



Environment and
Climate Change Canada

Environnement et
Changement climatique Canada

OVERVIEW OF CHANGES TO NPRI DATA PRODUCTS

NPRI Data User Workshop
2020-02-25

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Canada 

OUTLINE

- Approach to Improving NPRI data products
- Data user research and key findings
- Ongoing efforts:
 - Changes to the NPRI website
 - Changes to Open Data
 - New NPRI Data Search: Demo
- Future work

NPRI DATA PRODUCTS – TYPES AND FORMATS

Return to the 1999 On-line Facility Data Search. Use this query tool to search detailed information on pollutant releases (to air, water and land), disposal (to landfills) for reporting required by facilities to the National Pollutant Release Inventory (NPRI) from 1984 to 2017.

Search:

Custom Queries

Select a reporting year:

Facility

Please select no more than one of the following facility query options:

Company or Facility Name:

NPRI ID:

Substance

Please select no more than one of the following substance query options:

Substance Name:

Please choose a substance:

CAS Number:

Please choose a substance:

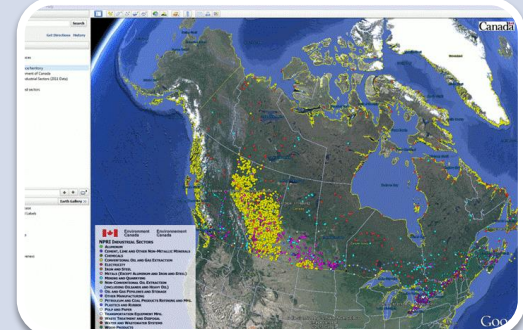
Location

Please select no more than one of the following location query options:

Province or Territory:

Postal Code (Enter 1 to 3 characters):

Year	Facility ID	Facility Name	Province	Substance	Quantity	Category	Quantity
2015	11	Heeson Cal Heeson Cal	AB	108-95-2	Phenol (as Phenol) Releases to Stack / Poi	Releases to Stack / Poi	4.002 t
2015	11	Heeson Cal Heeson Cal	AB	108-95-2	Phenol (as Phenol) Releases to Stack / Poi	Releases to Stack / Poi	0.241 t
2015	11	Heeson Cal Heeson Cal	AB	108-95-2	Phenol (as Phenol) Releases to Stack / Poi	Releases to Stack / Poi	0.259 t
2015	11	Heeson Cal Heeson Cal	AB	NA, M16	Volatiles On Composites Releases to Stack / Poi	Releases to Stack / Poi	26.4 t
2015	11	Heeson Cal Heeson Cal	AB	NA, M16	Volatiles On Composites Releases to Stack / Poi	Releases to Stack / Poi	12.45 t
2015	11	Heeson Cal Heeson Cal	AB	NA, M16	Volatiles On Composites Releases to Stack / Poi	Releases to Stack / Poi	0.48 t
2015	11	Heeson Cal Heeson Cal	AB	50-00-0	Formaldehyde Releases to Stack / Poi	Releases to Stack / Poi	0.806 t
2015	11	Heeson Cal Heeson Cal	AB	50-00-0	Formaldehyde Releases to Stack / Poi	Releases to Stack / Poi	1.475 t
2015	11	Heeson Cal Heeson Cal	AB	50-00-0	Formaldehyde Releases to Stack / Poi	Releases to Stack / Poi	0.322 t
2015	11	Heeson Cal Heeson Cal	AB	67-56-1	Methanol Releases to Stack / Poi	Releases to Stack / Poi	0.159 t
