# TOXICS RELEASE INVENTORY
# BASIC PLUS DATA FILES DOCUMENTATION
## FILE TYPE 2B: DETAILED ON-SITE WASTE TREATMENT METHODS AND EFFICIENCY

Updated for RY 2019

September 2020

**OVERVIEW OF TRI BASIC PLUS DATA FILES**

The TRI "Basic Plus" data files include 10 file types that collectively contain all the data fields from the TRI Reporting Form R and Form A (except Form R Schedule 1). The 10 file types are tab-delimited text (.txt) files packaged into a .zip file.

| File | Example | Description of Contents | Form R/Form A Reference |
|---|---|---|---|
| Type 1 | CA_1A_2017.txt | Facility data, chemical identification, chemical uses, on-site releases and management, off-site transfers, summary information | Part I (all), Part II (section 1, 3, 4, 5, 6.1.A, 6.2ABC, 7B, 7C, 8.2.B, 8.4.B, 8.6. |

The Basic Plus Data Files are identified (named) by state, file type, and reporting year.

File Name = State + File Type + Reporting Year

For example, the file "CA_1A_2017.txt" contains facility, chemical identification, chemical use, on-site release and waste management, off-site transfer and summary information (File Type 1A) for all facilities located in California (CA) for reporting year 2017.

In addition to the set of data files for each state, there are two other Basic Plus file sets: Federal and National. The Federal files (FED_1A_2017.txt, FED_2A_2017.txt, etc.) contain TRI data for all government-owned-and-operated federal sites. The National files (US_1A_2017.txt, US_2A_2017.txt, etc.) contain TRI data for all U.S. states and territories for a specific year.

**DESCRIPTION OF FILE TYPE 2B CONTENTS**

File Type 2B contains data about waste treatment methods and their efficiency from Section 7A of the TRI Reporting Form R, as shown in the table below. Each record in File Type 2B represents data from a single chemical reporting form (i.e., Form R) submitted by a facility.

All Type 2B files contain data from the following parts and sections of the Form R:

| Part | Section | Description |
|---|---|---|
| I | 1 | Reporting Year |
| I | 1 | Revision Codes |
| I | 2.1 | Trade Secret Indicator |
| I | 4 | Facility Identification Information |
| I | 5 | Parent Company Information |
| II | 1 | Chemical Identification Data |
| II | 7.A.a | General Waste Stream Identification Code |
| II | 7.A.b | Waste Treatment Methods |
| II | 7.A.c | Range of Influent of Concentration |
| II | 7.A.d | Waste Treatment Efficiency Estimate |
| II | 7.A.e | Based on Operating Data |

*Note:* In 2005, the TRI Program stopped collecting underground injection control (UIC) identification numbers from facilities on the TRI reporting forms. UIC IDs identify facilities that received permits from state governments to dispose of or release chemical waste into Class I through Class V underground injection wells.

The TRI Program does have some historical UIC IDs that were collected prior to 2005. Many of these, however, are outdated and inaccurate. The TRI Program is also missing UIC IDs for facilities that began reporting to TRI in or after 2005. EPA does not store nor have access to current UIC IDs. Because of this lack of current, accurate and complete data, the TRI Program removed the UIC ID data fields from the TRI Basic Data Files in 2019.

To learn more about UIC permits and underground injection wells see the "Protecting Underground Source of Drinking Water from Underground Injection (UIC)" website at https://www.epa.gov/uic

## WHAT'S IN THIS DOCUMENT

The rest of this document is organized as a four-column data table. It describes what information you will find when you download and open any of the "TRI Basic Plus Data: File Type 2B" files.

| Column | Description |
|---|---|
| Number (No.) | The sequential number of the data element in the record |
| Field Name | The name of the data element (Note: these names correspond to the various column headings in the data files themselves.) |
| Data Type | 'C' for character data (alphanumeric)<br>'N' for numeric data<br>'D' for date |
| Description | A brief statement of what the data element represents, plus its TRI System Source (in **Table Name**. Field Name format) and where on the TRI Reporting Form R the data element is reported (i.e., *reference*). TRI System Source refers to the data element's physical location within EPA's Envirofacts online data warehouse. |

When you open any of the Basic Plus data files, you'll see that the contents are delimited by tabs, meaning a tab is placed between each data element. The first row of each file contains column headers, which correspond to the "field names" in this document.

| | A | B | C | D |
|---|---|---|---|---|
| 1 | REPORTING YEAR | TRADE SECRET INDICATOR | TRIFID | FACILITY NAME |
| 2 | 2016 | NO | 37087TSHBM1420T | NOVAMET SPECIALTY PRODUCTS |
| 3 | 2016 | NO | 2740WNVRNM837TR | ENVIRONMENTAL AIR SYSTEMS INC-TRIAD |
| 4 | 2016 | NO | 7585WSNDRS485HI | SANDERSON FARMS OAKWOOD FEED MILL |

*Example of the first four rows of a Basic Plus data file*

*REMINDER:* Quantities of dioxin and dioxin-like compounds are in grams. Quantities of all other TRI chemicals are reported in pounds. Facilities cannot use range codes to report quantities for dioxin and dioxin-like compounds and other Persistent Bioaccumulative Toxics (PBTs). For a list of PBT chemicals see Appendix E - Persistent Bioaccumulative Toxics (PBTs).

## HELPFUL RESOURCES FOR USERS OF DOWNLOADABLE DATA FILES

When using any of the downloadable TRI data files, it will be helpful for users to refer to the TRI Reporting Form R, the TRI Reporting Forms & Instructions document, and the Envirofacts TRI data model. The Reporting Forms & Instructions document and sample reporting forms are available online in the GuideME application at www.epa.gov/tri/guideme. The Envirofacts TRI data model is found at https://www.epa.gov/enviro/tri-model. These resources provide useful context and have additional details about certain data elements.

**FILE TYPE 2B CONTENTS**

| No. | Field Name | Type | Description |
|---|---|---|---|
| 1 | FORM TYPE | C | Indicates whether the Reporting Form R or Form A Certification Statement was submitted.<br>R = Form R<br>A = Form A Certification Statement<br>*Source:* **TRI_REPORTING_FORM.**FORM_TYPE_IND<br>*Reference:* Type of Form Used |
| 2 | REPORTING YEAR | C | The calendar year in which the reported activities occurred.<br>*Source:* **TRI_REPORTING_FORM.**REPORTING_YEAR<br>*Reference:* Part I, Section 1 |
| 3 | TRADE SECRET INDICATOR | C | Indicates whether the reporting facility claims the identity of the chemical or chemical category as a trade secret.<br>Yes = Checked (Trade Secret)<br>No = Not checked<br>Note: Only sanitized trade secret submissions are stored in the TRI database.<br>*Source:* **TRI_REPORTING_FORM.**TRADE_SECRET_IND<br>*Reference*: Part I, Section 2.1 |
| 4 | TRIFD | C | Facility identification in the format zzzzznnnnnssssss, where usually zzzzz = facility zip code, nnnnn = first five consonants of the name, and sssss = first five non-specific characters in the street address. The three sections of the format were separated by hyphens prior to RY 2006.<br>**NOTE:** *The content of this field is **not** changed to match facility ownership, or zip code changes. Rather, the TRI Facility ID identifies a specific geographical location which is also identified by the latitude and longitude of that location.*<br>*Source:* **TRI_FACILITY.**TRI_FACILITY_ID<br>*Reference:* Part I, Section 4.1 |
| 5 | FACILITY NAME | C | Name of the reporting facility.<br>*Source:* **TRI_FACILITY.**FACILITY_NAME<br>*Reference:* Part I, Section 4.1 |
| 6 | FACILITY STREET | C | Street address of the reporting facility.<br>*Source:* **TRI_FACILITY.**STREET_ADDRESS<br>*Reference:* Part I, Section 4.1 |
| 7 | FACILITY CITY | C | City in which the reporting facility is located.<br>*Source:* **TRI_FACILITY.**CITY_NAME<br>*Reference:* Part I, Section 4.1 |
| 8 | FACILITY COUNTY | C | County in which the reporting facility is located.<br>*Source:* **TRI_FACILITY.**COUNTY_NAME<br>*Reference:* Part I, Section 4.1 |
| 9 | FACILITY STATE | C | Two-letter state code of the reporting facility.<br>*Source:* **TRI_FACILITY.**STATE_ABBR<br>*Reference:* Part I, Section 4.1 |
| 10 | FACILITY ZIP CODE | C | ZIP code of the reporting facility.<br>*Source:* **TRI_FACILITY.**ZIP_CODE<br>*Reference:* Part I, Section 4.1 |

