloromethane / Chloroform | x | x | x | x | x | x |
| 56-23-5 | Tetrachloromethane / Carbon tetrachloride | | x | x | x | x | x |
| 12002-48-1 | Trichlorobenzenes | | | x | x | x | |
| 1163-19-5 | Decabromodiphenyl ether | | x | * | * | x | x |
| LCL-55 | Brominated diphenylethers (PBDE) (total mass of penta-BDE, octa-BDE and deca-BDE) | | | x | x | | |
| 85535-84-8 | Chloro-alkanes (C10-C13) / Polychlorinated alkanes (C10 to C13) / Alkanes, C10-13, chloro | | x | x | x | x | x |
| 87-86-5 | Pentachlorophenol (PCP) | x | x | x | x | x | x |
| LCL-60 | Halogenated organic compounds (as AOX) | | | | | | |
| 87-68-3 | Hexachlorobutadiene (HCBD) | | x | x | | | x |
| **Ozone depleting substances** | | | | | | | |
| LCL-62 | Hydrochlorofluorocarbons (HCFCs) | | * | x | x | * | * |
| LCL-63 | Chlorofluorocarbons (CFCs) | | * | x | x | * | * |
| LCL-65 | Halons | | * | x | x | * | * |
| **Greenhouse gases (GHGs)** | | | | | | | |
| 124-38-9 | Carbon dioxide | * | * | x | x | * | * |
| 74-82-8 | Methane | * | * | x | x | * | * |
| 10024-97-2 | Nitrous oxide | * | * | x | x | * | * |
| LCL-66 | Hydrofluorocarbons (HFCs) | * | * | x | x | * | * |
| LCL-67 | Perfluorocarbons (PFCs) | * | * | x | x | * | * |
| 2551-62-4 | Sulphur hexafluoride (SF6) | * | * | x | x | * | * |
| **Other gases** | | | | | | | |
| 7664-41-7 | Ammonia (NH3) | * | * | x | x | | x |
| LCL-69 | Chlorine and inorganic compounds (as HCl) | x | x | x | x | | x |
| 75-21-8 | Ethylene oxide | x | x | x | x | x | x |
| 630-08-0 | Carbon monoxide | x | x | x | x | | |
| LCL-70 | Fluorine and inorganic compounds (as HF) | | | x | x | | |
| 11104-93-1 | Nitrogen oxides (NOx/NO2) | x | x | x | x | | |
| 2025-88-4 | Sulphur oxides (SOx/SO2) | x | x | x | x | | |
| **Polycyclic aromatic hydrocarbons (PAHs)** | | | | | | | |
| LCL-74 | Polycyclic aromatic hydrocarbons (PAHs) as benzo(a)pyrene (50-32-8), benzo(b)-fluoranthene (205-99-2), benzo(k)fluoranthene (207-08-9), indeno(1,2,3-cd)pyrene (193-39-5) | | | x | x | | |
| 120-12-7 | Anthracene | | x | x | x | x | x |
| 91-20-3 | Naphthalene | | x | x | x | x | x |
| **Other organic substances** | | | | | | | |
| 75-05-8 | Acetonitrile | x | x | | | x | x |
| 107-02-8 | Acrolein | x | x | | | x | x |
| 79-06-1 | Acrylamid | x | x | | | x | x |
| 79-10-7 | Acrylic acid and its water-soluble salts | x | x | | | x | x |
| 80-62-6 | Methyl methacrylate | x | x | | | x | x |
| 107-13-1 | Acrylonitrile | x | x | | | x | x |
| 75-07-0 | Acetaldehyde | x | x | | | x | x |
| 62-53-3 | Aniline | x | x | | | x | x |
| 92-52-4 | Biphenyl (1,1-biphenyl) | x | x | | | x | x |
| 98-82-8 | Cumene (1-methylethylbenzene) | x | x | | | x | x |
| 110-54-3 | n-Hexane | x | x | | | x | x |
| 71-43-2 | Benzene | x | x | x | x | x | x |
| 100-41-4 | Ethylbenzene | x | x | x | x | x | x |
| 108-88-3 | Toluene | x | x | x | x | x | x |
| 1330-20-7 | Xylene (mixed isomers) | x | x | x | x | x | x |
| 106-99-0 | 1,3-Butadiene | x | x | | | x | x |