2015	11	Heeson Cal Heeson Cal	AB	67-56-1	Methanol Releases to Stack / Poi	Releases to Stack / Poi	0.216 t
2015	11	Heeson Cal Heeson Cal	AB	67-56-1	Methanol Releases to Stack / Poi	Releases to Stack / Poi	20.534 t
2015	11	Heeson Cal Heeson Cal	AB	NA, 16	Ammonia (Anhydrous) Total All Media Releases to Air	Releases to Air	0.556 t
2015	11	Heeson Cal Heeson Cal	AB	80-05-7	Bisphenol A Releases to Stack / Poi	Releases to Stack / Poi	0.01 t
2015	11	Heeson Cal Heeson Cal	AB	107-21-1	Ethylene Glycol Releases to Stack / Poi	Releases to Stack / Poi	0.0003 t
2015	15	BAYCOAT Baycoat Ltd	ON	NA, M16	Volatiles On Composites Releases to Stack / Poi	Releases to Stack / Poi	19.173 t
2015	15	BAYCOAT Baycoat Ltd	ON	91-20-3	Naphthalene Releases to Stack / Poi	Releases to Stack / Poi	0.289 t
2015	15	BAYCOAT Baycoat Ltd	ON	108-88-3	Toluene Releases to Stack / Poi	Releases to Stack / Poi	0.243 t
2015	15	BAYCOAT Baycoat Ltd	ON	78-08-3	Methyl ethyl Methacrylate Releases to Stack / Poi	Releases to Stack / Poi	1.402 t
2015	15	BAYCOAT Baycoat Ltd	ON	71-36-3	n-Butyl acetate Releases to Stack / Poi	Releases to Stack / Poi	1.103 t
2015	15	BAYCOAT Baycoat Ltd	ON	95-03-0	1,2,4-Trichlorobenzene Releases to Stack / Poi	Releases to Stack / Poi	2.353 t
2015	15	BAYCOAT Baycoat Ltd	ON	1330-20-7	Xylene (m) Releases to Stack / Poi	Releases to Stack / Poi	1.513 t
2015	15	BAYCOAT Baycoat Ltd	ON	100-41-4	Ethylbenzene Releases to Stack / Poi	Releases to Stack / Poi	0.261 t
2015	15	BAYCOAT Baycoat Ltd	ON	111-76-2	2-Butoxyethanol Releases to Stack / Poi	Releases to Stack / Poi	7.61 t
2015	15	BAYCOAT Baycoat Ltd	ON	11104-03	Nitrogen oxides Releases to Stack / Poi	Releases to Stack / Poi	20 t
2015	15	BAYCOAT Baycoat Ltd	ON	67-64-1	Acetone Releases to Stack / Poi	Releases to Stack / Poi	0.996 t
2015	15	BAYCOAT Baycoat Ltd	ON	108-10-1	Methyl methylsulfonyl Releases to Stack / Poi	Releases to Stack / Poi	0.128 t
2015	21	Bolton Plst Bolton Shw	ON	7547-01-0	Hydrochloric Acid Releases to Stack / Poi	Releases to Stack / Poi	0.3175 t
2015	21	Bolton Plst Bolton Shw	ON	NA, 14	Zinc and Zinc salt Total All Media Releases to Air	Releases to Air	0.0538 t
2015	21	Bolton Plst Bolton Shw	ON	NA, 4009	PM10 - PM10 Releases to Stack / Poi	Releases to Stack / Poi	0.183 t
2015	28	CORNWAL BASF Can	ON	630-08-0	Carbon monoxide Releases to Stack / Poi	Releases to Stack / Poi	1.4 t
2015	28	CORNWAL BASF Can	ON	NA, 4008	PM - Total PM Releases to Stack / Poi	Releases to Stack / Poi	0.08 t
2015	28	CORNWAL BASF Can	ON	NA, M16	Volatiles On Composites Releases to Stack / Poi	Releases to Stack / Poi	2.26 t