| No. | Field Name | Type | Description |
|---|---|---|---|
| 11 | BIA CODE | C | Three-letter Bureau of Indian Affairs (BIA) code indicating the tribal land the facility is on.<br>*Source:* **TRI_FACILITY.**BIA_TRIBAL_CODE |
| 12 | TRIBE NAME | C | The name of the Tribe.<br>*Source:* **V_INDIAN_COUNTRY.** |
| 13 | ENTIRE FACILITY IND | C | Indicates whether the information covers an entire facility or part of a facility.<br>Yes = entire<br>No = partial<br>*Source:* **TRI_REPORTING_FORM.**ENTIRE_FAC<br>*Reference:* Part I, Section 4.2a |
| 14 | PARTIAL FACILITY IND | C | Indicates whether the information covers an entire facility or part of a facility:<br>Yes = partial<br>No = entire<br>*Source:* **TRI_REPORTING_FORM.**PARTIAL_FAC<br>*Reference:* Part I, Section 4.2b |
| 15 | FEDERAL FACILITY IND | C | Code indicating whether a facility is a federal facility or not. Reported by facility.<br>Yes = Federal<br>No = non-Federal Value<br>*Source:* **TRI_REPORTING_FORM.**FEDERAL_ FAC_IND<br>*Reference:* Part I Section 4.2c |
| 16 | GOCO FACILITY IND | C | Code indicating whether a facility is a GOCO (Government Owned, Contractor-Operated) facility or not:<br>Yes = GOCO<br>No = non-GOCO<br>*Source:* **TRI_REPORTING_FORM.**GOCO_ FLAG<br>*Reference:* Part I Section 4.2d |
| 17 | ASSIGNED FED. FACILITY FLAG | C | Code indicating whether this is a federal facility or not. Assigned by TRI.<br>Yes = Federal<br>No = Non-Federal<br>*Source:* **TRI_FACILITY.**ASGN_FEDERAL |
| 18 | ASSIGNED PARTIAL FACILITY FLAG | C | Code indicating whether the facility is a multi-establishment and reports by part. Assigned by TRI. Multi-establishment facilities may have more than one submission for the same chemical in one reporting year.<br>Yes = Partial<br>No = entire<br>*Source:* **TRI_FACILITY**. ASGN_PARTIAL_IND |
| 19 | PUBLIC CONTACT NAME | C | Name of the individual whom the public may contact if clarification of the facility's reported data is needed.<br>*Source:* **TRI_REPORTING_FORM**.PUBLIC_CONTACT_PERSON<br>*Reference:* Part 1, Section 4.4 |
| 20 | PUBLIC CONTACT PHONE | C | Area code and telephone number of the public contact.<br>*Source:* **TRI_REPORTING_FORM**.PUBLIC_CONTACT_PHONE<br>*Reference:* Part 1, Section 4.4 |

| No. | Field Name | Type | Description |
|---|---|---|---|
| 21 | PUBLIC CONTACT PHONE EXT | C | Phone extension of the public contact.<br>*Source:* **TRI_REPORTING_FORM**.PUBLIC_PHONE_EXT<br>*Reference:* Part 1, Section 4.4 |
| 22 | PUBLIC CONTACT EMAIL | C | Email address of the designated individual whom the public may contact if clarification of the facility's reported data is needed.<br>*Source:*<br>**TRI_REPORTING_FORM**.PUBLIC_CONTACT_PERSON_EMAIL<br>*Reference:* Part 1, Section 4.4 |
| 23 | PRIMARY SIC CODE | C | Primary four-digit Standard Industrial Classification (SIC) code. SIC codes reported by facilities from RY 1987 through 2005.<br>*Source:* **TRI_SUBMISSION_SIC.**SIC_CODE<br>*Where:* primary_ind = '1'<br>*Reference:* Part I, Section 4.5a |
| 24 | SIC CODE 2 | C | Second four-digit Standard Industrial Classification (SIC) code entered by facility. SIC codes reported by facilities from RY 1987 through 2005.<br>*Source:* **TRI_SUBMISSION_SIC.**SIC_CODE<br>*Where:* sic_sequence_num = '2'<br>*Reference:* Part I, Section 4.5b |
| 25 | SIC CODE 3 | C | Third four-digit Standard Industrial Classification (SIC) code entered by facility. SIC codes reported by facilities from RY 1987 through 2005.<br>*Source:* **TRI_SUBMISSION_SIC.**SIC_CODE<br>*Where:* sic_sequence_num = '3'<br>*Reference:* Part I, Section 4.5c |
| 26 | SIC CODE 4 | C | Fourth four-digit Standard Industrial Classification (SIC) code entered by facility. SIC codes reported by facilities from RY 1987 through 2005.<br>*Source:* **TRI_SUBMISSION_SIC.**SIC_CODE<br>*Where:* sic_sequence_num = '4'<br>*Reference:* Part I, Section 4.5d |
| 27 | SIC CODE 5 | C | Fifth four-digit Standard Industrial Classification (SIC) code entered by facility. SIC codes reported by facilities from RY 1987 through 2005.<br>*Source:* **TRI_SUBMISSION_SIC.**SIC_CODE<br>*Where:* sic_sequence_num = '5'<br>*Reference:* Part I, Section 4.5e |
| 28 | SIC CODE 6 | C | Sixth four-digit Standard Industrial Classification (SIC) code entered by facility. SIC codes reported by facilities from RY 1987 through 2005.<br>*Source:* **TRI_SUBMISSION_SIC.**SIC_CODE<br>*Where:* sic_sequence_num = '6'<br>*Reference:* Part I, Section 4.5f |
| 29 | NAICS ORIGIN | C | Indicates whether North American Industry Classification System (NAICS) codes were reported or assigned.<br>R = Reported<br>A = Assigned |
| 30 | PRIMARY NAICS CODE | C | Primary six-digit North American Standard Industry Classification |

| No. | Field Name | Type | Description |
|---|---|---|---|
| | | | System (NAICS) code. NAICS codes reported by facilities from RY 2006 to present. NAICS codes in prior years were assigned by EPA. See Appendix G – "NAICS Codes Assignments" for more details.<br>*Source:* **TRI_SUBMISSION_NAICS.**NAICS_CODE<br>*Where:* primary_ind = '1'<br>*Reference:* Part I, Section 4.5a |
| 31 | NAICS CODE 2 | C | Second six-digit North American Standard Industry Classification System (NAICS) code entered by facility. NAICS codes reported by facilities from RY 2006 to present. NAICS codes in prior years were assigned by EPA.<br>*Source:* **TRI_SUBMISSION_NAICS.**NAICS_CODE<br>*Where:* naics_sequence_num = '2'<br>*Reference:* Part I, Section 4.5b |
| 32 | NAICS CODE 3 | C | Third six-digit North American Standard Industry Classification System (NAICS) code entered by facility. NAICS codes reported by facilities from RY 2006 to present. NAICS codes in prior years were assigned by EPA.<br>*Source:* **TRI_SUBMISSION_NAICS.**NAICS_CODE<br>*Where:* naics_sequence_num = '3'<br>*Reference:* Part I, Section 4.5b |
| 33 | NAICS CODE 4 | C | Forth six-digit North American Standard Industry Classification System (NAICS) code entered by facility. NAICS codes reported by facilities from RY 2006 to present. NAICS codes in prior years were assigned by EPA.<br>*Source:* **TRI_SUBMISSION_NAICS.**NAICS_CODE<br>*Where:* naics_sequence_num = '4'<br>*Reference:* Part I, Section 4.5b |
| 34 | NAICS CODE 5 | C | Fifth six-digit North American Standard Industry Classification System (NAICS) code entered by facility. NAICS codes reported by facilities from RY 2006 to present. NAICS codes in prior years were assigned by EPA.<br>*Source:* **TRI_SUBMISSION_NAICS.**NAICS_CODE<br>*Where:* naics_sequence_num = '5'<br>*Reference:* Part I, Section 4.5b |
| 35 | NAICS CODE 6 | C | Sixth six-digit North American Standard Industry Classification System (NAICS) code entered by facility. NAICS codes reported by facilities from RY 2006 to present. NAICS codes in prior years were assigned by EPA.<br>*Source:* **TRI_SUBMISSION_NAICS.**NAICS_CODE<br>*Where:* naics_sequence_num = '6'<br>*Reference:* Part I, Section 4.5b |
| 36 | LATITUDE | N | The latitude value that best represents the facility according to EPA's Facility Registry System (FRS). In RY 2005, EPA stopped collecting the latitude value and began obtaining it from FRS. Format: signed 2-digit whole number, 6 digit decimal positions (+nn.nnnnnn).<br>*Source:* **EPA's Facility Registry System** |
| 37 | LONGITUDE | N | The longitude value that best represents the facility according to EPA's Facility Registry System (FRS). In 2005, TRI stopped collecting the longitude value and began obtaining it from FRS. Format: signed |

| No. | Field Name | Type | Description |
|---|---|---|---|
| | | | 3-digit whole number, 6 digit decimal positions (+nnn.nnnnnn).<br>*Source:* **EPA's Facility Registry System** |
| 38 | D&B NR A | C | Unique identification number assigned by Dun and Bradstreet to the reporting facility.<br>*Source:* **TRI_FACILITY_DB.**DB_NUM<br>*Reference:* Part I, Section 4.7a |
| 39 | D&B NR B | C | Unique identification number assigned by Dun and Bradstreet to the reporting facility.<br>*Source:* **TRI_FACILITY_DB.**DB_NUM<br>*Reference:* Part I, Section 4.7b |
| 40 | RCRA NR A | C | Twelve-digit alphanumeric identifier assigned by EPA per the Resource Conservation and Recovery Act (RCRA). In RY 2005, TRI stopped collecting RCRA IDs on the Reporting Form R.<br>*Source:* **EPA's Facility Registry System** |
| 41 | RCRA NR B | C | Twelve-digit alphanumeric identifier assigned by EPA per the Resource Conservation and Recovery Act (RCRA). In RY 2005, TRI stopped collecting RCRA IDs on the Reporting Form R.<br>*Source:* **EPA's Facility Registry System** |
| 42 | RCRA NR C | C | Twelve-digit alphanumeric identifier assigned by EPA per the Resource Conservation and Recovery Act (RCRA). In RY 2005, TRI stopped collecting RCRA IDs on the Reporting Form R.<br>*Source:* **EPA's Facility Registry System** |
| 43 | RCRA NR D | C | Twelve-digit alphanumeric identifier assigned by EPA per the Resource Conservation and Recovery Act (RCRA). In RY 2005, TRI stopped collecting RCRA IDs on the Reporting Form R.<br>*Source:* **EPA's Facility Registry System** |
| 44 | RCRA NR E | C | Twelve-digit alphanumeric identifier assigned by EPA per the Resource Conservation and Recovery Act (RCRA). In RY 2005, TRI stopped collecting RCRA IDs on the Reporting Form R.<br>*Source:* **EPA's Facility Registry System** |
| 45 | RCRA NR F | C | Twelve-digit alphanumeric identifier assigned by EPA per the Resource Conservation and Recovery Act (RCRA). In RY 2005, TRI stopped collecting RCRA IDs on the Reporting Form R.<br>*Source:* **EPA's Facility Registry System** |
| 46 | RCRA NR G | C | Twelve-digit alphanumeric identifier assigned by EPA per the Resource Conservation and Recovery Act (RCRA). In RY 2005, TRI stopped collecting RCRA IDs on the Reporting Form R.<br>*Source:* **EPA's Facility Registry System** |
| 47 | RCRA NR H | C | Twelve-digit alphanumeric identifier assigned by EPA per the Resource Conservation and Recovery Act (RCRA). In RY 2005, TRI stopped collecting RCRA IDs on the Reporting Form R.<br>*Source:* **EPA's Facility Registry System** |
| 48 | RCRA NR I | C | Twelve-digit alphanumeric identifier assigned by EPA per the Resource Conservation and Recovery Act (RCRA). In RY 2005, TRI stopped collecting RCRA IDs on the Reporting Form R.<br>*Source:* **EPA's Facility Registry System** |

