



DMR Pollutant Loading Tool Version 1.0

OVERVIEW OF EPA'S POLLUTANT LOOK-UP TABLE

The EPA Look-Up Tables Search feature includes a Pollutant Look-Up, shown in Figure 1. The Search prompts the user to enter information in one of the following fields:

- ***Pollutant Name:*** The name used in PCS or ICIS-NPDES to identify the substance discharged.
- ***Chemical Abstract Service (CAS) Number:*** The number assigned by the American Chemical Society that uniquely identifies a chemical.

The Loading Tool returns the following information for the pollutant of interest:

- ***Parameter Codes:*** Five-character code in ICIS-NDPES and PCS that identifies the regulated pollutant parameter in a NPDES permit and specifies both the pollutant name and pollutant form (e.g., dissolved or suspended). Multiple parameter codes may be used for a single pollutant or CAS number. For example, as shown in Figure 1, copper (CAS Number 7440508) links to thirteen parameter codes (e.g., dissolved copper, total recoverable copper, etc.).
- ***Pollutant Code:*** Five-character code in ICIS-NDPES that uniquely links to a pollutant name and CAS number.
- ***Substance Registry Service (SRS) ID:*** Unique identification number assigned to substances, such as chemicals, biological organisms, physical properties, and miscellaneous objects by EPA's Substance Registry Services, to provide a common substance identification method across multiple regulatory programs¹.
- ***Toxic Weighting Factor:*** EPA calculates TWPE using DMR data and pollutant specific toxic weighting factors (TWFs) in order to rank the relative toxicities of different pollutant discharges. Pollutants have different toxicities to human health and aquatic communities and the TWPE unit provides a relative measure of how the potential toxic nature of one pollutant compares against another pollutant. Where data are available, these TWFs reflect both aquatic life and human health effects.

It is important to note that this value is not a measure of risk or potential for human health impacts. EPA presently lacks on a national scale the detailed exposure assessment data and tools necessary to complete a risk assessment with these DMR data (e.g., analyze for each industrial facility the fate and transport of

¹ Information about EPA's Substance Registry Service is available online at http://iaspub.epa.gov/sor_internet/registry/substreg/home/overview/home.do

discharged pollutants in an actual waterbody, exposure pathways of pollutants to populations in a watershed, and uptake of the discharged pollutants).

To convert pollutant loadings into TWPE, EPA multiplies the pollutant mass (in pounds) by its toxic weighting factor (TWF). For example, total mercury (CAS No. 7439976) has a TWF equal to 117 TWPE/lbs-mercury while total copper (CAS No. 7440508) has a TWF equal to 0.63 TWPE/lbs-copper. Therefore a discharge of 1 pound of mercury equals 117 TWPE discharged while a discharge of 1 pound of copper equals 0.63 TWPE discharged. Not all pollutants have a toxic weighting factor (for example, Total Suspended Solids), which means that these pollutants do not have a toxicity score (i.e., TWPE = 0).

EPA's Office of Water's Engineering and Analysis Division (EAD) developed TWFs for use in its effluent limitations guidelines and standards (ELGs) development program to allow comparison of pollutants with varying toxicities using data from PCS, ICIS-NPDES, and EPA's Toxics Release Inventory (TRI). The DMR Pollutant Loading Tool makes this data more available to the public (as this facility specific TWPE discharges were previously available only through EPA's docket system supporting its Effluent Guidelines program). See a general discussion of how EPA develops, calculates, and uses TWFs in the following document: "Toxic Weighting Factor Development in Support of CWA 304(m) Planning Process," June 2006. [Available at: www.regulations.gov. Document No. EPA-HQ-OW-2004-0032-1634].

- ***Pollutant Categories:*** List of all applicable pollutant categories for the specified pollutant. These categories may include: Conventional Pollutants, Metals, Nitrogen, Organic Enrichment, Pathogen Indicators, Phosphorus, Priority Pollutants, Solids, Temperature, and Wastewater Flow².

EPA used the following data sources to create the Pollutant Look-Up:

- ***REF_PARAMETER:*** OECA provided this table from the ICIS-NPDES database. The table contains a list of parameter codes, parameter code descriptions, and links parameter codes to pollutant codes.
- ***REF_POLLUTANT:*** OECA provided this table from the ICIS-NPDES database. The table contains a list of pollutant codes, pollutant code descriptions, and CAS Numbers.
- ***REF_SRSID_CAT_XWALK:*** EPA obtained this table from the SRS database. The table links CAS Numbers to SRS IDs.

² Section 3.3.2 of the *Technical Users Background Document for the DMR Pollutant Loading Tool* [see "Users Guide/Technical Documents" tab on the Loading Tool] describes the pollutant categories and how the Loading Tool calculates the pollutant category loads.

Pollutant Lookup

Enter a pollutant name or CAS number to see the corresponding PCS/ICIS-NPDES parameter codes, substance registry Service (SRS) ID, toxic weighting factor, and list of applicable pollutant categories.