| Pollutant | | Covered by PRTR? | | | | | |
|---|---|---|---|---|---|---|---|
| CAS Number | Pollutant Name | Australia NPI | Canada NPRI | EU E-PRTR | Kiev Protocol | Japan PRTR | US TRI |
| 75-15-0 | Carbon disulfide / Carbon disulphide | x | x | | | x | x |
| 101-68-8 | Methylenebis(phenylisocyanate) (MDI) | x | x | | | x | x |
| 110-80-5 | 2-Ethoxyethanol / ethylene glycol monoethyl ether | x | x | | | x | x |
| 109-86-4 | Methoxyethanol / ethylene glycol monomethyl ether | x | x | | | x | x |
| 50-00-0 | Formaldehyde | x | x | | | x | x |
| 110-49-6 | 2-Methoxyethanol acetate / 2-methoxyethyl acetate | x | x | | | x | * |
| 111-15-9 | 2-Ethoxyethanol acetate / 2-ethoxyethyl acetate | x | x | | | x | * |
| 101-14-4 | 4,4'-Methylene-bis(2-chloroaniline) (MOCA) / 3,3'-dichloro-4,4'-diaminodiphenylmethane | x | x | | | x | x |
| LCL-91 | Organotin compounds (as total Sn) | x | | x | x | x | * |
| LCL-92 | Tributyltin and compounds | | | x | x | | |
| LCL-93 | Triphenyltin and compounds | | | x | x | | |
| LCL-94 | Phenols (as total C) | | | x | x | | |
| 108-95-2 | Phenol | x | x | * | * | x | x |
| 117-81-7 | Di-(2-ethyl hexyl) phthalate (DEHP) / bis(2-ethylhexyl)phthalate | x | x | x | x | x | x |
| 84-74-2 | Dibutyl phthalate | x | x | | | x | x |
| 100-42-5 | Styrene | x | x | | | x | x |
| LCL-95 | Nonylphenol and Nonylphenol ethoxylates (NP/NPEs) | | x | x | x | x | |
| LCL-100 | Non-methane volatile organic compounds (NMVOC) | | | x | x | | |
| LCL-107 | Total organic carbon (TOC) (as total C or COD/3) | | | x | x | | |
| **Active substances of plant protection products or biocidal products** | | | | | | | |
| 15972-60-8 | Alachlor (2-chloro-2',6'-diethy-N-(methoxymethyl)acetanilide) | | | x | x | x | x |
| 330-54-1 | Diuron (3-(3,4-dichlorophenyl)-1,1-dimethylurea) / DCMU | | | x | x | x | x |
| 1912-24-9 | Atrazine (2-chloro-4-ethylamino-6-isopropylamino-1,3,5-triazine) | | | x | x | x | x |
| 122-34-9 | Simazine (2-chloro-4,6-bis(ethylamino)-1,3,5-triazine) | | | x | x | x | x |
| 1582-09-8 | Trifluralin (α,α,α-trifluoro-2,6-dinitro-N,N-dipropyl-p-toluidine ) | | | x | x | x | x |
| 470-90-8 | Chlorfenvinphos | | | x | x | | |
| 2921-88-2 | Chlorpyrifos | | | x | x | x | |
| 115-29-7 | Endosulphan / 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-exahydro-6,9-methano-2,4,3-benzodioxathiepine 3-oxide | | | x | x | x | |
| 608-73-1 | 1,2,3,4,5, 6-hexachlorocyclohexane (HCH) | | | x | x | | |
| 34123-59-6 | Isoproturon | | | x | x | | |

x Substance covered under the PRTR

* Substance included as a compound entry in the respective PRTR; or substances regulated in complementary programs to the respective PRTR

Legend:

| |
|---|
| Persistent Organic Pollutants (POPs), Greenhouse gases (GHGs): present in ≤2 PRTR-Systems, but included due to their environmental relevance |
| Substances in groups where single substances are present in 5 PRTR-Systems |
| Substances in groups where single substances are present in 4 PRTR-Systems (incl. 3 POPs) |
| Substances in groups where single substances are present in 3 PRTR-Systems |

# VIII. Sector Short List

The “Sector Short List” shown on the following pages is from OECD’s Global Pollutant Release and Transfer Register, Proposal for a Harmonised List of Sectors. For each sector, the list includes the sector name, ISIC code, which existing PRTRs cover the sector, and a reporting score (high, medium, or low) for each existing PRTR.