Online queries
NPRI Data
Search

Tabular (CSV & XLSX)
Single year
tabular data
Five year release
data
Bulk data

Map Layers
Virtual Globe
including Google
Earth™
Open Mapping
services

APPROACH TO IMPROVING NPRI DATA PRODUCTS

- Continuous Improvement of annual publications
 - Informed by user and non-user feedback, and web analytics
 - Implemented based on technical feasibility and availability of IT resources
- NPRI's Data [Quality Management Framework](#): defines data quality in terms of seven elements
- [Canada's 2018-2020 National Action Plan on Open Government](#) and [Canada's Open Data Principles](#)

FEEDBACK AND ANALYTICS: SOURCES OF INFORMATION

- NPRI website analytics
 - 10 000 visits annually
 - Outbound clicks to NPRI data product
- Open Data Portal analytics
 - 8000 downloads annually
- Survey of internal (ECCC) data users
 - 40 participants
 - Satisfaction, most used products and future needs
- External Data user feedback
 - NPRI Inbox
 - Comments on Open Data
- Public Opinion Research (2019)

FEEDBACK AND ANALYTICS: KEY FINDINGS

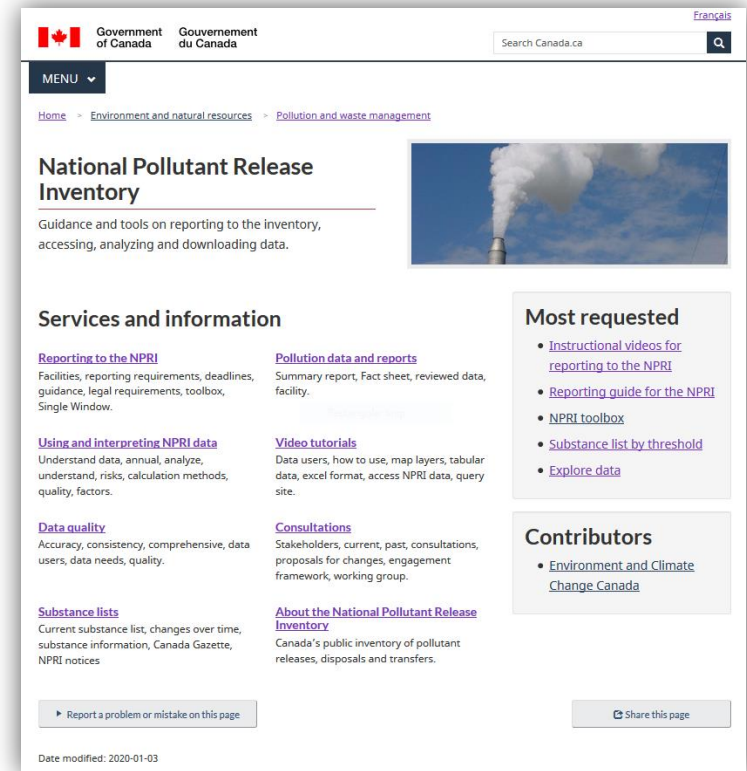
- Most popular Data Products:

Online Query Site	Single Year Tabular Data	Bulk Data	Virtual Globe	Five-year Tabular Data
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- Feedback:
 - Current products are satisfactory (internal and external data users)
 - Difficult to access information and data
 - Difficult to use and understand information and data
- Additional needs:
 - Online tools (e.g. web services, online visualization)
 - More years of data
 - More contextual information to data products
 - Create step-by-step guides

NPRI WEBSITE IMPROVEMENTS

- Fall 2017: migrated to Canada.ca
- All pages must be re-written by end of 2020
 - Plain simple language
 - Clear and easy to understand
 - Every page needs to be accessible
- Hired a non-technical writer to help with our pages
- Simplified url: www.Canada.ca/NPRI
- Objective: improve ease of access/findability of data products



ACCESSING NPRI DATA PRODUCTS – NPRI WEBSITE

National Pollutant Release Inventory

Guidance and tools on reporting to the inventory, accessing, analyzing and downloading data.



Services and information

two clicks

Reporting to the NPRI

Facilities, reporting requirements, deadlines, guidance, legal requirements, toolbox, Single Window.

Using and interpreting NPRI data

Understand data, annual, analyze, understand, risks, calculation methods, quality, factors.

Data quality

Accuracy, consistency, comprehensive, data users, data needs, quality.

Substance lists

Current substance list, changes over time, substance information, Canada Gazette, NPRI notices

Pollution data and reports

Summary report, Fact sheet, reviewed data, facility.

Video tutorials

Data users, how to use, map layers, tabular data, excel format, access NPRI data, query site.

Consultations

Stakeholders, current, past, consultations, proposals for changes, engagement framework, working group.

About the National Pollutant Release Inventory

Canada's public inventory of pollutant releases, disposals and transfers.

Most requested

- [Instructional videos for reporting to the NPRI](#)
- [Reporting guide for the NPRI](#)
- [NPRI toolbox](#)
- [Substance list by threshold](#)
- [Explore data](#)

direct link

Contributors

- [Environment and Climate Change Canada](#)

ACCESSING NPRI DATA PRODUCTS – EXPLORE DATA

- New [Explore NPRI data](#) page replaces Access Data page
- Redesigned and simplified with different types of data users in mind
- Contains descriptions and links to all the NPRI data products

Explore National Pollutant Release Inventory data

Thousands of facilities located across the country report to the NPRI each year. We make this data available to the public on this page.

The data can be used in different ways. For example:

- individuals can use it to track pollutants in their own neighbourhoods
- researchers can use it to monitor changes to air and water quality
- governments can use it to help set up environmental policies

Read about [how we use NPRI data](#).

NPRI data

We have packaged the data in different ways for different uses. You can search the entire database, download subsets of data, or view the data on maps.

Search NPRI data

[Search our database](#) for pollutant releases in your area, as well as information about the facility(s).

Download NPRI data

These easy-to-use files let you dig deeper into the data in a variety of ways

- [Single year tables](#)
 - annual tables of our most popular data fields. One table for each of the last 3 years
- [Five year summaries](#)
 - summaries by air, water or land releases grouped by province, industry type or substance
- [All years datasets](#)
 - annual data since 1994 on pollutant quantities, comments and geolocations
- [Complete reported datasets](#)
 - comprehensive datasets going back to 1994

View NPRI maps

All maps are for the most recent data.