Pollutant Name: [Look up pollutant](#)

Parameter Code(s):

Pollutant Code:

CAS Number:

Substance Registry Service (SRS) ID:

Toxic Weighting Factor:

Pollutant Category(ies):

Pollutant Lookup

Enter a pollutant name or CAS number to see the corresponding PCS/ICIS-NPDES parameter codes, substance registry Service (SRS) ID, toxic weighting factor, and list of applicable pollutant categories.

Pollutant Name: [Look up pollutant](#)

Parameter Code(s):

- 00159 - Copper, total per batch
- 01040 - Copper, dissolved (as Cu)
- 01041 - Copper, suspended (as Cu)
- 01042 - Copper, total (as Cu)
- 01043 - Copper in bottom deposits (dry wgt)
- 01119 - Copper, total recoverable
- 01256 - Copper
- 01306 - Copper, potentially dissolved
- 46394 - Copper, dry weight
- 51402 - Copper, percent removal
- 61506 - Copper, sludge solid
- 61507 - Copper, sludge total
- 78475 - Copper, sludge, tot, dry weight (as Cu)

Pollutant Code: 1165

CAS Number:

Substance Registry Service (SRS) ID: 150086

Toxic Weighting Factor: 0.63

Pollutant Category(ies): Metals, Priority Pollutants,

Figure 1. Pollutant Look-Up Search

Figure 2 shows the relationships between the pollutant tables. EPA combined data from these tables and developed two Loading Tool database tables for the Pollutant Look-Up:

- ***DMR_LOADINGS_REF_PARAMETER***: This table links parameter codes to pollutant codes, CAS Numbers, and SRS ID Numbers.
- ***DMR_LOADING_PARM_CAT_XWALK***: EPA developed this table for the Loading Tool EZ Search. The table links parameter codes to pollutant categories.

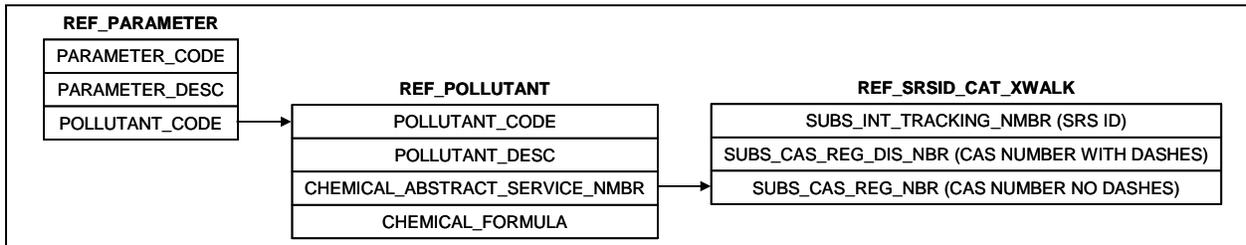


Figure 2. Relationships between Pollutant Tables from ICIS-NPDES and SRS

Figure 3 presents the relationships between the Loading Tool pollutant tables. Attachment 1 provides a CSV file containing the data from the

DMR_LOADINGS_REF_PARAMETER and DMR_LOADINGS_PARM_CAT_XWALK tables that is used in the Pollutant Look-Up.

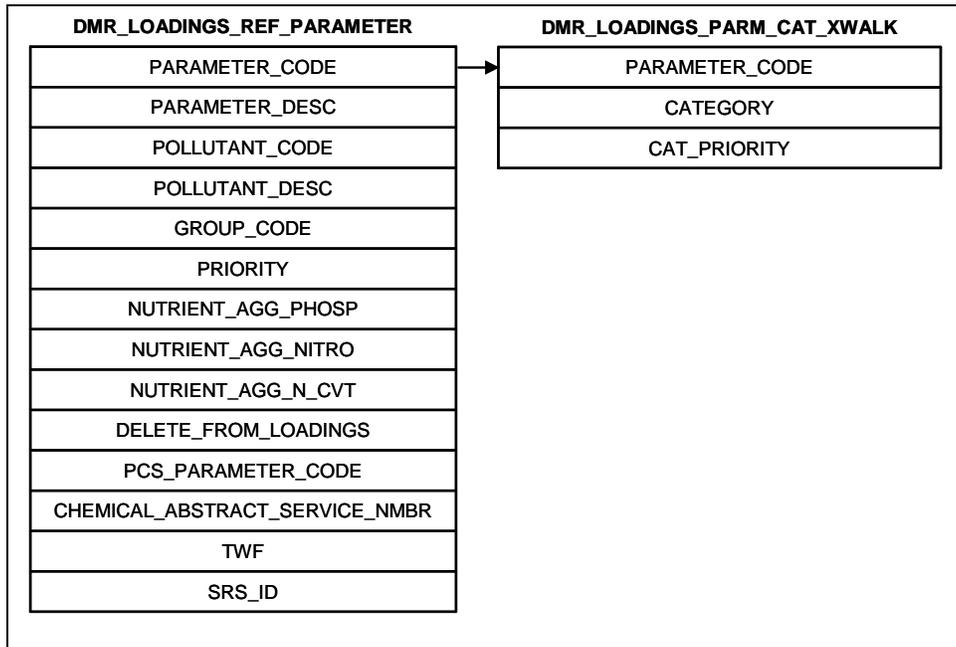


Figure 3. Loading Tool Pollutant Tables