| ISIC Sector | | | | Covered? ✓ = Fully Covered, ℘ = Partially Covered | | | | | | Reporting Score ○ = Not Reported, ● = Low Reporting, ●● = Medium Reporting, ●●● = High Reporting | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Section | Division | Class | | Australia | Canada | European Union | Kiev Protocol | Japan | United States | Australia | Canada | European Union | Japan | United States |
| B: Mining and quarrying | 05: Mining of coal and lignite | 0510 | Mining of hard coal | ✓ | ✓ | ℘ | ℘ | | ℘ | ●●● | ●●● | ●●● | | ○ |
| | | 0520 | Mining of lignite | ✓ | ✓ | ℘ | ℘ | | ✓ | ●●● | ●●● | ●●● | | ●● |
| | 06: Extraction of crude petroleum and natural gas | 0620 | Extraction of natural gas | ✓ | ℘ | | | ✓ | ℘ | ●●● | ●●● | | ●● | ●●● |
| | 07: Mining of metal ores | 0710 | Mining of iron ores | ✓ | ✓ | ℘ | ℘ | ✓ | | ●●● | ●●● | ●● | ●● | |
| | | 0721 | Mining of uranium and thorium ores | ✓ | ✓ | ℘ | ℘ | ✓ | ✓ | ●●● | ●●● | ● | ●● | ●●● |
| | | 0729 | Mining of other non-ferrous metal ores | ✓ | ✓ | ℘ | ℘ | ✓ | ✓ | ●●● | ●●● | ●●● | ●● | ●●● |
| | 08: Other mining and quarrying | 0810 | Quarrying of stone, sand and clay | ✓ | ✓ | ℘ | ℘ | | ℘ | ●●● | ●●● | ●● | | ●● |
| | | 0891 | Mining of chemical and fertilizer minerals | ✓ | ✓ | ℘ | ℘ | | ℘ | ●●● | ●●● | ●● | | ●● |
| | | 0899 | Other mining and quarrying n.e.c. | ✓ | ✓ | ℘ | ℘ | | ℘ | ●●● | ●●● | ●● | | ●● |
| C: Manufacturing | 10: Manufacture of food products | 1010 | Processing and preserving of meat | ✓ | ✓ | ℘ | ℘ | ✓ | ℘ | ●● | ●● | ●● | ●● | ●● |
| | | 1020 | Processing and preserving of fish, crustaceans and molluscs | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ● | ●● | ●● | ●● |
| | | 1030 | Processing and preserving of fruit and vegetables | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●● | ●● | ●● | ●● |
| | | 1040 | Manufacture of vegetable and animal oils and fats | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●● | ●● | ●● | ●●● |
| | | 1050 | Manufacture of dairy products | ✓ | ✓ | ℘ | ℘ | ✓ | ✓ | ●● | ●● | ●● | ●● | ●● |
| | | 1061 | Manufacture of grain mill products | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●● | ●● | ●● | ●● |
| | | 1062 | Manufacture of starches and starch products | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●● | ●● | ●● | ●●● |
| | | 1071 | Manufacture of bakery products | ✓ | ✓ | | | ✓ | ℘ | ●● | ●● | | ●● | ●● |
| | | 1072 | Manufacture of sugar | ✓ | ℘ | ✓ | ✓ | ✓ | ✓ | ●●● | ●● | ●●● | ●● | ●●● |
| | | 1073 | Manufacture of cocoa, chocolate and sugar confectionery | ✓ | ✓ | ✓ | ✓ | ✓ | ℘ | ●● | ●● | ●● | ●● | ●● |
| | | 1074 | Manufacture of macaroni, noodles, couscous and similar farinaceous products | ✓ | ✓ | | | ✓ | ✓ | ●● | ●● | | ●● | ●● |
| | | 1075 | Manufacture of prepared meals and dishes | ✓ | ✓ | | | ✓ | ✓ | ●●● | ●● | | ●● | ●● |
| | | 1079 | Manufacture of other food products n.e.c. | ✓ | ✓ | ℘ | ℘ | ✓ | ✓ | ●●● | ●● | ●●● | ●● | ●● |
| | | 1080 | Manufacture of prepared animal feeds | ✓ | ✓ | | | ✓ | ℘ | ●● | ●● | | ●● | ●● |
| | 11: Manufacture of beverages | 1101 | Distilling, rectifying and blending of spirits | ✓ | ✓ | | | ✓ | ✓ | ●● | ●● | | ●● | ●● |
| | | 1102 | Manufacture of wines | ✓ | ✓ | | | ✓ | ✓ | ●●● | ○ | | ●● | ●● |
| | | 1103 | Manufacture of malt liquors and malt | ✓ | ✓ | | | ✓ | ✓ | ●● | ●● | | ●● | ●● |
| | | 1104 | Manufacture of soft drinks; production of mineral waters and other bottled waters | ✓ | ✓ | | | ✓ | ℘ | ●● | ●● | | ●● | ● |

