



# TOXICS RELEASE INVENTORY

## Reporting Codes for Form R and Form A

Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) requires certain facilities manufacturing, processing, or otherwise using listed toxic chemicals to report the annual quantity of such chemicals entering each environmental medium. Such facilities must also report pollution prevention and recycling data for such chemicals, pursuant to section 6607 of the Pollution Prevention Act, 42 U.S.C. 13106. EPCRA section 313 is also known as the Toxics Release Inventory (TRI).

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## DISCLAIMER

This document is intended to assist establishments and facilities with summarizing reporting codes used for the TRI Form R and Form A Certification Statement (OMB Number: 2070-0212; Approval expires: 3/31/2024). Reporting codes are grouped by the appropriate Form R section. Codes no longer in use are listed as retired codes. If a conflict exists between guidance on this site and the statutory or regulatory requirements, the conflict must be resolved in favor of the statute or regulation.

The EPCRA section 313 program is commonly referred to as the Toxics Release Inventory (TRI). For background on the TRI program, resources for determining whether a facility must report, and reporting requirements, please refer to the current TRI Forms and Instructions, available on GuideME:

[https://ordspub.epa.gov/ords/guideme\\_ext/f?p=guideme:rfi-home](https://ordspub.epa.gov/ords/guideme_ext/f?p=guideme:rfi-home)

Additional guidance documents, including industry specific and chemical specific guidance documents, are also available on TRI's GuideME website:

[https://ordspub.epa.gov/ords/guideme\\_ext/f?p=guideme:gd-list](https://ordspub.epa.gov/ords/guideme_ext/f?p=guideme:gd-list)

## Revision Codes

RR1	New Monitoring Data	RR4	Recalculation(s)
RR2	New Emission Factor(s)	RR5	Other Reason(s)
RR3	New Chemical Concentration Data		

## Withdrawal Codes

WT1	Did not meet the reporting threshold for manufacturing, processing, or otherwise use
WT2	Did not meet the reporting threshold for number of employees
WT3	Not in a covered NAICS Code
WO1	Other reason(s)

## EPCRA Section 313 Chemical Category Codes

N010	Antimony compounds	N450	Manganese compounds
N020	Arsenic compounds	N458	Mercury compounds
N040	Barium compounds	N495	Nickel compounds
N050	Beryllium compounds	N503	Nicotine and salts
N078	Cadmium compounds	N511	Nitrate compounds
N084	Chlorophenols	N530	Nonylphenol
N090	Chromium compounds	N535	Nonylphenol ethoxylates
N096	Cobalt compounds	N575	Polybrominated biphenyls (PBBs)
N100	Copper compounds	N583	Polychlorinated alkanes
N106	Cyanide compounds	N590	Polycyclic aromatic compounds
N120	Diisocyanates	N725	Selenium compounds
N150	Dioxin and dioxin-like compounds	N740	Silver compounds
N171	Ethylenebisdithiocarbamic acid, salts and esters (EBDCs)	N746	Strychnine and salts
N230	Certain glycol ethers	N760	Thallium compounds
N270	Hexabromocyclododecane	N770	Vanadium compounds
N420	Lead compounds	N874	Warfarin and salts
		N982	Zinc compounds

## Section 3. Activities and Uses of the EPCRA Section 313 Chemical at the Facility

### Section 3.2 Process Sub-Use Codes

3.2.a: As a Reactant		3.2.b: As a formulation component			
P101	Feedstocks	P201	Additives	P206	Inhibitors
P102	Raw materials	P202	Dyes	P207	Emulsifiers
P103	Intermediates	P203	Reaction diluents	P208	Surfactants
P104	Initiators	P204	Initiators	P209	Lubricants
P199	Other	P205	Solvents	P210	Flame retardants
		P201	Additives	P206	Inhibitors