| No. | Field Name | Type | Description |
|---|---|---|---|
| 49 | RCRA NR J | C | Twelve-digit alphanumeric identifier assigned by EPA per the Resource Conservation and Recovery Act (RCRA). In RY 2005, TRI stopped collecting RCRA IDs on the Reporting Form R. *Source:* **EPA's Facility Registry System** |
| 50 | NPDES NR A | C | Nine-digit alphanumeric identifier assigned to a facility in EPA's National Pollutant Discharge Elimination System (NPDES). In RY 2005, TRI stopped collecting NPDES IDs on the Reporting Form R. *Source:* **EPA's Facility Registry System** |
| 51 | NPDES NR B | C | Nine-digit alphanumeric identifier assigned to a facility in EPA's National Pollutant Discharge Elimination System (NPDES). In RY 2005, TRI stopped collecting NPDES IDs on the Reporting Form R. *Source:* **EPA's Facility Registry System** |
| 52 | NPDES NR C | C | Nine-digit alphanumeric identifier assigned to a facility in EPA's National Pollutant Discharge Elimination System (NPDES). In RY 2005, TRI stopped collecting NPDES IDs on the Reporting Form R. *Source:* **EPA's Facility Registry System** |
| 53 | NPDES NR D | C | Nine-digit alphanumeric identifier assigned to a facility in EPA's National Pollutant Discharge Elimination System (NPDES). In RY 2005, TRI stopped collecting NPDES IDs on the Reporting Form R. *Source:* **EPA's Facility Registry System** |
| 54 | NPDES NR E | C | Nine-digit alphanumeric identifier assigned to a facility in EPA's National Pollutant Discharge Elimination System (NPDES). In RY 2005, TRI stopped collecting NPDES IDs on the Reporting Form R. *Source:* **EPA's Facility Registry System** |
| 55 | NPDES NR F | C | Nine-digit alphanumeric identifier assigned to a facility in EPA's National Pollutant Discharge Elimination System (NPDES). In RY 2005, TRI stopped collecting NPDES IDs on the Reporting Form R. *Source:* **EPA's Facility Registry System** |
| 56 | NPDES NR G | C | Nine-digit alphanumeric identifier assigned to a facility in EPA's National Pollutant Discharge Elimination System (NPDES). In RY 2005, TRI stopped collecting NPDES IDs on the Reporting Form R. *Source:* **EPA's Facility Registry System** |
| 57 | NPDES NR H | C | Nine-digit alphanumeric identifier assigned to a facility in EPA's National Pollutant Discharge Elimination System (NPDES). In RY 2005, TRI stopped collecting NPDES IDs on the Reporting Form R. *Source:* **EPA's Facility Registry System** |
| 58 | NPDES NR I | C | Nine-digit alphanumeric identifier assigned to a facility in EPA's National Pollutant Discharge Elimination System (NPDES). In RY 2005, TRI stopped collecting NPDES IDs on the Reporting Form R. *Source:* **EPA's Facility Registry System** |
| 59 | NPDES NR J | C | Nine-digit alphanumeric identifier assigned to a facility in EPA's National Pollutant Discharge Elimination System (NPDES). In RY 2005, TRI stopped collecting NPDES IDs on the Reporting Form R. *Source:* **EPA's Facility Registry System** |
| 60 | PARENT COMPANY NAME | C | Name of the corporation or other business entity that controls the reporting facility. |

| No. | Field Name | Type | Description |
|---|---|---|---|
| | | | *Source:* **TRI_FACILITY.**PARENT_CO_NAME<br>*Reference:* Part I, Section 5.1 |
| 61 | PARENT COMPANY D&B NR | C | Unique identification number assigned by Dun and Bradstreet to the parent company of the reporting facility.<br>*Source:* **TRI_FACILITY.**PARENT_CO_DB_NUM<br>*Reference:* Part I, Section 5.2 |
| 62 | STANDARDIZED PARENT COMPANY NAME | C | Standardized Parent Company Name assigned by TRI.<br>*Source:* **TRI_FACILITY**.STANDARDIZED_PARENT_COMPANY |
| 63 | FRS FACILITY ID | C | Indicates the Facility Registry Service (FRS) ID for the TRI facility. The FRS is a centrally managed EPA database that identifies facilities, sites or places subject to environmental regulations or of environmental interest. Using the FRS ID, data users can link data from different EPA programs together.<br>*Source:* **TRI_FACILITY.EPA_**REGISTRY_ID |
| 64 | DOCUMENT CONTROL NUMBER | C | Unique identification number assigned to each submission by EPA.<br>Format: TTYYMMMNNNNNC, where<br>TT = document type<br>YY = reporting year<br>MMM = document type<br>NNNNN= sequential number<br>C = check digit<br>*Source:* **TRI_REPORTING_FORM.**DOC_CTRL_ NUM<br>*Reference:* NA (System-generated) |
| 65 | CAS NUMBER | C | Chemical Abstracts Service (CAS) Registry Number for unique chemical, or category code (for compounds).<br>**NOTE:** *CAS number 999999999 is for sanitized trade secret submissions; CHEM_NAME displays the reported generic chemical name.*<br>*Source:* **TRI_REPORTING_FORM.**TRI_CHEM_ID<br>*Reference:* Part II, Section 1.1 |
| 66 | CHEMICAL NAME | | Name of the chemical or generic name if the chemical is claimed as a trade secret.<br>*Source:* **TRI_REPORTING_FORM.**CAS_CHEM_ NAME<br>*Reference:* Part II, Section 1.2 *or* Part II, Section 1.3 |
| 67 | ELEMENTAL METAL INCLUDED | C | Indicates whether the facility submitted a combined reporting form for a metal compound and the corresponding elemental metal. This data element collected beginning with RY 2018.<br>VALUES: YES = combined reporting form submitted for both an elemental metal and a metal compound containing the same elemental metal; NO = only metal compound reported<br>*Source:* **TRI_REPORTING_FORM.**ELEMENTAL_METAL_INCLUDED<br>*Reference:* Part II, Section 1.2 |
| 68 | CLASSIFICATION | C | Indicates the classification of the chemical. Chemicals can be classified as either a Dioxin or Dioxin-like compound, a Persistent, Bioaccumulative and Toxic (PBT) chemical or a general EPCRA Section 313 chemical. For a list of PBT chemicals, see Appendix E.<br>Values: {TRI, PBT, DIOXIN} where:<br>TRI = General EPCRA Section 313 Chem. |

| No. | Field Name | Type | Description |
|---|---|---|---|
| | | | PBT = Bioaccumulative and Toxic<br>DIOXIN = Dioxin or Dioxin-like compound<br>*Source:* **TRI_CHEM_INFO.**CLASSIFICATION<br>*Reference:* NONE |
| 69 | UNIT OF MEASURE | C | Indicates the unit of measure used to quantify the chemical. Dioxin and dioxin-like compounds are measured in grams, while all other TRI chemicals are measured in pounds. Values: {Pounds, Grams}<br>*Source:* **TRI_CHEM_INFO.**UNIT_OF_MEASURE<br>*Reference:* NONE |
| 70 | METAL_IND | C | Code indicating whether the chemical is a metal or not.<br>Yes = Metal<br>No = Non-Metal<br>For a list of TRI chemicals that are metals and their sub-categorizations, see Appendix D.<br>*Source:* **TRI_CHEM_INFO.**Metal_Ind |
| 71 | REVISION CODE 1 | C | If the facility revised its original TRI reporting form for this chemical, this code indicates the reason for the revision.<br>Values:<br>RR1 = New Monitoring Data<br>RR2 = New Emission Factors<br>RR3 = New Chemical Concentration Data<br>RR4 = Recalculation(s)<br>RR5 = Other Reason(s)<br>*Source:* **TRI_REPORTING_FORM.**Revision_Code_1 |
| 72 | REVISION CODE 2 | C | If the facility revised its original TRI reporting form for this chemical, this code indicates the reason for the revision.<br>Values:<br>RR1 = New Monitoring Data<br>RR2 = New Emission Factors<br>RR3 = New Chemical Concentration Data<br>RR4 = Recalculation(s)<br>RR5 = Other Reason(s)<br>*Source:* **TRI_REPORTING_FORM.**Revision_Code_2 |
| 73 | DIOXIN DISTRIBUTION 1 | N | Indicates the percentage of 1,2,3,4,6,7,8 Heptachlorodibenzofuran (CAS # 67562-39-4) in the reported dioxin or dioxin-like compound. Values are either 0 or a number between 0 and 100 (inclusive). This data element collected from RY 2000 through 2007. See Appendix F - Dioxin and Dioxin-like Compound Data for more information.<br>*Source:* **TRI_REPORTING_FORM.**DIOXIN_DISTRIBUTION_1<br>*Reference:* Part II, Section 1.4 |
| 74 | DIOXIN DISTRIBUTION 2 | N | Indicates the percentage of 1,2,3,4,7,8,9 Heptachlorodibenzofuran (CAS # 55673-89-7) in the reported dioxin or dioxin-like compound. Values are either 0 or a number between 0 and 100 (inclusive). This data element collected from RY 2000 through 2007. See Appendix F - Dioxin and Dioxin-like Compound Data for more information.<br>*Source:* **TRI_REPORTING_FORM.**DIOXIN_DISTRIBUTION_2 |