| ISIC Sector | | | Covered? ✓ = Fully Covered, ℘ = Partially Covered | | | | | | Reporting Score ○ = Not Reported, ● = Low Reporting, ●● = Medium Reporting, ●●● = High Reporting | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Section | Division | Class | Australia | Canada | European Union | Kiev Protocol | Japan | United States | Australia | Canada | European Union | Japan | United States |
| | 12: Manufacture of tobacco products | 1200 Manufacture of tobacco products | ✓ | ✓ | | | ✓ | ℘ | ●● | ● | | ●● | ●● |
| | 13: Manufacture of textiles | 1311 Preparation and spinning of textile fibres | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●● | ● | ●● | ●● |
| | | 1312 Weaving of textiles | ✓ | ✓ | | | ✓ | ✓ | ● | ● | | ●● | ●● |
| | | 1313 Finishing of textiles | ✓ | ✓ | | | ✓ | ℘ | ●● | ●● | | ●● | ●● |
| | | 1391 Manufacture of knitted and crocheted fabrics | ✓ | ✓ | | | ✓ | ✓ | ○ | ○ | | ●● | ● |
| | | 1392 Manufacture of made-up textile articles, except apparel | ✓ | ✓ | | | ✓ | ℘ | ●● | ●● | | ●● | ●● |
| | | 1393 Manufacture of carpets and rugs | ✓ | ✓ | | | ✓ | ℘ | ● | ●● | | ●● | ●● |
| | | 1394 Manufacture of cordage, rope, twine and netting | ✓ | ✓ | | | ✓ | ✓ | ○ | ●● | | ●● | ●● |
| | | 1399 Manufacture of other textiles n.e.c. | ✓ | ✓ | ℘ | ℘ | ✓ | ✓ | ●● | ●● | ●● | ●● | ●● |
| | 14: Manufacture of wearing apparel | 1410 Manufacture of wearing apparel, except fur apparel | ✓ | ✓ | | | ✓ | ℘ | ●● | ●● | | ●● | ●● |
| | | 1420 Manufacture of articles of fur | ✓ | ✓ | | | ✓ | ✓ | ●● | ● | | ●● | ●● |
| | | 1430 Manufacture of knitted and crocheted apparel | ✓ | ✓ | | | ✓ | ✓ | ○ | ● | | ●● | ○ |
| | 15: Manufacture of leather and related products | 1511 Tanning and dressing of leather; dressing and dyeing of fur | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ○ | ●● | ●● | ●● |
| | | 1512 Manufacture of luggage, handbags and the like, saddlery and harness | ✓ | ✓ | | | ✓ | ✓ | ●● | ●● | | ●● | ●● |
| | | 1520 Manufacture of footwear | ✓ | ✓ | | | ✓ | ✓ | ○ | ●● | | ●● | ● |
| | 16: Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials | 1610 Sawmilling and planing of wood | ✓ | ℘ | ✓ | ✓ | ✓ | ✓ | ●● | ●●● | ●● | ●● | ●● |
| | | 1621 Manufacture of veneer sheets and wood-based panels | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●● | ●● | ●● | ●● |
| | | 1622 Manufacture of builders' carpentry and joinery | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●● | ●● | ●● | ●● |
| | | 1623 Manufacture of wooden containers | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●● | ○ | ●● | ●● |
| | | 1629 Manufacture of other products of wood; manufacture of articles of cork, straw and plaiting materials | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●●● | ●● | ●● | ●● |
| | 17: Manufacture of paper and paper products | 1701 Manufacture of pulp, paper and paperboard | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●●● | ●● | ●● | ●●● |
| | | 1702 Manufacture of corrugated paper and paperboard and of containers of paper and paperboard | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●● | ●● | ●● | ●●● |
| | | 1709 Manufacture of other articles of paper and paperboard | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●●● | ●● | ●● | ●●● |