- [facility locations](#)
- [main air pollutants](#)
- [other air pollutants](#)
- [water pollutants](#)
- [land pollutants](#)
- [disposals and transfers of pollutants](#)
- [virtual globe maps](#)

You can access the full collection of raw map files for your own use on our [Open Maps page](#).

ACCESSING NPRI DATA PRODUCTS – OPEN DATA

Open Data

Search open data that is relevant to Canadians, learn how to work with datasets, and see what people have done with open data across the country.

Follow:  

Search through our Open data portal.

NPRI

 Find

Browse by subject



[Agriculture](#)



[Arts, Music,
Literature](#)



[Economics
and Industry](#)



[Education
and Training](#)



[Government
and Politics](#)



[Health and
Safety](#)



[History and
Archaeology](#)



[Information
and
Communications](#)



[Labour](#)



[Language
and
Linguistics](#)



[Law](#)



[Military](#)



[Nature and
Environment](#)



[Persons](#)



[Processes](#)



[Science and
Technology](#)



[Society and
Culture](#)



[Transport](#)

IMPROVEMENTS TO OPEN DATA

- Clearer titles and descriptions
 - Reviewed in collaboration with a non-technical writer.
 - Include a short description of NPRI, a short description of the content of the page itself and links useful resources.
- Clearer file names
 - More understandable
 - Standardized nomenclature (when possible)
 - Bilingual titles for bilingual files
- Reviewed keywords
 - To ensure that the whole extent of NPRI is covered by the keywords, without adding unnecessary words

NEW AND IMPROVED DATA PRODUCTS

- New relational database
 - Smaller IT footprint, easier and faster queries
 - Streamlines the creation of Data Products
 - Enables more frequent data updates
 - Available on Open Data with its data dictionary
- New NPRI Data Search (demo)
 - Powered by an new API
 - Improved layout
 - More data
 - Improved search capabilities
 - Enables more frequent data updates
 - Web traffic analytics enabled
- Single Year Tables
 - More years available (5)



Critères de recherche

Année du rapport de à

Nom de l'entreprise ou de l'installation ou ID de l'INRP

▼ Recherche avancée

Nom de la substance
Ⓜ Entrer au moins deux caractères pour afficher les options.

Catégorie de rejet / élimination / transfert

Province

Communauté

Code postal

Secteur industriel clé

SCIAN

FUTURE WORK

- Updated and new data product-specific tutorials (2020)
- Transform and load historical data in the new data base (2020)
- Continue to track data user feedback and web analytics to inform the annual improvement process.
- Application programming interface (API)
 - Develop and publish documentation
 - Add to the [Government of Canada API Store](#)
- Add NPRI data to the Open Science and Data Platform
- Explore data visualisation tools
- Explore tools and formats for data linkages



THANK YOU!