| No. | Field Name | Type | Description |
|---|---|---|---|
| | | | *Reference:* Part II, Section 1.4 |
| 75 | DIOXIN DISTRIBUTION 3 | N | Indicates the percentage of 1,2,3,4,7,8 Hexachlorodibenzofuran (CAS # 70648-26-9) in the reported dioxin or dioxin-like compound. Values are either 0 or a number between 0 and 100 (inclusive). This data element collected from RY 2000 through 2007. See Appendix F - Dioxin and Dioxin-like Compound Data for more information.<br>*Source:* **TRI_REPORTING_FORM.**DIOXIN_DISTRIBUTION_3<br>*Reference:* Part II, Section 1.4 |
| 76 | DIOXIN DISTRIBUTION 4 | N | Indicates the percentage of 1,2,3,6,7,8 Hexachlorodibenzofuran (CAS # 57117-44-9) in the reported dioxin or dioxin-like compound. Values are either 0 or a number between 0 and 100 (inclusive). This data element collected from RY 2000 through 2007. See Appendix F - Dioxin and Dioxin-like Compound Data for more information.<br>*Source:* **TRI_REPORTING_FORM.**DIOXIN_DISTRIBUTION_4<br>*Reference:* Part II, Section 1.4 |
| 77 | DIOXIN DISTRIBUTION 5 | N | Indicates the percentage of 1,2,3,7,8,9 Hexachlorodibenzofuran (CAS # 72918-21-9) in the reported dioxin or dioxin-like compound. Values are either 0 or a number between 0 and 100 (inclusive). This data element collected from RY 2000 through 2007. See Appendix F - Dioxin and Dioxin-like Compound Data for more information.<br>*Source:* **TRI_REPORTING_FORM.**DIOXIN_DISTRIBUTION_5<br>*Reference:* Part II, Section 1.4 |
| 78 | DIOXIN DISTRIBUTION 6 | N | Indicates the percentage of 2,3,4,6,7,8 Hexachlorodibenzofuran (CAS # 60851-34-5) in the reported dioxin or dioxin-like compound. Values are either 0 or a number between 0 and 100 (inclusive). This data element collected from RY 2000 through 2007. See Appendix F - Dioxin and Dioxin-like Compound Data for more information.<br>*Source:* **TRI_REPORTING_FORM.**DIOXIN_DISTRIBUTION_6<br>*Reference:* Part II, Section 1.4 |
| 79 | DIOXIN DISTRIBUTION 7 | N | Indicates the percentage of 1,2,3,4,7,8 Hexachlorodibenzo-p-dioxin (CAS # 39227-28-6) in the reported dioxin or dioxin-like compound. Values are either 0 or a number between 0 and 100 (inclusive). This data element collected from RY 2000 through 2007. See Appendix F - Dioxin and Dioxin-like Compound Data for more information.<br>*Source:* **TRI_REPORTING_FORM.**DIOXIN_DISTRIBUTION_7<br>*Reference:* Part II, Section 1.4 |
| 80 | DIOXIN DISTRIBUTION 8 | N | Indicates the percentage of 1,2,3,6,7,8 Hexachlorodibenzo- p-dioxin (CAS # 5765385-7) in the reported dioxin or dioxin-like compound. Values are either 0 or a number between 0. and 100 (inclusive). This data element collected from RY 2000 through 2007. See Appendix F - Dioxin and Dioxin-like Compound Data for more information.<br>*Source:* **TRI_REPORTING_FORM.**DIOXIN_DISTRIBUTION_8<br>*Reference:* Part II, Section 1.4 |
| 81 | DIOXIN DISTRIBUTION 9 | N | Indicates the percentage of 1,2,3,7,8,9 Hexachlorodibenzo-p-dioxin |

| No. | Field Name | Type | Description |
|---|---|---|---|
| | | | (CAS # 19408-74-3) in the reported dioxin or dioxin-like compound. Values are either 0 or a number between 0 and 100 (inclusive). This data element collected from RY 2000 through 2007. See Appendix F - Dioxin and Dioxin-like Compound Data for more information.<br>*Source:* **TRI_REPORTING_FORM.**DIOXIN_DISTRIBUTION_9<br>*Reference:* Part II, Section 1.4 |
| 82 | DIOXIN DISTRIBUTION 10 | N | Indicates the percentage of 1,2,3,4,6,7,8 Heptachlorodibenzo-p-dioxin (CAS # 35822-46-9) in the reported dioxin or dioxin-like compound. Values are either 0 or a number between 0 and 100 (inclusive). This data element collected from RY 2000 through 2007. See Appendix F - Dioxin and Dioxin-like Compound Data for more information.<br>*Source:* **TRI_REPORTING_FORM.**DIOXIN_DISTRIBUTION_10<br>*Reference:* Part II, Section 1.4 |
| 83 | DIOXIN DISTRIBUTION 11 | N | Indicates the percentage of 1,2,3,4,6,7,8,9 Octachlorodibenzofuran (CAS # 39001-02-0) in the reported dioxin or dioxin-like compound. Values are either 0 or a number between 0 and 100 (inclusive). This data element collected from RY 2000 through 2007. See Appendix F - Dioxin and Dioxin-like Compound Data for more information.<br>*Source:* **TRI_REPORTING_FORM.**DIOXIN_DISTRIBUTION_11<br>*Reference:* Part II, Section 1.4 |
| 84 | DIOXIN DISTRIBUTION 12 | N | Indicates the percentage of 1,2,3,4,6,7,8,9 Octachlorodibenzo-p-dioxin (CAS # 03268-87-9) in the reported dioxin or dioxin-like compound. Values are either 0 or a number between 0 and 100 (inclusive). This data element collected from RY 2000 through 2007. See Appendix F - Dioxin and Dioxin-like Compound Data for more information.<br>*Source:* **TRI_REPORTING_FORM.**DIOXIN_DISTRIBUTION_12<br>*Reference:* Part II, Section 1.4 |
| 85 | DIOXIN DISTRIBUTION 13 | N | Indicates the percentage of 1,2,3,7,8 Pentachlorodibenzofuran (CAS # 57117-41-6) in the reported dioxin or dioxin-like compound. Values are either 0 or a number between 0 and 100 (inclusive). This data element collected from RY 2000 through 2007. See Appendix F - Dioxin and Dioxin-like Compound Data for more information.<br>*Source:* **TRI_REPORTING_FORM.**DIOXIN_DISTRIBUTION_13<br>*Reference:* Part II, Section 1.4 |
| 86 | DIOXIN DISTRIBUTION 14 | N | Indicates the percentage of 2,3,4,7,8 Pentachlorodibenzofuran (CAS # 57117-31-4) in the reported dioxin or dioxin-like compound. Values are either 0 or a number between 0 and 100 (inclusive). This data element collected from RY 2000 through 2007. See Appendix F - Dioxin and Dioxin-like Compound Data for more information.<br>*Source:* **TRI_REPORTING_FORM.**DIOXIN_DISTRIBUTION_14<br>*Reference:* Part II, Section 1.4 |
| 87 | DIOXIN DISTRIBUTION 15 | N | Indicates the percentage of 1,2,3,7,8 Pentachlorodibenzo-p-dioxin (CAS # 40321-76-4) in the reported dioxin or dioxin-like compound. Values are either 0 or a number between 0 and 100 (inclusive). This data element collected from RY 2000 through 2007. See Appendix F - |

| No. | Field Name | Type | Description |
|---|---|---|---|
| | | | Dioxin and Dioxin-like Compound Data for more information.<br>*Source:* **TRI_REPORTING_FORM.**DIOXIN_DISTRIBUTION_15<br>*Reference:* Part II, Section 1.4 |
| 88 | DIOXIN DISTRIBUTION 16 | N | Indicates the percentage of 2,3,7,8 Tetrachlorodibenzofuran (CAS # 51207-31-9) in the reported dioxin or dioxin-like compound. Values are either 0 or a number between 0 and 100 (inclusive). This data element collected from RY 2000 through 2007. See Appendix F - Dioxin and Dioxin-like Compound Data for more information.<br>*Source:* **TRI_REPORTING_FORM.**DIOXIN_DISTRIBUTION_16<br>*Reference:* Part II, Section 1.4 |
| 89 | DIOXIN DISTRIBUTION 17 | N | Indicates the percentage of 2,3,78 Tetrachlorodibenzo-p-dioxin (CAS # 01746-01-6) in the reported dioxin or dioxin-like compound. Values are either 0 or a number between 0 and 100 (inclusive). This data element collected from RY 2000 through 2007. See Appendix F - Dioxin and Dioxin-like Compound Data for more information.<br>*Source:* **TRI_REPORTING_FORM.**DIOXIN_DISTRIBUTION_17<br>*Reference:* Part II, Section 1.4 |
| 90 | STREAM 1 – WASTE STREAM CODE | C | This field indicates the type of general waste stream where the reported chemical is being treated. Values are:<br>A = gaseous<br>W = wastewater<br>L = liquid waste<br>S = solid waste<br>*Source*: **TRI_ONSITE_WASTESTREAM**.WASTESTREAM_CODE<br>*Reference*: Part II, Section 7A.1a |
| 91 | STREAM 1 - TRTMT METHOD 1 | C | Code corresponding to the first treatment method used on waste stream 1, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.1b |
| 92 | STREAM 1 - TRTMT METHOD 2 | C | Code corresponding to the second treatment method used on waste stream 1, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.1b |