| ISIC Sector | | | Covered? ✓ = Fully Covered, ℘ = Partially Covered | | | | | | Reporting Score ○ = Not Reported, ● = Low Reporting, ●● = Medium Reporting, ●●● = High Reporting | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Section | Division | Class | Australia | Canada | European Union | Kiev Protocol | Japan | United States | Australia | Canada | European Union | Japan | United States |
| | 18: Printing and reproduction of recorded media | 1811 Printing | ✓ | ✓ | ✓ | ✓ | ℘ | ℘ | ●● | ●● | ●● | ●●● | ●● |
| | | 1812 Service activities related to printing | ✓ | ✓ | | | ✓ | ✓ | ○ | ●● | | ●●● | ● |
| | 19: Manufacture of coke and refined petroleum products | 1910 Manufacture of coke oven products | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●● | ●●● | ●● | ●●● |
| | | 1920 Manufacture of refined petroleum products | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●●● | ●●● | ●●● | ●● | ●●● |
| | 20: Manufacture of chemicals and chemical products | 2011 Manufacture of basic chemicals | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●●● | ●●● | ●●● | ●●● | ●●● |
| | | 2012 Manufacture of fertilizers and nitrogen compounds | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●●● | ●●● | ●●● | ●●● | ●●● |
| | | 2013 Manufacture of plastics and synthetic rubber in primary forms | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●● | ●● | ●●● | ●●● |
| | | 2021 Manufacture of pesticides and other agrochemical products | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●● | ●● | ●●● | ●●● |
| | | 2022 Manufacture of paints, varnishes and similar coatings, printing ink and mastics | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●●● | ●● | ●●● | ●●● |
| | | 2023 Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●●● | ●● | ●●● | ●●● |
| | | 2029 Manufacture of other chemical products n.e.c. | ✓ | ✓ | ℘ | ℘ | ✓ | ✓ | ●● | ●●● | ●● | ●●● | ●●● |
| | | 2030 Manufacture of man-made fibres | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●● | ●● | ●●● | ●●● |
| | 21: Manufacture of basic pharmaceutical products and pharmaceutical preparations | 2100 Manufacture of pharmaceuticals, medicinal chemical and botanical products | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●●● | ●● | ●● | ●●● | ●●● |
| | 22: Manufacture of rubber and plastics products | 2211 Manufacture of rubber tyres and tubes; retreading and rebuilding of rubber tyres | ✓ | ✓ | ✓ | ✓ | ✓ | ℘ | ●● | ●● | ●● | ●● | ●● |
| | | 2219 Manufacture of other rubber products | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●●● | ●● | ●● | ●● |
| | | 2220 Manufacture of plastics products | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●●● | ●● | ●●● | ●●● |
| | 23: Manufacture of other non-metallic mineral products | 2310 Manufacture of glass and glass products | ✓ | ✓ | ℘ | ℘ | ✓ | ✓ | ●● | ●●● | ●● | ●● | ●● |
| | | 2391 Manufacture of refractory products | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●● | ●● | ●● | ●● |
| | | 2392 Manufacture of clay building materials | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●● | ●● | ●● | ●● |
| | | 2393 Manufacture of other porcelain and ceramic products | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ● | ●● | ●● | ● |
| | | 2394 Manufacture of cement, lime and plaster | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●●● | ●● | ●●● | ●● | ●● |
| | | 2395 Manufacture of articles of concrete, cement and plaster | ✓ | ✓ | | | ✓ | ✓ | ●● | ●●● | | ●● | ●●● |
| | | 2396 Cutting, shaping and finishing of stone | ✓ | ℘ | | | ✓ | ℘ | ●● | ●●● | | ●● | ●● |

| ISIC Sector | | | | Covered? ✓ = Fully Covered, ℘ = Partially Covered | | | | | | Reporting Score ○ = Not Reported, ● = Low Reporting, ●● = Medium Reporting, ●●● = High Reporting | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Section | Division | Class | | Australia | Canada | European Union | Kiev Protocol | Japan | United States | Australia | Canada | European Union | Japan | United States |
| | | 2399 | Manufacture of other non-metallic mineral products n.e.c. | ✓ | ✓ | ℘ | ℘ | ✓ | ✓ | ●● | ●●● | ●● | ●● | ●●● |
| | 24: Manufacture of basic metals | 2410 | Manufacture of basic iron and steel | ✓ | ✓ | ℘ | ℘ | ✓ | ✓ | ●●● | ●●● | ●●● | ●●● | ●●● |
| | | 2420 | Manufacture of basic precious and other non-ferrous metals | ℘ | ✓ | ✓ | ✓ | ✓ | ✓ | ●●● | ●●● | ●● | ●● | ●●● |
| | | 2431 | Casting of iron and steel | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●●● | ●● | ●●● | ●● |
| | | 2432 | Casting of non-ferrous metals | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ●● | ●● | ●● | ●● | ●● |
| | 25: Manufacture of fabricated metal products, except machinery and equipment | 2511 | Manufacture of structural metal products | ✓ | ✓ | | | ✓ | ✓ | ●● | ●● | | ●● | ●● |
| | | 2512 | Manufacture of tanks, reservoirs and containers of metal | ✓ | ✓ | | | ✓ | ✓ | ●● | ●● | | ●● | ●● |
| | | 2513 | Manufacture of steam generators, except central heating hot water boilers | ✓ | ✓ | | | ✓ | ✓ | ●● | ●● | | ●● | ●● |
| | | 2520 | Manufacture of weapons and ammunition | ✓ | ✓ | ℘ | ℘ | ✓ | ✓ | ●● | ●● | ● | ● | ●● |
| | | 2591 | Forging, pressing, stamping and roll-forming of metal; powder metallurgy | ✓ | ✓ | | | ✓ | ✓ | ●● | ●●● | | ●●● | ●● |
| | | 2592 | Treatment and coating of metals; machining | ✓ | ✓ | ℘ | ℘ | ✓ | ✓ | ●● | ●●● | ●●● | ●●● | ●●● |
| | | 2593 | Manufacture of cutlery, hand tools and general hardware | ✓ | ✓ | | | ✓ | ✓ | ●● | ●● | | ●● | ●● |
| | | 2599 | Manufacture of other fabricated metal products n.e.c. | ✓ | ✓ | | | ✓ | ✓ | ●●● | ●●● | | ●● | ●●● |
| | 26: Manufacture of computer, electronic and optical products | 2610 | Manufacture of electronic components and boards | ✓ | ✓ | | | ✓ | ✓ | ●● | ●● | | ●● | ●●● |
| | | 2620 | Manufacture of computers and peripheral equipment | ✓ | ✓ | | | ✓ | ✓ | ○ | ●● | | ●● | ●● |
| | | 2630 | Manufacture of communication equipment | ✓ | ✓ | | | ✓ | ✓ | ●● | ●● | | ●● | ●● |
| | | 2640 | Manufacture of consumer electronics | ✓ | ✓ | | | ✓ | ✓ | ○ | ○ | | ●● | ● |
| | | 2651 | Manufacture of measuring, testing, navigating and control equipment | ✓ | ✓ | | | ✓ | ✓ | ●● | ●● | | ●● | ●● |
| | | 2652 | Manufacture of watches and clocks | ✓ | ✓ | | | ✓ | ✓ | ● | ●● | | ●● | ●● |
| | | 2660 | Manufacture of irradiation, electromedical and electrotherapeutic equipment | ✓ | ✓ | | | ✓ | ✓ | ● | ●● | | ●● | ●● |
| | | 2670 | Manufacture of optical instruments and photographic equipment | ✓ | ✓ | | | ✓ | ✓ | ● | ●● | | ●● | ●● |
| | | 2680 | Manufacture of magnetic and optical media | ✓ | ✓ | | | ✓ | ✓ | ○ | ● | | ●● | ●● |
| | 27: Manufacture of electrical equipment | 2710 | Manufacture of electric motors, generators, transformers and electricity distribution and control apparatus | ✓ | ✓ | | | ✓ | ℘ | ●● | ●● | | ●● | ●● |
| | | 2720 | Manufacture of batteries and accumulators | ✓ | ✓ | | | ✓ | ✓ | ●● | ●● | | ●● | ●●● |