### Section 3.3 Otherwise Use Sub-Use Codes

3.3.a: As a Chemical Processing Aid		3.3.b: As a Manufacturing Aid		3.3.c: Ancillary or Other Use	
Z101	Process solvents	Z201	Process lubricants	Z301	Cleanser
Z102	Catalysts	Z202	Metalworking fluids	Z302	Degreaser
Z103	Inhibitors	Z203	Coolants	Z303	Lubricant
Z104	Initiators	Z204	Refrigerants	Z304	Fuel
Z105	Reaction terminators	Z205	Hydraulic fluids	Z305	Flame retardant
Z106	Solution buffers	Z299	Other	Z306	Waste treatment
Z199	Other			Z307	Water treatment
				Z308	Construction materials
				Z399	Other

### Section 4. Maximum Amount of the Toxic Chemical On-Site at Any Time During the Calendar Year

#### Weight Range in Pounds

Range Code	From	To
01	0	99
02	100	999
03	1,000	9,999
04	10,000	99,999
05	100,000	999,999
06	1,000,000	9,999,999
07	10,000,000	49,999,999
08	50,000,000	99,999,999
09	100,000,000	499,999,999
10	500,000,000	999,999,999
11	1 billion	More than 1 billion

#### Weight Range in Grams (Dioxin and Dioxin-like Compounds)

Range Code	From	To
12	0	0.099
13	0.1	0.99
14	1.0	9.99
15	10	99
16	100	999
17	1,000	9,999
18	10,000	99,999

Range Code	From	To
19	100,000	999,999
20	1,000,000	More than 1 million

## Section 5. Quantity of the Toxic Chemical Entering Each Environmental Medium On-Site and Section 6 Transfer(s) of the Toxic Chemical in Wastes to Off-Site Locations

### Section 5 Column A: Total Release

For total annual releases or off-site transfers of an EPCRA Section 313 chemical from the facility of less than 1,000 pounds, the amount may be reported either as an estimate or by using the range codes that have been developed. Range reporting does not apply to chemicals of special concern.

Range Code	Reporting Range (in pounds)
A	1-10
B	11-499
C	500-999

### Section 5 Column B: Basis of Estimate

- M1 Estimate is based on continuous monitoring data or measurements for the EPCRA section 313 chemical.
- M2 Estimate is based on periodic or random monitoring data or measurements for the EPCRA section 313 chemical.
- C Estimate is based on mass balance calculations, such as calculation of the amount of the EPCRA section 313 chemical in streams entering and leaving process equipment.
- E1 Estimate is based on published emission factors, such as those relating release quantity to through-put or equipment type (e.g., air emission factors). This may include emissions factors in a trade association's publication or AP-42.
- E2 Estimate is based on site-specific emission factors, such as those relating release quantity to through-put or equipment type (e.g., air emission factors). This may include emissions factors that are developed for a specific piece of equipment and that consider climate conditions on-site.
- O Estimate is based on other approaches such as engineering calculations (e.g., estimating volatilization using published mathematical formulas) or best engineering judgment. This would include applying an estimated removal efficiency to a waste stream, even if the composition of the stream before treatment was fully identified through monitoring data.

## Section 6.1 Discharges to Publicly Owned Treatment Works: Disposal / Treatment Codes (POTW)

### Section 6.1[ ] Column A: Total Release

See range codes in Section 5 Column A.

### Section 6.1[ ] Column B: Basis of Estimate

See basis of estimate codes in Section 5 Column B.

## Section 6.1[ ] Column C: Disposal/Treatment

### Disposal

P30	Discharged to Water Stream
P31	Discharged to Other Activities
P32	Released to Air
P33	Sludge to disposal
P34	Metals and metal compounds only – Sludge to incineration
P35	Sludge to agricultural applications
P36	Other or Unknown Disposal

### Treatment

P37	Other or Unknown Treatment
P38	Sludge to incineration
P39	Experimental and Estimated Treatment Data (TRI provided)

## Section 6.2 Transfers to Other Off-Site Locations: Type of Waste Disposal/Treatment/Energy Recovery/Recycling

### Section 6.2[ ] Column A: Total Release

See range codes in Section 5 Column A.

### Section 6.2[ ] Column B: Basis of Estimate

See basis of estimate codes in Section 5 Column B.