| No. | Field Name | Type | Description |
|---|---|---|---|
| 93 | STREAM 1 - TRTMT METHOD 3 | C | Code corresponding to the third treatment method used on waste stream 1, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.1b |
| 94 | STREAM 1 - TRTMT METHOD 4 | C | Code corresponding to the fourth treatment method used on waste stream 1, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.1b |
| 95 | STREAM 1 - TRTMT METHOD 5 | C | Code corresponding to the fifth treatment method used on waste stream 1, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.1b |
| 96 | STREAM 1 - TRTMT METHOD 6 | C | Code corresponding to the sixth treatment method used on waste stream 1, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.1b |
| 97 | STREAM 1 - TRTMT METHOD 7 | C | Code corresponding to the seventh treatment method used on waste stream 1, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.1b |
| 98 | STREAM 1 - TRTMT METHOD 8 | C | Code corresponding to the eighth treatment method used on waste stream 1, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.1b |

| No. | Field Name | Type | Description |
|---|---|---|---|
| 99 | STREAM 1 - RANGE INFLUENT CONCENT | C | Code corresponding to the range of concentration of the chemical as it typically enters the specified waste treatment step or sequence. This data no longer collected as of RY 2005. See Appendix B for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTESTREAM**.INFLUENT_CONC_RANGE<br>*Reference*: Part II, Section 7A.1c |
| 100 | STREAM 1 - TRTMT EFFICIENCY EST | N | Estimate of the percentage of the chemical removed from the waste stream through destruction, biological degradation, chemical conversion, or physical removal. This data element was reported from RY 1987 – 2004. In RY 2005, the Treatment Efficiency Range Code (see: STREAM 1 – TRTMT EFFICIENCY RANGE CODE) was reported instead.<br>*Source*: **TRI_ONSITE_WASTESTREAM**.TREATMENT_EFFICIENCY_EST<br>*Reference*: Part II, Section 7A.1.d |
| 101 | STREAM 1 - BASED ON OPERATING DATA? | C | Indicates whether the information given in the EFFICIENCY field (i.e., STREAM 1 - TRTMT EFFICIENCY EST) is based on operating data. Value is either “yes” or “no.” This data no longer collected as of RY 2005.<br>*Source*: **TRI_ONSITE_WASTESTREAM**.OPERATING_DATA_IND<br>*Reference*: Part II, Section 7A.1.e |
| 102 | STREAM 1 – TRTMT EFFICIENCY RANGE CODE | C | Range code indicating the estimated percentage of the chemical removed from the waste stream through destruction, biological degradation, chemical conversion, or physical removal. Reported as a two-character range code beginning in RY 2005. See Appendix C for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTESTREAM**.EFFICIENCY_RANGE_CODE<br>*Reference*: Part II, Section 7A.1.d |
| 103 | STREAM 2 - WASTE STREAM CODE | C | This field indicates the type of general waste stream where the reported chemical is being treated. Values are:<br>A = gaseous<br>W = wastewater<br>L = liquid waste<br>S = solid waste<br>*Source*: **TRI_ONSITE_WASTESTREAM**.WASTESTREAM_CODE<br>*Reference*: Part II, Section 7A.2a |
| 104 | STREAM 2 - TRTMT METHOD 1 | C | Code corresponding to the first treatment method used on waste stream 2, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.2b |
| 105 | STREAM 2 - TRTMT METHOD 2 | C | Code corresponding to the second treatment method used on waste stream 2, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE |

| No. | Field Name | Type | Description |
|---|---|---|---|
| | | | *Reference*: Part II, Section 7A.2b |
| 106 | STREAM 2 - TRTMT METHOD 3 | C | Code corresponding to the third treatment method used on waste stream 2, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.2b |
| 107 | STREAM 2 - TRTMT METHOD 4 | C | Code corresponding to the fourth treatment method used on waste stream 2, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.2b |
| 108 | STREAM 2 - TRTMT METHOD 5 | C | Code corresponding to the fifth treatment method used on waste stream 2, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.2b |
| 109 | STREAM 2 - TRTMT METHOD 6 | C | Code corresponding to the sixth treatment method used on waste stream 2, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.2b |
| 110 | STREAM 2 - TRTMT METHOD 7 | C | Code corresponding to the seventh treatment method used on waste stream 2, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.2b |
| 111 | STREAM 2 - TRTMT METHOD 8 | C | Code corresponding to the eighth treatment method used on |

| No. | Field Name | Type | Description |
|---|---|---|---|
| | | | waste stream 2, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.2b |
| 112 | STREAM 2 - RANGE INFLUENT CONCENT | C | Code corresponding to the range of concentration of the toxic chemical as it typically enters the specified waste treatment step or sequence. This data no longer collected as of RY 2005. See Appendix B for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTESTREAM**.INFLUENT_CONC_RANGE<br>*Reference*: Part II, Section 7A.2c |
| 113 | STREAM 2 - TRTMT EFFICIENCY EST | N | Estimate of the percentage of the chemical removed from the waste stream through destruction, biological degradation, chemical conversion, or physical removal. This data element was reported from RY 1987 – 2004. In RY 2005, the Treatment Efficiency Range Code (see: STREAM 2 – TRTMT EFFICIENCY RANGE CODE) was reported instead.<br>*Source*: **TRI_ONSITE_WASTESTREAM**.TREATMENT_EFFICIENCY_EST<br>*Reference*: Part II, Section 7A.1.d |
| 114 | STREAM 2 - BASED ON OPERATING DATA? | C | Indicates whether the information given in the EFFICIENCY field (i.e., STREAM 2 - TRTMT EFFICIENCY EST) is based on operating data. Value is either “yes” or “no.” This data no longer collected as of RY 2005.<br>*Source*: **TRI_ONSITE_WASTESTREAM**.OPERATING_DATA_IND<br>*Reference*: Part II, Section 7A.1.e |
| 115 | STREAM 2 – TRTMT EFFICIENCY RANGE CODE | C | Range code indicating the estimated percentage of the chemical removed from the waste stream through destruction, biological degradation, chemical conversion, or physical removal. Reported as a two-character range code beginning in RY 2005. See Appendix C for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTESTREAM**.EFFICIENCY_RANGE_CODE<br>*Reference*: Part II, Section 7A.1.d |
| 116 | STREAM 3 - WASTE STREAM CODE | C | This field indicates the type of general waste stream where the reported chemical is being treated. Values are:<br>A = gaseous<br>W = wastewater<br>L = liquid waste<br>S = solid waste<br>*Source*: **TRI_ONSITE_WASTESTREAM**.WASTESTREAM_CODE<br>*Reference*: Part II, Section 7A.3a |
| 117 | STREAM 3 - TRTMT METHOD 1 | C | Code corresponding to the first treatment method used on waste stream 3, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.3b |

| No. | Field Name | Type | Description |
|---|---|---|---|
| 118 | STREAM 3 - TRTMT METHOD 2 | C | Code corresponding to the second treatment method used on waste stream 3, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_MET**.TREATMENT_METHOD_CODE |
| 119 | STREAM 3 - TRTMT METHOD 3 | C | Code corresponding to the third treatment method used on waste stream 3, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_MET**.TREATMENT_METHOD_CODE |
| 120 | STREAM 3 - TRTMT METHOD 4 | C | Code corresponding to the fourth treatment method used on waste stream 3, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_MET**.TREATMENT_METHOD_CODE |
| 121 | STREAM 3 - TRTMT METHOD 5 | C | Code corresponding to the fifth treatment method used on waste stream 3, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_MET**.TREATMENT_METHOD_CODE |
| 122 | STREAM 3 - TRTMT METHOD 6 | C | Code corresponding to the sixth treatment method used on waste stream 3, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_MET**.TREATMENT_METHOD_CODE |
| 123 | STREAM 3 - TRTMT METHOD 7 | C | Code corresponding to the seventh treatment method used on waste stream 3, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_MET**.TREATMENT_METHOD_CODE |
| 124 | STREAM 3 - TRTMT METHOD 8 | C | Code corresponding to the eighth treatment method used on waste stream 3, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_MET**.TREATMENT_METHOD_CODE |

| No. | Field Name | Type | Description |
|---|---|---|---|
| 125 | STREAM 3 - RANGE INFLUENT CONCENT | C | Code corresponding to the range of concentration of the toxic chemical as it typically enters the specified waste treatment step or sequence. This data no longer collected as of RY 2005. See Appendix B for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTESTREAM**.INFLUENT_CONC_RANGE<br>*Reference*: Part II, Section 7A.3c |
| 126 | STREAM 3 - TRTMT EFFICIENCY EST | N | Estimate of the percentage of the chemical removed from the waste stream through destruction, biological degradation, chemical conversion, or physical removal. This data element was reported from RY 1987 – 2004. In RY 2005, the Treatment Efficiency Range Code (see: STREAM 3 – TRTMT EFFICIENCY RANGE CODE) was reported instead.<br>*Source*:<br>**TRI_ONSITE_WASTESTREAM**.TREATMENT_EFFICIENCY_EST<br>*Reference*: Part II, Section 7A.1.d |
| 127 | STREAM 3 - BASED ON OPERATING DATA? | C | Indicates whether the information given in the EFFICIENCY field (i.e., STREAM 3 - TRTMT EFFICIENCY EST) is based on operating data. Value is either “yes” or “no.” This data no longer collected as of RY 2005.<br>*Source*: **TRI_ONSITE_WASTESTREAM**.OPERATING_DATA_IND<br>*Reference*: Part II, Section 7A.1.e |
| 128 | STREAM 3 – TRTMT EFFICIENCY RANGE CODE | C | Range code indicating the estimated percentage of the chemical removed from the waste stream through destruction, biological degradation, chemical conversion, or physical removal. Reported as a two-character range code beginning in RY 2005. See Appendix C for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTESTREAM**.EFFICIENCY_RANGE_CODE<br>*Reference*: Part II, Section 7A.1.d |
| 129 | STREAM 4 - WASTE STREAM CODE | C | This field indicates the type of general waste stream where the reported chemical is being treated. Values are:<br>A = gaseous<br>W = wastewater<br>L = liquid waste<br>S = solid waste<br>*Source*: **TRI_ONSITE_WASTESTREAM**.WASTESTREAM_CODE<br>*Reference*: Part II, Section 7A.4a |
| 130 | STREAM 4 - TRTMT METHOD 1 | C | Code corresponding to the first treatment method used on waste stream 4, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.4.b |
| 131 | STREAM 4 - TRTMT METHOD 2 | C | Code corresponding to the second treatment method used on waste stream 4, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE |

| No. | Field Name | Type | Description |
|---|---|---|---|
| | | | *Reference*: Part II, Section 7A.4.b |
| 132 | STREAM 4 - TRTMT METHOD 3 | C | Code corresponding to the third treatment method used on waste stream 4, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.4.b |
| 133 | STREAM 4 - TRTMT METHOD 4 | C | Code corresponding to the fourth treatment method used on waste stream 4, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.4.b |
| 134 | STREAM 4 - TRTMT METHOD 5 | C | Code corresponding to the fifth treatment method used on waste stream 4, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.4.b |
| 135 | STREAM 4 - TRTMT METHOD 6 | C | Code corresponding to the sixth treatment method used on waste stream 4, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.4.b |
| 136 | STREAM 4 - TRTMT METHOD 7 | C | Code corresponding to the seventh treatment method used on waste stream 4, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.4.b |
| 137 | STREAM 4 - TRTMT METHOD 8 | C | Code corresponding to the eighth treatment method used on waste stream 4, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.4.b |

| No. | Field Name | Type | Description |
|---|---|---|---|
| 138 | STREAM 4 - RANGE INFLUENT CONCENT | C | Code corresponding to the range of concentration of the toxic chemical as it typically enters the specified waste treatment step or sequence. This data no longer collected as of RY 2005. See Appendix B for list of codes and definitions.<br>*Source*:<br>**TRI_ONSITE_WASTESTREAM**.INFLUENT_CONC_RANGE<br>*Reference*: Part II, Section 7A.4.c |
| 139 | STREAM 4 - TRTMT EFFICIENCY EST | N | Estimate of the percentage of the chemical removed from the waste stream through destruction, biological degradation, chemical conversion, or physical removal. This data element was reported from RY 1987 – 2004. In RY 2005, the Treatment Efficiency Range Code (see: STREAM 4 – TRTMT EFFICIENCY RANGE CODE) was reported instead.<br>*Source*:<br>**TRI_ONSITE_WASTESTREAM**.TREATMENT_EFFICIENCY_EST<br>*Reference*: Part II, Section 7A.1.d |
| 140 | STREAM 4 - BASED ON OPERATING DATA? | C | Indicates whether the information given in the EFFICIENCY field (i.e., STREAM 4 - TRTMT EFFICIENCY EST) is based on operating data. Value is either “yes” or “no.” This data no longer collected as of RY 2005.<br>*Source*: **TRI_ONSITE_WASTESTREAM**.OPERATING_DATA_IND<br>*Reference*: Part II, Section 7A.1.e |
| 141 | STREAM 4 – TRTMT EFFICIENCY RANGE CODE | C | Range code indicating the estimated percentage of the chemical removed from the waste stream through destruction, biological degradation, chemical conversion, or physical removal. Reported as a two-character range code beginning in RY 2005. See Appendix C for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTESTREAM**.EFFICIENCY_RANGE_CODE<br>*Reference*: Part II, Section 7A.1.d |
| 142 | STREAM 5 - WASTE STREAM CODE | C | This field indicates the type of general waste stream where the reported chemical is being treated. Values are:<br>A = gaseous<br>W = wastewater<br>L = liquid waste<br>S = solid waste<br>*Source*: **TRI_ONSITE_WASTESTREAM**.WASTESTREAM_CODE<br>*Reference*: Part II, Section 7A.5a |
| 143 | STREAM 5 - TRTMT METHOD 1 | C | Code corresponding to the first treatment method used on waste stream 5, regardless of whether the waste treatment method actually removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.5.b |
| 144 | STREAM 5 - TRTMT METHOD 2 | C | Code corresponding to the second treatment method used on waste stream 5, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_** |

| No. | Field Name | Type | Description |
|---|---|---|---|
| | | | **MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.5.b |
| 145 | STREAM 5 - TRTMT METHOD 3 | C | Code corresponding to the third treatment method used on waste stream 5, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.5.b |
| 146 | STREAM 5 - TRTMT METHOD 4 | C | Code corresponding to the fourth treatment method used on waste stream 5, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.5.b |
| 147 | STREAM 5 - TRTMT METHOD 5 | C | Code corresponding to the fifth treatment method used on waste stream 5, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.5.b |
| 148 | STREAM 5 - TRTMT METHOD 6 | C | Code corresponding to the sixth treatment method used on waste stream 5, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.5.b |
| 149 | STREAM 5 - TRTMT METHOD 7 | C | Code corresponding to the seventh treatment method used on waste stream 5, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE<br>*Reference*: Part II, Section 7A.5.b |
| 150 | STREAM 5 - TRTMT METHOD 8 | C | Code corresponding to the eighth treatment method used on waste stream 5, regardless of whether the waste treatment method removes the specific chemical being reported. Code changes occurred in RY 2005. See Appendix A for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTE_TREATMENT_ MET**.TREATMENT_METHOD_CODE |

| No. | Field Name | Type | Description |
|---|---|---|---|
| | | | *Reference*: Part II, Section 7A.5.b |
| 151 | STREAM 5 - RANGE INFLUENT CONCENT | C | Code corresponding to the range of concentration of the toxic chemical as it typically enters the specified waste treatment step or sequence. This data no longer collected as of RY 2005. See Appendix B for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTESTREAM**.<br>INFLUENT_CONC_RANGE<br>*Reference*: Part II, Section 7A.5.c |
| 152 | STREAM 5 - TRTMT EFFICIENCY EST | N | Estimate of the percentage of the chemical removed from the waste stream through destruction, biological degradation, chemical conversion, or physical removal. This data element was reported from RY 1987–2004. In RY 2005, the Treatment Efficiency Range Code (see: STREAM 5 – TRTMT EFFICIENCY RANGE CODE) was reported instead.<br>*Source*:<br>**TRI_ONSITE_WASTESTREAM**.TREATMENT_EFFICIENCY_EST<br>*Reference*: Part II, Section 7A.1.d |
| 153 | STREAM 5 - BASED ON OPERATING DATA? | C | Indicates whether the information given in the EFFICIENCY field (i.e., STREAM 4 - TRTMT EFFICIENCY EST) is based on operating data. Value is either “yes” or “no.” This data no longer collected as of RY 2005.<br>*Source*: **TRI_ONSITE_WASTESTREAM**.OPERATING_DATA_IND<br>*Reference*: Part II, Section 7A.1.e |
| 154 | STREAM 5 – TRTMT EFFICIENCY RANGE CODE | C | Range code indicating the estimated percentage of the chemical removed from the waste stream through destruction, biological degradation, chemical conversion, or physical removal. Reported as a two-character range code beginning in RY 2005. See Appendix C for list of codes and definitions.<br>*Source*: **TRI_ONSITE_WASTESTREAM**.EFFICIENCY_RANGE_CODE<br>*Reference*: Part II, Section 7A.1.d |

# APPENDIX A – General Waste Streams and Treatment Methods

## General Waste Stream

A Gaseous (gases, vapors, airborne particulates)
W Wastewater (aqueous waste)
L Liquid waste streams (non-aqueous waste)
S Solid waste streams (including sludges and slurries) **Waste Treatment**

## Waste Treatment Method Codes

There are two lists of Waste Treatment Method Codes. The first list covers reporting years (RY) 2004 and prior. In RY 2005 many new Waste Treatment Method Codes were introduced. Many of the previous codes were retired (not used anymore). The second list covers the new Waste Treatment Codes used in RY 2005 and after. Some of the older/retired codes still appear in the TRI data after RY 2004. This is because some TRI data were still being submitted on paper

forms in and after RY 2005 (until 2013 As such, there was no automated software to prevent the codes from being reported. The new Codes were adapted from RCRA Hazardous Waste Management Codes.

## Methods (New list for Codes for RY 2005 and after)

### Air Emissions Treatment

A01 Flare
A02 Condenser
A03 Scrubber
A04 Absorber
A05 Electrostatic Precipitator
A06 Mechanical Separation
A07 Other Air Emission Treatment

### Chemical Treatment

H040 Incineration--thermal destruction other than use as a fuel
H071 Chemical reduction with or without precipitation
H073 Cyanide destruction with or without precipitation
H075 Chemical oxidation
H076 Wet air oxidation
H077 Other chemical precipitation with or without pre-treatment

### Biological Treatment

H081 Biological treatment with or without precipitation

**Physical Treatment**

H082 Adsorption
H083 Air or steam stripping
H101 Sludge treatment and/or dewatering
H103 Absorption
H111 Stabilization or chemical fixation prior to disposal
H112 Macro-encapsulation prior to disposal
H121 Neutralization
H122 Evaporation
H123 Settling or clarification
H124 Phase separation
H129 Other treatment

## Methods (Old list for Codes for RY 2004 and prior)

**Air Emissions Treatment**

A01 Flare
A02 Condenser
A03 Scrubber
A04 Absorber
A05 Electrostatic Precipitator
A06 Mechanical Separation
A07 Other Air Emission Treatment

**Biological Treatment**

B11 Aerobic
B21 Anaerobic
B31 Facultative
B99 Other Biological Treatment

**Chemical Treatment**

C01 Chemical Precipitation — Lime or Sodium Hydroxide
C02 Chemical Precipitation — Sulfide
C09 Chemical Precipitation — Other
C11 Neutralization
C21 Chromium Reduction
C31 Complexed Metals Treatment (other than pH adjustment)
C41 Cyanide Oxidation — Alkaline Chlorination
C42 Cyanide Oxidation — Electrochemical
C43 Cyanide Oxidation — Other
C44 General Oxidation (including Disinfection) — Chlorination
C45 General Oxidation (including Disinfection)— Ozonation
C46 General Oxidation (including Disinfection) — Other
C99 Other Chemical Treatment