| ISIC Sector | | | | Covered? ✓ = Fully Covered, P = Partially Covered | | | | | | Reporting Score ○ = Not Reported, ● = Low Reporting, ●● = Medium Reporting, ●●● = High Reporting | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Section | Division | Class | | Australia | Canada | European Union | Kiev Protocol | Japan | United States | Australia | Canada | European Union | Japan | United States |
| | | 2731 | Manufacture of fibre optic cables | ✓ | ✓ | | | ✓ | ✓ | ●● | ●●● | | ●● | ●● |
| | | 2732 | Manufacture of other electronic and electric wires and cables | ✓ | ✓ | | | ✓ | ✓ | ●● | ●●● | | ●● | ●● |
| | | 2733 | Manufacture of wiring devices | ✓ | ✓ | | | ✓ | ✓ | ●● | ●● | | ●● | ●● |
| | | 2740 | Manufacture of electric lighting equipment | ✓ | ✓ | | | ✓ | ✓ | ○ | ●● | | ●● | ●● |
| | | 2750 | Manufacture of domestic appliances | ✓ | ✓ | | | ✓ | ✓ | ●● | ●● | | ●● | ●● |
| | | 2790 | Manufacture of other electrical equipment | ✓ | ✓ | | | ✓ | ✓ | ●● | ●●● | | ●● | ●● |
| | 28: Manufacture of machinery and equipment n.e.c. | 2811 | Manufacture of engines and turbines, except aircraft, vehicle and cycle engines | ✓ | ✓ | | | ✓ | ✓ | ●● | ●●● | | ●● | ●● |
| | | 2812 | Manufacture of fluid power equipment | ✓ | ✓ | | | ✓ | ✓ | ●● | ●●● | | ●● | ●● |
| | | 2813 | Manufacture of other pumps, compressors, taps and valves | ✓ | ✓ | | | ✓ | ✓ | ●● | ●●● | | ●● | ●●● |
| | | 2814 | Manufacture of bearings, gears, gearing and driving elements | ✓ | ✓ | | | ✓ | ✓ | ○ | ●● | | ●● | ●● |
| | | 2815 | Manufacture of ovens, furnaces and furnace burners | ✓ | ✓ | | | ✓ | ✓ | ●● | ●● | | ●● | ●● |
| | | 2816 | Manufacture of lifting and handling equipment | ✓ | ✓ | | | ✓ | ✓ | ○ | ●● | | ●● | ●● |
| | | 2817 | Manufacture of office machinery and equipment (except computers and peripheral equipment) | ✓ | ✓ | | | ✓ | ✓ | ○ | ●● | | ●● | ●● |
| | | 2818 | Manufacture of power-driven hand tools | ✓ | ✓ | | | ✓ | ✓ | ● | ●● | | ●● | ●● |
| | | 2819 | Manufacture of other general-purpose machinery | ✓ | ✓ | | | ✓ | ✓ | ● | ●●● | | ●● | ●●● |
| | | 2821 | Manufacture of agricultural and forestry machinery | ✓ | ✓ | | | ✓ | ✓ | ○ | ●● | | ●● | ●● |
| | | 2822 | Manufacture of metal-forming machinery and machine tools | ✓ | ✓ | | | ✓ | ✓ | ● | ●● | | ●● | ●● |
| | | 2823 | Manufacture of machinery for metallurgy | ✓ | ✓ | | | ✓ | ✓ | ● | ●● | | ●● | ●● |
| | | 2824 | Manufacture of machinery for mining, quarrying and construction | ✓ | ✓ | | | ✓ | ✓ | ●● | ●● | | ●● | ●● |
| | | 2825 | Manufacture of machinery for food, beverage and tobacco processing | ✓ | ✓ | | | ✓ | ✓ | ● | ●● | | ●● | ●● |
| | | 2826 | Manufacture of machinery for textile, apparel and leather production | ✓ | ✓ | | | ✓ | ✓ | ● | ●● | | ●● | ●● |
| | | 2829 | Manufacture of other special-purpose machinery | ✓ | ✓ | | | ✓ | ✓ | ●● | ●● | | ●● | ●● |