## Section 6.2[ ] Column C: Type of Waste Management: Disposal/Treatment/Energy Recovery/Recycling

### Disposal

M10	Storage Only
M41	Solidification/Stabilization - Metals and Metal Category Compounds only
M62	Wastewater Treatment (Excluding POTW) - Metals and Metal Category Compounds only
M64	Other Landfills
M65	RCRA Subtitle C Landfills
M66	Subtitle C Surface Impoundment
M67	Other Surface Impoundments
M73	Land Treatment
M79	Other Land Disposal
M81	Underground Injection to Class I Wells
M82	Underground Injection to Class II-V Wells
M90	Other Off-Site Management
M94	Transfer to Waste Broker - Disposal
M99	Management Method Unknown

### Treatment

M40	Solidification/Stabilization
M50	Incineration/Thermal Treatment
M54	Incineration/Insignificant Fuel Value
M61	Wastewater Treatment (Excluding POTW)
M69	Other Waste Treatment
M95	Transfer to Waste Broker - Waste Treatment

### Energy Recovery

M56	Energy Recovery
M92	Transfer to Waste Broker - Energy Recovery

### Recycling

M20	Solvents/Organics Recovery
M24	Metals Recovery
M26	Other Reuse or Recovery
M28	Acid Regeneration
M93	Transfer to Waste Broker – Recycling

## Retired 6.2 Codes

M63	Surface impoundment (retired effective RY2003)
M71	Underground injection (retired effective RY2003)

- M72 Landfill/Disposal surface impoundment (retired effective RY2002)  
M91 Transfer to waste broker (retired effective RY1991)

## Section 7A: On-Site Waste Treatment Methods and Efficiency

### 7A Column a: 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)

### 7A Column b: Waste Treatment Methods

#### 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

### 7A Column c: Waste Treatment Efficiency

- 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%

## Section 7B: On-Site Energy Recovery Processes

- U01 Industrial Kiln  
U02 Industrial Furnace  
U03 Industrial Boiler




## Section 7C: On-Site Recycling Processes






- H10 Metal recovery (by retorting, smelting, or chemical or physical extraction)
- H20 Solvent recovery (including distillation, evaporation, fractionation or extraction)
- H39 Other recovery or reclamation for reuse (including acid regeneration or other chemical reaction process)

## Section 8.10 Source Reduction Activity Codes


### Source Reduction Activity Codes

The  icon indicates a green chemistry / green engineering designated code.




#### Material Substitutions and Modifications

- S01 Substituted a fuel 
- S02 Substituted an organic solvent 
- S03 Substituted raw materials, feedstock, or reactant chemical 
- S04 Substituted manufacturing aid, processing aid, or other ancillary chemical 
- S05 Modified content, grade, or purity of a chemical input 
- S06 Other material modifications made

#### Product Modifications

- S11 Reformulated or developed new product line 
- S12 Altered dimensions, components, or final design of product
- S13 Modified product packaging
- S14 Other product modifications made


#### Process and Equipment Modifications

- S21 Optimized process conditions to increase efficiency 
- S22 Instituted recirculation within a process 
- S23 Implemented new technology, technique, or process 
- S24 Modified or updated equipment or layout
- S25 Other process modifications made

#### Process and Equipment Modifications

- S31 Instituted better labeling, testing, or other inventory management practices
- S32 Changed size or type of containers procured
- S33 Improved containment or material handling operations
- S34 Improved monitoring practices of potential spill or leak sources
- S35 Other improvements to inventory and material management

#### Operating Practices and Training

- S41 Improved scheduling, record keeping, or procedures for operations, cleaning, and maintenance
- S42 Changed production schedule to minimize equipment and material changeovers
- S43 Introduced in-line product quality monitoring or other process analysis system 
- S44 Other improvements to operating practices or operator training

### Methods Used to Identify Source Reduction Activities (a-c)

- T01 Internal Pollution Prevention Opportunity Audit(s)
- T02 External Pollution Prevention Opportunity Audit(s)
- T03 Materials Balance Audits
- T04 Participative Team Management
- T05 Employee Recommendation (independent of a formal company program)