**Incineration/Thermal Treatment**

F01 Liquid Injection
F11 Rotary Kiln with Liquid Injection Unit
F19 Other Rotary Kiln
F31 Two Stage
F41 Fixed Hearth
F42 Multiple Hearth
F51 Fluidized Bed
F61 Infra-Red
F71 Fume/Vapor
F81 Pyrolytic Destructor
F82 Wet Air Oxidation
F83 Thermal Drying/Dewatering
F99 Other Incineration/Thermal Treatment

**Methods (Old list for Codes for RY 2004 and prior)**

**Physical Treatment**

P01 Equalization
P09 Other Blending
P11 Settling/Clarification
P12 Filtration
P13 Sludge Dewatering (non-thermal)
P14 Air Flotation
P15 Oil Skimming
P16 Emulsion Breaking — Thermal
P17 Emulsion Breaking — Chemical
P18 Emulsion Breaking — Other
P19 Other Liquid Phase Separation
P21 Adsorption — Carbon
P22 Adsorption — Ion Exchange (other than for recovery/reuse)
P23 Adsorption — Resin
P29 Adsorption — Other
P31 Reverse Osmosis (other than for recovery/reuse)
P41 Stripping — Air
P42 Stripping — Steam
P49 Stripping — Other
P51 Acid Leaching (other than for recovery/reuse)
P61 Solvent Extraction (other than recovery/reuse)
P99 Other Physical Treatment

**Crosswalk for Section 7A, Column B. Waste Treatment Method(s)**

Below is a cross walk of the old Waste Treatment Methods codes used in RY 2004 and prior and the new codes introduced and used in RY 2005 and after. The new Codes were adapted from RCRA Hazardous Waste Management Codes.

| **Air Emissions Treatment**<br>These codes are applicable to gaseous waste streams only. (No change - same as previous codes) | |
|---|---|
| A01 | Flare |
| A02 | Condenser |
| A03 | Scrubber |
| A04 | Absorber |
| A05 | Electrostatic Precipitator |
| A06 | Mechanical Separation |
| A07 | Other Air Emission Treatment |

| **Biological Treatment:** | | | |
|---|---|---|---|
| Previous Codes (Used in 2004 and prior) | | New Codes (Used in 2005 and after) | |
| B11 | Aerobic | H081 | Biological treatment with or without precipitation |
| B21 | Anaerobic | H081 | Biological treatment with or without precipitation |
| B31 | Facultative | H081 | Biological treatment with or without precipitation |
| B99 | Other Biological Treatment | H081 | Biological treatment with or without precipitation |

**Crosswalk for Section 7A, Column B. Waste Treatment Method(s) (Cont.)**

| **Chemical Treatment:** | | | |
|---|---|---|---|
| Previous Codes (Used in 2004 and prior) | | New Codes (Used in 2005 and after) | |
| C01 | Chemical Precipitation B Lime or Sodium Hydroxide | H071 | Chemical reduction with or without precipitation |
| C02 | Chemical Precipitation B Sulfide | H071 | Chemical reduction with or without precipitation |
| C09 | Chemical Precipitation B Other | H077 | Other chemical precipitation with or without pre-treatment |
| C11 | Neutralization | H121 | Neutralization |
| C21 | Chromium Reduction | H071 | Chemical reduction with or without precipitation |
| C31 | Complexed Metals Treatment (other than pH adjustment) | H129 | Other treatment |
| C41 | Cyanide Oxidation B Alkaline Chlorination | H073 | Cyanide destruction with or without precipitation |
| C42 | Cyanide Oxidation B Electrochemical | H073 | Cyanide destruction with or without precipitation |
| C43 | Cyanide Oxidation B Other | H073 | Cyanide destruction with or without precipitation |
| C44 | General Oxidation (including Disinfection) B Chlorination | H075 | Chemical oxidation |
| C45 | General Oxidation (including Disinfection) B Ozonation | H075 | Chemical oxidation |
| C46 | General Oxidation (including Disinfection) B Other | H075 | Chemical oxidation |
| C99 | Other Chemical Treatment | H129 | Other treatment |

**Crosswalk for Section 7A, Column B. Waste Treatment Method(s) (Cont.)**

| **Incineration / Thermal Treatment** | | | |
|---|---|---|---|
| Previous Codes (Used in 2004 and prior) | | New Codes (Used in 2005 and after) | |
| F01 | Liquid Injection | H040 | Incineration B thermal destruction other than use as a fuel |
| F11 | Rotary Kiln with Liquid Injection Unit | H040 | Incineration B thermal destruction other than use as a fuel |
| F19 | Other Rotary Kiln | H040 | Incineration B thermal destruction other than use as a fuel |
| F31 | Two Stage | H040 | Incineration B thermal destruction other than use as a fuel |
| F41 | Fixed Hearth | H040 | Incineration B thermal destruction other than use as a fuel |
| F42 | Multiple Hearth | H040 | Incineration B thermal destruction other than use as a fuel |
| F51 | Fluidized Bed | H040 | Incineration B thermal destruction other than use as a fuel |
| F61 | Infra-Red | H040 | Incineration B thermal destruction other than use as a fuel |
| F71 | Fume/Vapor | H040 | Incineration B thermal destruction other than use as a fuel |
| F81 | Pyrolytic destructor | H040 | Incineration B thermal destruction other than use as a fuel |
| F82 | Wet air oxidation | H076 | Wet air oxidation |
| F83 | Thermal Drying/Dewatering | H122 | Evaporation |
| F99 | Other Incineration/Thermal Treatment | H040 | Incineration B thermal destruction other than use as a fuel |

**Crosswalk for Section 7A, Column B. Waste Treatment Method(s) (Cont.)**

| Physical Treatment | | | |
|---|---|---|---|
| Previous Codes (Used in 2004 and prior) | | New Codes (Used in 2005 and after) | |
| P01 | Equalization | H129 | Other treatment |
| P09 | Other blending | H129 | other treatment |
| P11 | Settling/clarification | H123 | Settling or clarification |
| P12 | Filtration | H123 | Settling or clarification |
| P13 | Sludge dewatering (non-thermal) | H101 | Sludge treatment and/or dewatering |
| P14 | Air flotation | H124 | Phase separation |
| P15 | Oil skimming | H124 | Phase separation |
| P16 | Emulsion breaking B thermal | H124 | Phase separation |
| P17 | Emulsion breaking B chemical | H124 | Phase separation |
| P18 | Emulsion breaking B other | H124 | Phase separation |
| P19 | Other liquid phase separation | H124 | Phase separation |
| P21 | Adsorption B Carbon | H082 | Adsorption |
| P22 | Adsorption B Ion exchange (other than for recovery/reuse) | H082 | Adsorption |
| P23 | Adsorption B Resin | H082 | Adsorption |
| P29 | Adsorption B Other | H082 | Adsorption |
| P31 | Reverse Osmosis (other than for recover/reuse) | H129 | Other treatment |
| P41 | Stripping B Air | H083 | Air or steam stripping |
| P42 | Stripping B Steam | H083 | Air or steam stripping |
| P49 | Stripping B Other | H083 | Air or steam stripping |
| P51 | Acid Leaching (other than for recovery/reuse) | H129 | Other treatment |
| P61 | Solvent Extraction (other than recovery/reuse) | H129 | Other treatment |
| P99 | Other Physical Treatment | H129 | Other treatment |

## APPENDIX B – Range of Influent Concentration

From reporting year 1987 through 2004, the form R required an indication of the range of concentration of the EPCRA section 313 chemical in the waste stream (i.e., the influent) as it typically enters the waste treatment step or sequence. The concentration is based on the amount or mass of the EPCRA section 313 chemical in the waste stream as compared to the total amount or mass of the waste stream. Facilities provided one of the following code numbers corresponding to the concentration of the EPCRA section 313 chemical in the influent:

1 = Greater than 10,000 parts per million (1%)
2 = 100 parts per million (0.01%) to 10,000 parts per million (1%)
3 = 1 part per million (0.0001%) to 100 parts per million (0.01%)
4 = 1 part per billion to 1 part per million
5 = Less than 1 part per billion

Note: Parts per million (ppm) is:

- milligrams/kilogram (mass/mass) for solids and liquids;
- cubic centimeters/cubic meter (volume/volume) for gases;
- milligrams/liter for solutions or dispersions of the chemical in water; and
- milligrams of chemical/kilogram of air for particulates in air.

If particulate concentrations (at standard temperature and pressure) as grains/cubic foot of air, multiply by 1766.6 to convert to parts per million; if in milligrams/cubic meter, multiply by 0.773 to obtain parts per million. These conversion factors are for standard conditions of 0o C (32o F) and 760 mm Hg atmospheric pressure.