| ISIC Sector | | | | Covered? ✓ = Fully Covered, ℘ = Partially Covered | | | | | | Reporting Score ○ = Not Reported, ● = Low Reporting, ●● = Medium Reporting, ●●● = High Reporting | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Section | Division | Class | | Australia | Canada | European Union | Kiev Protocol | Japan | United States | Australia | Canada | European Union | Japan | United States |
| | 29: Manufacture of motor vehicles, trailers and semi-trailers | 2910 | Manufacture of motor vehicles | ✓ | ✓ | | | ✓ | ✓ | ●● | ●●● | | ●●● | ●● |
| | | 2920 | Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers | ✓ | ℘ | | | ✓ | ℘ | ●● | ●● | | ●●● | ●●● |
| | | 2930 | Manufacture of parts and accessories for motor vehicles | ✓ | ✓ | ℘ | ℘ | ✓ | ✓ | ●● | ●●● | ●● | ●●● | ●● |
| | 30: Manufacture of other transport equipment | 3011 | Building of ships and floating structures | ✓ | ℘ | ✓ | ✓ | ✓ | ✓ | ●● | ●● | ●● | ●●● | ●● |
| | | 3012 | Building of pleasure and sporting boats | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ○ | ●● | ● | ●●● | ●● |
| | | 3020 | Manufacture of railway locomotives and rolling stock | ✓ | ✓ | | | ✓ | ✓ | ●● | ●● | | ●●● | ●● |
| | | 3030 | Manufacture of air and spacecraft and related machinery | ✓ | ✓ | | | ✓ | ✓ | ●● | ●● | | ●●● | ●● |
| | | 3040 | Manufacture of military fighting vehicles | ✓ | ✓ | | | ✓ | ✓ | ○ | ●●● | | ● | ● |
| | | 3091 | Manufacture of motorcycles | ✓ | ✓ | | | ✓ | ✓ | ○ | ●●● | | ●●● | ●● |
| | | 3092 | Manufacture of bicycles and invalid carriages | ✓ | ✓ | | | ✓ | ✓ | ●● | ●●● | | ●●● | ●● |
| | | 3099 | Manufacture of other transport equipment n.e.c. | ✓ | ✓ | | | ✓ | ✓ | ●● | ●●● | | ●●● | ●● |
| | 31: Manufacture of furniture | 3100 | Manufacture of furniture | ✓ | ✓ | | | ✓ | ℘ | ●● | ●●● | | ●● | ●● |
| | 32: Other manufacturing | 3211 | Manufacture of jewellery and related articles | ✓ | ✓ | ℘ | ℘ | ✓ | ✓ | ○ | ●●● | ●● | ●● | ●● |
| | | 3212 | Manufacture of imitation jewellery and related articles | ✓ | ✓ | ℘ | ℘ | ✓ | ✓ | ○ | ● | ● | ●● | ● |
| | | 3220 | Manufacture of musical instruments | ✓ | ✓ | ℘ | ℘ | ✓ | ✓ | ●● | ●● | ○ | ●● | ●● |
| | | 3230 | Manufacture of sports goods | ✓ | ✓ | ℘ | ℘ | ✓ | ✓ | ○ | ●● | ●● | ●● | ●● |
| | | 3240 | Manufacture of games and toys | ✓ | ✓ | ℘ | ℘ | ✓ | ✓ | ●● | ●● | ● | ●● | ●● |
| | | 3250 | Manufacture of medical and dental instruments and supplies | ✓ | ✓ | | | ✓ | ℘ | ● | ●● | | ●● | ●● |
| | | 3290 | Other manufacturing n.e.c. | ✓ | ✓ | | | ✓ | ✓ | ●● | ●● | | ●● | ●● |
| | 33: Repair and installation of machinery and equipment | 3315 | Repair of transport equipment, except motor vehicles | ✓ | ℘ | ℘ | ℘ | ✓ | ℘ | ●● | ●● | ●● | ●● | ●● |