- T06 Employee Recommendation (under a formal company program)
- T07 State Government Technical Assistance Program
- T08 Federal Government Technical Assistance Program
- T09 Trade Association/Industry Technical Assistance Program
- T10 Vendor Assistance
- T11 Other

### **Estimated Annual Reduction Codes (optional)**

- R1 100% (elimination of the chemical)
- R2 greater than or equal to 50%, but less than 100%
- R3 greater than or equal to 25%, but less than 50%
- R4 greater than or equal to 15%, but less than 25%
- R5 greater than or equal to 5%, but less than 15%
- R6 greater than 0%, but less than 5%

### **Retired 8.10 Codes**

Source reduction codes retired effective RY2021.

#### Good Operating Practices

- W13 Improved maintenance scheduling, record keeping, or procedures
- W14 Changed production schedule to minimize equipment and feedstock changeovers
- W15 Introduced in-line product quality monitoring or other process analysis system
- W19 Other changes in operating practices

#### Inventory Control

- W21 Instituted procedures to ensure that materials do not stay in inventory beyond shelf-life
- W22 Began to test outdated material - continue to use if still effective
- W23 Eliminated shelf-life requirements for stable materials
- W24 Instituted better labeling procedures
- W25 Instituted clearinghouse to exchange materials that would otherwise be discarded
- W29 Other changes in inventory control

#### Spill and Leak Prevention

- W31 Improved storage or stacking procedures
- W32 Improved procedures for loading, unloading, and transfer operations
- W33 Installed overflow alarms or automatic shut-off valves
- W35 Installed vapor recovery systems
- W36 Implemented inspection or monitoring program of potential spill or leak sources
- W39 Other changes made in spill and leak prevention

#### Raw Material Modifications

- W41 Increased purity of raw materials
- W42 Substituted raw materials
- W43 Substituted a feedstock or reagent chemical with a different chemical
- W49 Other raw material modifications made

#### Process Modifications

- W50 Optimized reaction conditions or otherwise increased efficiency of synthesis
- W51 Instituted recirculation within a process
- W52 Modified equipment, layout, or piping
- W53 Use of a different process catalyst
- W54 Instituted better controls on operating bulk containers to minimize discarding of empty containers

- W55 Changed from small volume containers to bulk containers to minimize discarding of empty containers
- W56 Reduced or eliminated use of an organic solvent
- W57 Used biotechnology in manufacturing process
- W58 Other process modifications

#### Cleaning and Degreasing

- W59 Modified stripping/cleaning equipment
- W60 Changed to mechanical stripping/cleaning devices (from solvents or other materials)
- W61 Changed to aqueous cleaners (from solvents or other materials)
- W63 Modified containment procedures for cleaning units
- W64 Improved draining procedures
- W65 Redesigned parts racks to reduce drag out
- W66 Modified or installed rinse systems
- W67 Improved rinse equipment design
- W68 Improved rinse equipment operation
- W71 Other cleaning and degreasing modifications

#### Surface Preparation and Finishing

- W72 Modified spray systems or equipment
- W73 Substituted coating materials used
- W74 Improved application techniques
- W75 Changed from spray to other system
- W78 Other surface preparation and finishing modifications

#### Product Modifications

- W81 Changed product specifications
- W82 Modified design or composition of products
- W83 Modified packaging
- W84 Developed a new chemical product to replace a previous chemical product
- W89 Other product modifications

## **Section 8.11 Optional Pollution Prevention Information**

### **Barriers to Implementing Pollution Prevention Activities**

- B1 Insufficient capital to install new source reduction equipment or implement new source reduction activities/initiatives
- B2 Require technical information on pollution prevention techniques applicable to specific production processes
- B3 Concern that product quality may decline as a result of source reduction
- B4 Source reduction activities were implemented but were unsuccessful
- B5 Specific regulatory/permit burdens
- B6 Pollution prevention previously implemented; additional reduction does not appear technically or economically feasible
- B7 No known substitutes or alternative technologies
- B8 Reduction does not appear to be technically feasible
- B99 Other barriers