## APPENDIX C – Waste Treatment Efficiency Range Codes:

E1 = greater than 99.9999%
E2 = greater than 99.99%, but less than or equal to 99.9999%
E3 = greater than 99%, but less than or equal to 99.99%
E4 = greater than 95%, but less than or equal to 99%
E5 = greater than 50%, but less than or equal to 95%
E6 = equal to or greater than 0%, but less than or equal to 50%

## APPENDIX D – Chemical Classification - Metals

### Category 1 Metals (Metal_Ind = '1')

| Chemical | CAS# | TRI Chemical Id |
|---|---|---|
| ANTIMONY | 7440-36-0 | 007440360 |
| ANTIMONY COMPOUNDS | N010 | N010 |
| ARSENIC | 7440-38-2 | 007440382 |
| ARSENIC COMPOUNDS | N020 | N020 |
| BERYLLIUM | 7440-41-7 | 007440417 |
| BERYLLIUM COMPOUNDS | N050 | N050 |
| CADMIUM | 7440-43-9 | 007440439 |
| CADMIUM COMPOUNDS | N078 | N078 |
| CHROMIUM | 7440-47-3 | 007440473 |
| CHROMIUM COMPOUNDS (EXCEPT CHROMITE ORE MINED IN THE TRANSVAAL REGION) | N090 | N090 |
| COBALT | 7440-48-4 | 007440484 |
| COBALT COMPOUNDS | N096 | N096 |
| COPPER | 7440-50-8 | 007440508 |
| COPPER COMPOUNDS | N100 | N100 |
| LEAD | 7439-92-1 | 007439921 |
| LEAD COMPOUNDS | N420 | N420 |
| MANGANESE | 7439-96-5 | 007439965 |
| MANGANESE COMPOUNDS | N450 | N450 |
| MERCURY | 7439-97-6 | 007439976 |
| MERCURY COMPOUNDS | N458 | N458 |
| NICKEL | 7440-02-0 | 007440020 |
| NICKEL COMPOUNDS | N495 | N495 |
| SELENIUM | 7782-49-2 | 007782492 |
| SELENIUM COMPOUNDS | N725 | N725 |
| SILVER | 7440-22-4 | 007440224 |
| SILVER COMPOUNDS | N740 | N740 |
| THALLIUM | 7440-28-0 | 007440280 |
| THALLIUM COMPOUNDS | N760 | N760 |
| VANADIUM COMPOUNDS | N770 | N770 |
| ZINC COMPOUNDS | N982 | N982 |

## APPENDIX D – Chemical Classification - Metals (cont.)

### Category 2 Metals (Metal_Ind = '2')

| Chemical | CAS# | TRI Chemical Id |
|---|---|---|
| ALUMINUM OXIDE (FIBROUS FORMS) | 1344-28-1 | 001344281 |
| ALUMINUM PHOSPHIDE | 20859-73-8 | 020859738 |
| ASBESTOS (FRIABLE) | 1332-21-4 | 001332214 |
| BIS(TRIBUTYLTIN) OXIDE | 56-35-9 | 000056359 |
| BORON TRICHLORIDE | 10294-34-5 | 010294345 |
| BORON TRIFLUORIDE | 7637-07-2 | 007637072 |
| C.I. DIRECT BLUE 218 | 28407-37-6 | 028407376 |
| C.I. DIRECT BROWN 95 | 16071-86-6 | 016071866 |
| FENBUTATIN OXIDE | 13356-08-6 | 013356086 |
| FERBAM | 14484-64-1 | 014484641 |
| IRON PENTACARBONYL | 13463-40-6 | 013463406 |
| LITHIUM CARBONATE | 554-13-2 | 000554132 |
| MANEB | 12427-38-2 | 012427382 |
| METIRAM | 9006-42-2 | 009006422 |
| MOLYBDENUM TRIOXIDE | 1313-27-5 | 001313275 |
| OSMIUM TETROXIDE | 20816-12-0 | 020816120 |
| POTASSIUM BROMATE | 7758-01-2 | 007758012 |
| SODIUM NITRITE | 7632-00-0 | 007632000 |
| THORIUM DIOXIDE | 1314-20-1 | 001314201 |
| TITANIUM TETRACHLORIDE | 7550-45-0 | 007550450 |
| TRIBUTYLTIN FLUORIDE | 1983-10-4 | 001983104 |
| TRIBUTYLTIN METHACRYLATE | 2155-70-6 | 002155706 |
| TRIPHENYLTIN CHLORIDE | 639-58-7 | 000639587 |
| TRIPHENYLTIN HYDROXIDE | 76-87-9 | 000076879 |
| ZINEB | 12122-67-7 | 012122677 |

### Category 3 Metals (Metal_Ind = '3')

| Chemical | CAS# | TRI Chemical Id |
|---|---|---|
| BARIUM | 7440-39-3 | 007440393 |
| BARIUM COMPOUNDS | N040 | N040 |

### Category 4 Metals (Metal_Ind = '4')

| Chemical | CAS# | TRI Chemical Id |
|---|---|---|
| ALUMINUM ( FUME OR DUST ) | 7429-90-5 | 007429905 |
| VANADIUM ( EXCEPT WHEN CONTAINED IN AN ALLOY ) | 7440-62-2 | 007440622 |
| ZINC ( FUME OR DUST ) | 7440-66-6 | 007440666 |

## APPENDIX E - Persistent Bio-accumulative Toxics (PBTs)

| Chemical Name | CAS Number |
|---|---|
| ALDRIN | 309-00-2 |
| BENZO(G H I)PERYLENE | 191-24-2 |
| CHLORDANE | 57-74-9 |
| DIOXIN AND DIOXIN-LIKE COMPOUNDS | N150 |
| HEPTACHLOR | 76-44-8 |
| HEXABROMOCYCLODODECANE | N270 |
| HEXACHLOROBENZENE | 118-74-1 |
| ISODRIN | 465-73-6 |
| LEAD | 7439-92-1 |
| LEAD COMPOUNDS | N420 |
| MERCURY | 7439-97-6 |
| MERCURY COMPOUNDS | N458 |
| METHOXYCHLOR | 72-43-5 |
| OCTACHLOROSTYRENE | 29082-74-4 |
| PENDIMETHALIN | 40487-42-1 |
| PENTACHLOROBENZENE | 608-93-5 |
| POLYCHLORINATED BIPHENYLS | 1336-36-3 |
| POLYCYCLIC AROMATIC COMPOUNDS | N590 |
| TETRABROMOBISPHENOL A | 79-94-7 |
| TOXAPHENE | 8001-35-2 |
| TRIFLURALIN | 1582-09-8 |

## APPENDIX F - Dioxin and Dioxin-like Compound Data

In reporting year (RY) 2000, the Toxics Release Inventory Program began collecting congener data for dioxin and dioxin-like compounds to better convey the relative toxicity of these chemicals being released or managed at facilities. From RY 2000 through 2007, Part II, Section 1.4 of the Reporting Form R asked facilities to specify the percentages of the 17 individual chemicals that make up a dioxin or dioxin-like compound for all media (air, water and land). Fields #72-#88 of this file should contain those reported percentages.
In RY 2008, the TRI Program improved collection of dioxin and dioxin-like compounds data by introducing the Form R Schedule One. This new supplemental form allows facilities to report quantities of each of the 17 dioxin congeners.

Although useful, total releases are not the best measure of the actual toxicity of dioxin and dioxin-like compounds because each compound has its own level of toxicity. Both the original reporting of dioxin and dioxin-like congeners and the Form R Schedule One reporting allowed the TRI Program to calculate Toxic Equivalency (TEQ) values for each facility's dioxin releases. TEQs are a weighted quantity measure based on the toxicity of each member of the dioxin and dioxin-like compounds category relative to the most toxic members of the category. The values allow for comparison of the toxicity of different combinations of dioxins and dioxin-like compounds, and help explain the relative toxicity of the TRI chemical release information.
For more information about dioxin and dioxin-like chemical reporting and the calculation of TEQs, see https://www.epa.gov/toxics-release-inventory-tri-program/dioxin-and-dioxin-compounds-toxic-equivalency-information. To download dioxin data from the Form R Schedule One, visit https://www.epa.gov/toxics-release-inventory-tri-program/tri-dioxin-and-dioxin-compounds-and-teq-data-files-calendar.

## APPENDIX G – NAICS Code Assignments

Until RY 2006, the TRI Program used Standard Industrial Codes (SIC) to identify each reporting facility's industry sector. In RY 2006, the TRI Program began using North American Industry Classification System (NAICS) codes.

To allow for analysis of data across years, the TRI Program assigned NAICS codes to each TRI submission from 1987 through 2005. The six methods used to assign NAICS codes and the number and percentages of assignments per method are shown in the table below. The "Order of Precedence" column indicates the order in which the methods were used to make an assignment.

| Method | Order of Precedence | Number of NAICS codes Assigned via Method (in Thousands) | Percentage Per Method |
|---|---|---|---|
| Reported Data Used | 1 | 821K | 50% |
| SIC to NAICS Crosswalk | 2 | 478K | 29% |
| EPA Facility Registry System (FRS) | 3 | 190K | 11% |
| Commercial Sources | 4 | 113K | 7% |
| Statistics | 5 | 51K | 3% |
| Other Methods | 6 | 2K | Less than 1 % |

**Reported Data Used** – In this method, the primary NAICS code reported by each facility in RY 2006 was used to make an assignment to chemical submissions (Form Rs and Form As) for years 1987 to 2005. This method was only used under the following conditions:

1. The RY 2006 chemical submitted had only one primary NAICS code reported
2. The prior year submission(s) for the same chemical had only one primary SIC code consistently reported
3. The SIC to NAICS Crosswalk (obtained for the U.S. Census Bureau) showed a one-to-one match between the reported SIC and NAICS codes

This method was used to assign 50% of all NAICS codes.

**SIC to NAICS Crosswalk** – In this method, the TRI Program used a crosswalk or lookup table that translated SIC codes into NAICS codes to assign a primary NAICS code to a pre-2006 TRI chemical submission. The primary SIC code reported on the TRI form was used to lookup the corresponding NAICS code. Not all SIC codes translated into only one NAICS code, so it was not possible to use this method to assign a NAICS code to each chemical submission. However, it was used to make 29% of all the assignments.

**EPA Facility Registry System (FRS)** – In this method, the TRI Program used NAICS codes found in EPA's Facility Registry System (FRS) to assign a primary NAICS code to each TRI chemical submission. This method was only used if FRS listed only one primary NAICS code for a facility. 11% of all assignments were made using this method.

**Commercial Sources** - This method involved using various commercial services to verify NAICS code assignments. 7% of all assignments were made using this method.

**Statistics –** For 3% of NAICS code assignments, the TRI Program used various statistical methods based on past and present data.

**Other Methods** – Manual research (e.g., using Internet searches and other government agencies' data) and personally contacting facilities helped the TRI Program assign NAICS codes to approximately 2,000 TRI submissions.