| ISIC Sector | | | | Covered? ✓ = Fully Covered, ℘ = Partially Covered | | | | | | Reporting Score ○ = Not Reported, ● = Low Reporting, ●● = Medium Reporting, ●●● = High Reporting | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Section | Division | Class | | Australia | Canada | European Union | Kiev Protocol | Japan | United States | Australia | Canada | European Union | Japan | United States |
| D: Electricity, gas, steam and air conditioning supply | 35: Electricity, gas, steam and air conditioning supply | 3510 | Electric power generation, transmission and distribution | ✓ | ✓ | ℘ | ℘ | ✓ | ℘ | ●●● | ●●● | ●●● | ●● | ●●● |
| | | 3520 | Manufacture of gas; distribution of gaseous fuels through mains | ✓ | ℘ | ℘ | ℘ | ✓ | | ●●● | ●● | ●● | ● | |
| | | 3530 | Steam and air conditioning supply | ✓ | ✓ | ℘ | ℘ | ✓ | ℘ | ●● | ●● | ●●● | ●● | ●● |
| E: Water supply; sewerage, waste management and remediation activities | 37: Sewerage | 3700 | Sewerage | ✓ | ✓ | ✓ | ✓ | ✓ | | ●●● | ●●● | ●●● | ●●● | |
| | 38: Waste collection, treatment and disposal activities; materials recovery | 3812 | Collection of hazardous waste | ✓ | ✓ | ✓ | ✓ | ✓ | ℘ | ●●● | ●●● | ●● | ●●● | ●●● |
| | | 3821 | Treatment and disposal of non-hazardous waste | ✓ | ✓ | ✓ | ✓ | ✓ | ℘ | ●●● | ●●● | ●●● | ●●● | ●●● |
| | | 3822 | Treatment and disposal of hazardous waste | ✓ | ✓ | ✓ | ✓ | ✓ | ℘ | ●●● | ●●● | ●●● | ●●● | ●●● |
| | 39: Remediation activities and other waste management services | 3900 | Remediation activities and other waste management services | ✓ | ✓ | ℘ | ℘ | ✓ | | ●● | ●● | ●●● | ●●● | |
| G: Wholesale and retail trade; repair of motor vehicles and motorcycles | 46: Wholesale trade, except of motor vehicles and motorcycles | 4661 | Wholesale of solid, liquid and gaseous fuels and related products | ℘ | ℘ | ℘ | ℘ | ✓ | ℘ | ●●● | ●● | ●● | ●● | ●● |
| J: Information and communication | 58: Publishing activities | 5811 | Book publishing | ℘ | ✓ | ✓ | ✓ | | ℘ | ○ | ● | ○ | | ● |
| | | 5812 | Publishing of directories and mailing lists | ℘ | ✓ | ✓ | ✓ | | ℘ | ○ | ○ | ○ | | ○ |
| | | 5813 | Publishing of newspapers, journals and periodicals | ℘ | ✓ | ✓ | ✓ | | ℘ | ○ | ● | ●● | | ●● |
| | | 5819 | Other publishing activities | ℘ | ✓ | ✓ | ✓ | | ✓ | ○ | ● | ●● | | ●● |
| M: Professional, scientific and technical activities | 72: Scientific research and development | 7210 | Research and experimental development on natural sciences and engineering | ✓ | ℘ | | | ✓ | ℘ | ● | ●●● | | ●● | ●● |
| S: Other service activities | 96: Other personal service activities | 9601 | Washing and (dry-) cleaning of textile and fur products | ✓ | ✓ | ✓ | ✓ | ✓ | | ●● | ●● | ●● | ●● | |

# IX. References

OECD (2017), Framework on the Role of Pollutant Release and Transfer Registers (PRTRs) in Global Sustainability Analyses.

OECD (2014a), Guidance Document on Elements of a PRTR: Part I.

OECD (2014b), Global Pollutant Release and Transfer Register, Proposal for a Harmonised List of Pollutants.

OECD (2013), Global Pollutant Release and Transfer Register, Proposal for a Harmonised List of Sectors

UNECE (United Nations Economic Commission for Europe) (2008), Guidance on Implementation of the Protocol on Pollutant Release and Transfer Registers.