Considerations when using the 2002 NPRI Database

Changes to the 2002 NPRI reporting requirements merit special attention when using NPRI data. These changes are specified in the following paragraphs.

- Criteria air contaminants (CAC) are key pollutants that have negative impacts on air quality. CAC were added to the NPRI substance list for the first time in 2002, resulting in a doubling of the number of substance reports compared to the 2001 NPRI. This should not be interpreted as a dramatic increase in pollutant releases when comparing 2002 data to previous years.

- The definitions of “release” and “disposal” have changed so that substances sent to landfill, land application or underground injection, are treated consistently whether they occur on site or off site. This change does not affect the amount of information collected, but simply reclassifies the activities that have been reported to the NPRI. The new format for the reporting of information is as follows:
    - Releases include: pollutant releases to air and water, and that disperse material on land, such as spills and leaks
    - Disposals include: pollutants sent to landfill, land treatment or underground injection (on site or off site), and pollutants transferred off-site for treatment prior to final disposal.

  Calculations for off-site disposals and transfers for treatment prior to final disposal have not changed from previous years. It should be noted that “anticipated releases” include releases and on-site disposals (due to how data was entered in previous years), and “anticipated disposals” only include off-site disposals and transfers for treatment prior to final disposal. Recycling remains unchanged from previous years. More detailed information on the affected database fields is provided in the structure file for the 2002 database.

- NPRI release data for certain substances should not be aggregated as a measure of identifying 'worst polluters'. This is especially true for the following:
    - "Volatile Organic Compounds" (VOCs) is a group of over 100 substances that include substances reportable to the NPRI on an individual basis (i.e. benzene and methanol); and
    - "Total Particulate Matter (TPM)" includes the finer particulate groupings of Particulate Matter less than 10 microns (PM_{10}) and Particulate Matter less than 2.5 microns ($PM_{2.5}$), which are also listed separately on the NPRI.

- Reporting to the NPRI is based on specific criteria and thresholds, so CAC releases reported to the NPRI may represent only a portion of the total releases from industrial and commercial activities in Canada. For more information on CAC emissions and the comprehensive CAC inventory, which include the emission estimates from all industrial and commercial activities, transportation vehicles, domestic activities, and natural sources, please see the Air Pollutant Emissions web site at http://www.ec.gc.ca/pdb/ape/cape_home_e.cfm.

- The reporting requirements for the municipal wastewater sector changed in 2002, resulting in more sanitary wastewater discharges being reported to the NPRI than in previous years. While municipal treatment plants may have significant discharges of

substances such as ammonia, it must be recognized that the purpose of these plants is to treat wastewater and reduce the amount of pollutants being released to the environment. The quantity of pollutants in untreated municipal wastewater is far higher than the amounts being discharged from treatment plants.

- Certain industrial sectors, such as the petroleum refining and pulp and paper sectors, continue to improve their estimation methods. As a result, releases and transfers of pollutants such as sulphuric acid and dioxins and furans in 2002 may be noticeably different than in 2001.

Units of Measure

The units of measure depend upon the substance being reported. Generally, release, disposal and recycling quantities are reported in tonnes. However, for substances with alternate reporting thresholds, these quantities are reported in kilograms or grams.

Substance	Units
- 241 core substances	tonnes
- Mercury[1]	kilograms
- *Cadmium[1]	kilograms
- *Arsenic[1], hexavalent chromium compounds, *lead[2], *tetraethyl lead	kilograms
- Polycyclic aromatic compounds (PAHs)	kilograms
- Hexachlorobenzene (HCB)	grams
- Dioxins/furans	grams (toxic equivalent)
- CAC	tonnes

[1] and its compounds
[2] and its compounds, except tetraethyl lead; does not include lead (and its compounds) contained in stainless steel, brass or bronze alloys
* Reduction of substance use from tonnes to kilograms

A Note on the NPRI Data Files Distributed by Environment Canada
The NPRI data files for the 2002 reporting year are available in Microsoft (MS) Access and MS Excel format. Environment Canada has published the 2001 and 2002 data as reported by facilities, which includes 'NULL' values. This affects how the information can be accessed and queried (for more information on this issue, see below). For previous years information, data is available in dBase format. In this file format, 'NULL' values cannot be stored and zeros were used as place holders.

More Information on 'NULL' values in the NPRI

With the addition of micro-pollutants (e.g. PAHs, Dioxins and Furans) the use of “zero-nulls” had to be discontinued as these pollutants could have valid 'NULL' and zero entries for the same 'Basis of Estimation' code.

Due to the current structure of the database, queries using Microsoft Access will work correctly only if you are using aggregate functions (e.g. Sum, Count). If you attempt to perform an arithmetic operation (add, subtract, multiply, or divide) you will receive 'NULL' as the answer if any of the fields in your query contains a 'NULL' (highly probable). When using MS Access and attempting to perform an arithmetic operation on the NPRI data, you are required to use the undocumented NZ function (it converts a NULL to a

zero) to achieve the correct result to your query (e.g. NZ ([AIRSTA_V]) + NZ ([AIRSTO_V]), notice how each field is encapsulated by NZ. This can lead to very long queries and also severely limits the utility of the built-in query builder.). To perform arithmetic operations, Excel worksheets are recommended since Excel ignores 'NULL' valued entries.