Simon St-Pierre

Program Integration Division

Science and Risk Assessment Directorate

Science and Technology Branch

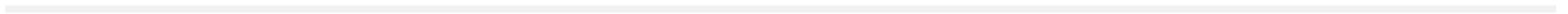
Environment and Climate Change Canada

E-mail: ec.inrp-npri.ec@canada.ca

Telephone: 1-877-877-8375

NPRI Website: www.canada.ca/NPRI

SUPPLEMENTARY INFORMATION



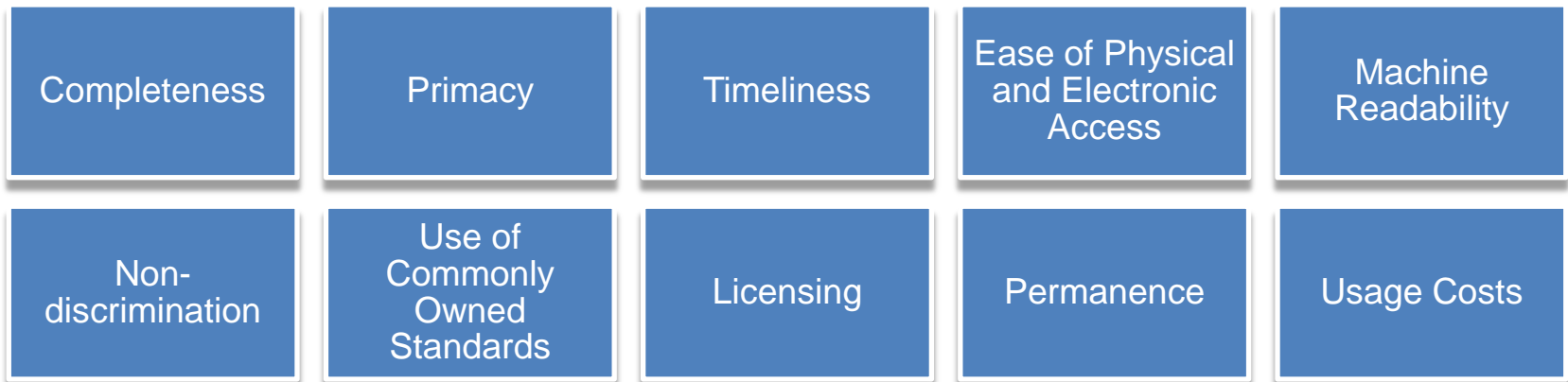
DATA QUALITY MANAGEMENT ACTIVITIES

- **Relevance: data meets the needs of users**
 - Stakeholder and data user consultations
 - Review of the NPRI substances list
 - Website analytics to inform web development
- **Accuracy & Reliability: data describes what it measures and can be combined confidently with other information**
 - Annual quality control process (e.g. sectoral engagement)
 - Reporting tools (e.g., guide, toolbox, questions and answers)
- **Completeness: expected data are described**
 - Sector and substance coverage analysis
 - Compliance promotion
- **Understandability: supplementary information and metadata are available**
 - Contextual information
 - Frequently asked questions
 - Guide for using and interpreting NPRI data
- **Accessibility: data is made available in a number of formats**
 - Formats such as online data search, downloadable datasets and map layers
- **Timeliness: data is published on schedule**
 - Annual publication of NPRI data (i.e. preliminary and reviewed data)



OPEN DATA

- Open Data is defined as structured data that is machine-readable, freely shared, used and built on without restrictions.
- Canada's Open Data Principles



IMPROVEMENTS TO OPEN DATA

Single year data tables by facility – releases, transfers and disposals

Description

The National Pollutant Release Inventory (NPRI) is Canada's public inventory of pollutant releases (to air, water and land), disposals and transfers for recycling.

Each file contains facility-reported data listed by facility and substance for a given year. Data are presented in a table and can be filtered.

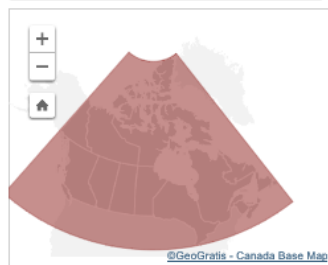
Please consult the following resources to enhance your analysis:

- Guide on using and Interpreting NPRI Data: <https://www.canada.ca/en/environment-climate-change/services/national-pollutant-release-inventory/using-interpreting-data.html>

- Access additional data from the NPRI, including datasets and mapping products:

<https://www.canada.ca/en/environment-climate-change/services/national-pollutant-release-inventory/tools-resources-data/exploredata.html>

Instructions: Map Navigation



Geographic Extent
-141 41.68, -52.62 83.11

Geographic Scope
National (CA)

Time Period
2015-01-01 - 2018-12-31

Data Resources

Dataset

NPRI-INRP_DataDonnees_2018.xlsx

XLS

NPRI-INRP_DataDonnees_2018.csv

CSV

NPRI-INRP_DataDonnees_2017.xlsx

XLS

NPRI-INRP_DataDonnees_2017.csv

CSV

NPRI-INRP_DataDonnees_2016.xlsx

XLS

NPRI-INRP_DataDonnees_2016.csv

CSV

Select Action

Apply

Status: Submitted (View Published)

Published to:

Environment Canada, GC Open Data

Metadata owner:

annie-france.carrier@canada.ca

Last change made by:

annie-france.carrier@canada.ca

Metadata change date:

2020-01-22T14:21:50

Openness rating:

★★★★☆

Data Classification

Function

[Assess Toxicity, Manage and Monitor for Environmental Presence of Hazardous Substances and Waste](#)

Sub-Function

[Plans and Reports for Hazardous Substances](#)

Theme

Inventory, Reporting, Pollutant, Pollution, Release, Emission, Transfer, Disposal, Recycling, Air, Land, Water, Facility, Location, Map, Database, NAICS code, Industry type, Chemical substance, Stack, Criteria air contaminant, CAC, Polycyclic aromatic hydrocarbon, PAH, Dioxin, Furan, Hexachlorobenzene, HCB, Carbon monoxide, CO, Nitrogen oxide, NOx, Sulphur dioxide, SO2, Particulate matter, Volatile organic compound, VOC, Isomer

GC Core Subject Thesaurus

Pollution, Pollution prevention, Environmental programs

Topic category

Environment

Information Category

Pollution and Waste, Air, Water, Air - Quality, Water - Quantity